Return to Agenda

Open Bookmarks

CITY OF INDIO
Agenda

City Council

150 Civic Center Mall
Indio, California

May 1, 2019

MISSION STATEMENT

THE CITY OF INDIO'S PUBLIC SERVANTS PROVIDE OUTSTANDING MUNICIPAL SERVICES TO ENHANCE THE QUALITY OF LIFE FOR OUR RESIDENTS, VISITORS AND THE BUSINESS COMMUNITY

CLOSED SESSION
CITY COUNCIL
4:30 p.m.

1. CALL TO ORDER AND ROLL CALL

Mayor Lupe Ramos Amith
Mayor Pro Tem Glenn Miller
Councilmember Elaine Holmes
Councilmember Waymond Fermon
Councilmember Oscar Ortiz

2. PUBLIC COMMENT

This is the time set aside for public comment. If you wish to speak, please complete a "request to speak" form and limit your comments to three minutes (forms are located in the lobby of the Council Chamber). If the total time of comments extend beyond 30 minutes, the Mayor may defer further public comments for items Not on the Agenda until the end of the Agenda.

3. ADJOURN TO CLOSED SESSION to consider:

a. Conference with Legal Counsel, Existing Litigation, Government Code Section 54956.9(d)(1); La Quinta Polo Estates Association v. City of La Quinta, et. al., Riverside Superior Court Case No. PSC 1900574

b. Conference with Real Property Negotiators, Government Code Section 54956.8; 79370 Varner Road (APN's 607-251-024, 607-251-025, and 607-230-027); City of Indio Negotiator; Mark Scott, City Manager; Negotiating Parties: Unicars Honda; Under Negotiation: Price and Terms of payment

Return to Agenda

Open Bookmarks

JOINT REGULAR MEETING
CITY COUNCIL / INDIO WATER AUTHORITY
5:00 p.m.

1. CALL TO ORDER AND ROLL CALL

Mayor Lupe/President Ramos Amith
Mayor Pro Tem/Vice President Glenn Miller
Councilmember/Commissioner Elaine Holmes
Councilmember/Commissioner Waymond Fermon
Councilmember/Commissioner Oscar Ortiz
Youth Advisory Councilmember

2. INVOCATION

The City Council does not endorse the content of the invocation and does not endorse the invocational speaker's particular faith, belief and/or religious denomination. The City Council does not engage in any prior inquiry, review of, or involvement in, the content of the invocation, except to request the speaker to refrain from using the invocation as an opportunity to attempt to convert others to a particular faith or to disparage any faith or belief and for the speaker to face the City Council. The City Council has an established neutral policy for selecting and scheduling invocational speakers. The City Clerk will make the Council's policy on invocations available upon request for public inspection and copying.

3. PLEDGE OF ALLEGIANCE

4. YOUTH ADVISORY COUNCIL

Licett Alvarado, Bexy Campos-Lagunas, Denise Campos-Lagunas, Andrew Cervantes, Ashley Gonzalez, Jade Heredia Salas, Johnny Perezchica, Orikzelt Miranda, Diana Rodriguez, Jose Sicairos, Rogelio Torres, Tania Valdez-Lopez

5. REPORT ON CLOSED SESSION

6. REPORT ON CITY COUNCIL EXTERNAL/INTERNAL BOARDS, COMMISSIONS AND COMMITTEE MEETINGS AND REPORT ON MEETINGS ATTENDED PER GOVERNMENT CODE SECTION 53232.3(d)

7. PRESENTATIONS

- **a.** Certificate of Recognition to Desert Healthcare District
- **b.** Certificate of Recognition to Coachella Valley Housing Coalition
- **c.** Certificate of Recognition to Desert Cancer Foundation

8. CITY MANAGER REPORTS AND INFORMATION

- **a.** Discussion on De-Annexation of 40 acres of Industrial Property at Avenue 48 and the East City Limits

9. EXCUSE YOUTH ADVISORY COUNCIL

10. PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA

This is the time set aside for public comment. If you wish to speak, please complete a "request to speak" form and limit your comments to three minutes (forms are located in the lobby of the Council Chamber). If the total time of comments extend beyond 30 minutes, the Mayor may defer further public comments for items Not on the Agenda until the end of the Agenda.

11. CONSENT CALENDAR

Note: Consent calendar items are considered to be routine in nature and will be approved by one motion. Reading of text of Ordinances is waived and Ordinances are adopted as second reading, by title only. Public requests to discuss consent calendar items must be filed with the City Clerk before the consent calendar is called. This is the time for any member of the public wishing to speak on a consent calendar item to do so. Any member of the public wishing to speak shall have a total of three minutes to address any and all items on which he/she wishes to speak. Unless a consent calendar item is pulled for discussion by a council member, there will be no further opportunity to discuss the matter. If a consent calendar item is pulled for Council discussion and a member of the public then wishes to speak, he/she shall limit comments to matters raised during the Council discussion.

a. Minutes for the Joint Meeting of the City Council and the Successor Agency to the Redevelopment Agency held April 17, 2019 *(Sabdi Sanchez, City Clerk Administrator) Recommendation: Approve*

b. Summer Schedule for City Council Meetings *(Mark Scott, City Manager) Recommendation: Approve*

c. City Warrants *(Rob Rockwell, Assistant City Manager and Finance Director) Recommendation: Receive & File*

d. IWA Warrants *(Gary Lewis, Interim IWA General Manager) Recommendation: Receive & File*

e. Report of Investments for the Quarter ending March 31, 2019 *(Rob Rockwell, Assistant City Manager and Finance Director) Recommendation: Receive & File*

f. Amendment to the Agreement between the City and SunLine Transit Agency for Bus Shelter Advertising Agreement *(Scott Trujillo, Deputy City Manager) Recommendation: Approve*

g. Professional Services Agreement with Albert A. Webb and Associates in the amount of $36,604 for the design, engineering, bidding and construction management services for street improvements within the general area known as the Sun Gold Community Phase 4 under the CDBG-funded Better Neighborhoods Program *(Timothy T. Wassil, Public Works Director) Recommendation: Approve*

h. Authorize the full release of the performance bond, and accept the Bill of Sale and a warranty rider bond from Polo Estates Ventures, LLC for Tract No. 33004-2 at Trilogy at the Polo Club *(Gary Lewis, Interim General Manager) Recommendation: Approve*

i. Amendment No. 3 for software integration, in the amount of $11,520, to the existing professional services agreement with Etech-360, Inc. *(Gary Lewis, Interim IWA General Manager) Recommendation: Approve*

j. Receive and file a report regarding the City Manager/Executive Director's action to award a contract in the amount of $139,700 for the Avenue 44 Emergency Repair, Project No. WT4419 to Granite Construction Company *(Gary Lewis, Interim IWA General Manager) Recommendation: Receive & File*

k. Award Contract in the amount of $508,340 to DDH Apple Valley Construction, Inc., for 12" Water Main – Hwy 111, Arabia Street to Oasis Street, Project No. WT1119, establish a 10% contingency in the amount of $50,834 for unforeseen site conditions and allocate $10,000 for other project-related expenses as detailed in the Financial Analysis *(Gary Lewis, Interim IWA General Manager) Recommendation: Approve*

Return to Agenda

Open Bookmarks

12. ADMINISTRATIVE ITEMS

a. Indio Subbasin Annual Report for Water Year 2017-2018 in accordance with the Sustainable Groundwater Management Act (SGMA) of 2014 *(Gary Lewis, Interim IWA General Manager) Recommendation: Receive & File*

b. Ratification of the final site selection for a temporary platform for a Special Events Train as well as the ultimate location for a Multi-Modal Hub *(Timothy T. Wassil, Public Works Director) Recommendation: Approve*

c. Madison Street Improvement Project from Avenue 50 and Avenue 52: *(Timothy T. Wassil, Public Works Director) Recommendation: Approve*

i. Authorize the increase of the construction contingency in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. ST503K, due to delays and additional work outside of the contractor's control, and budget adjustments;

ii. Amendment No. 2 to the Agreement for Professional Services with Albert A. Webb and Associates in the amount of $176,000 for construction management and inspection services for the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. STS503K, and budget adjustments

13. PUBLIC HEARINGS

a. Resolution to adopt the 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resources Plan *(Gary Lewis, Interim IWA General Manager) Recommendation: Approve*

b. Ordinance adopting the Garden Fellowship Project Master Plan 18-04-61 and a Resolution adopting a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for a multi-building church campus approximately 55,000 square feet on a 18.5 acre site located north of the I-10 and west of Jefferson Street between Avenue 38 and Avenue 39 *(Kevin Snyder, Community Development Director) Recommendation: Approve*

14. PUBLIC COMMENTS CONTINUED, IF NEEDED, FOR ITEMS NOT ON THE AGENDA

15. ADJOURN

Next Council Meeting: *May 15, 2019*
Next Indio Water Authority Meeting: *June 5, 2019*

Agenda packets are available on the city's website at www.indio.org and at the public counter in City Hall at 100 Civic Center Mall, Indio, California. Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection at the front counter of the lobby of the City Hall Administration Building at 100 Civic Center Mall, Indio, during normal City business hours and during the meeting.

Return to Agenda

Open Bookmarks

PUBLIC NOTICE

The Indio City Council Chamber is handicapped accessible. If special equipment is needed, for the hearing impaired, please call the City Clerk's office. Persons with disabilities can receive this agenda in an alternative format and should call the City Clerk's office at 391-4007. Notification 48 hours prior to a meeting will enable the City to make reasonable arrangements to ensure accessibility to the meeting (28 CFR 35.102.35.104 ADA Title 11).

DECLARATION OF POSTING

I, Sabdi Sanchez, City Clerk Administrator of the City of Indio, California, do hereby declare that the foregoing agenda was posted on April 26, 2019, at least seventy-two (72) hours prior to the meeting per Government Code 54954.2, at the following locations:

City of Indio Council Chamber, 150 Civic Center Mall, Indio, CA 92201
City of Indio website www.indio.org

Sabdi Sanchez

SABDI SANCHEZ, CMC
CITY CLERK ADMINISTRATOR

Item 11a

UNOFFICIAL UNTIL APPROVED BY THE CITY COUNCIL

CITY OF INDIO
CLOSED SESSION
CITY COUNCIL
APRIL 17, 2019
MINUTES

Mayor Lupe Ramos Amith called to order the regular closed session of the City Council for the City of Indio, California at 4:00 p.m. in the Council Chamber located at 150 Civic Center Mall, Indio, California.

1. ROLL CALL

Present: Mayor Lupe Ramos Amith
Mayor Pro Tem Glenn Miller
Councilmember Elaine Holmes
Councilmember Waymond Fermon
Councilmember Oscar Ortiz

2. PUBLIC COMMENT - None

3. ADJOURNED TO CLOSED SESSION at City Hall, 100 Civic Center Mall, Indio, California to consider the following items:

a. Conference with Real Property Negotiators, Government Code Section 54956.8; Indio Blvd. (APN 610-030-007); City of Indio Negotiator: Mark Scott, City Manager; Negotiating Party: County of Riverside Treasurer- Tax Collector; Under Negotiation: Price and Terms of Payment

b. Conference with Real Property Negotiators, Government Code Section 54956.8; Citrus Avenue (APN 611-410-034); City of Indio Negotiator: Mark Scott, City Manager; Negotiating Party: County of Riverside Treasurer- Tax Collector; Under Negotiation: Price and Terms of Payment

c. Conference with Real Property Negotiators, Government Code Section 54956.8; 79370 Varner Road (APN's 607-251-024, 607-251-025, and 607-230-027); City of Indio Negotiator; Mark Scott, City Manager; Negotiating Parties: Unicars Honda; Under Negotiation: Price and Terms of payment

d. Conference with Legal Counsel, Initiation of Litigation, Government Code Section 54956.9(d)(4); Number of Cases: 1

Note on Closed Session Reporting: City Attorney did not report out of Closed Session, therefore, will report out at the next City Council meeting of May 1, 2019.

CITY OF INDIO
JOINT MEETING
CITY COUNCIL/SUCCESSOR AGENCY
TO THE REDEVELOPMENT AGENCY
APRIL 17, 2019
MINUTES

Mayor/Chairperson Lupe Ramos Amith called to order the joint meeting of the City Council of the City of Indio and the Successor Agency to the Redevelopment Agency for the City of Indio, at 5:01 p.m. in the Council Chamber located at 150 Civic Center Mall, Indio, California.

1. ROLL CALL

Present: Mayor/Chairperson Lupe Ramos Amith
Mayor Pro Tem/Vice Chairperson Glenn Miller
Councilmember/Director Elaine Holmes
Councilmember/Director Waymond Fermon
Councilmember/Director Oscar Ortiz

City Staff
Present: Mark Scott, City Manager; Roxanne Diaz, City Attorney; Rob Rockwell, Assistant City Manager & Finance Director; Scott Trujillo, Deputy City Manager, Michael Washburn, Police Chief; Timothy T. Wassil, Public Works Director; Kevin Snyder, Community Development Director; Carl S. Morgan, Economic Development Director; Terry Deeringer, Human Resources and Risk Management Director; Ian Cozens, IT Director, and Sabdi Sanchez, City Clerk Administrator, were present at Roll Call.

2. INVOCATION - None

3. PLEDGE OF ALLEGIANCE led by City Manager Mark Scott

4. YOUTH ADVISORY COUNCIL – Not Present

5. REPORT ON CITY COUNCIL EXTERNAL / INTERNAL BOARDS, COMMISSIONS AND COMMITTEE MEETINGS AND REPORT ON MEETINGS ATTENDED PER GOVERNMENT CODE SECTION 53232.3(d)

Mayor Pro Tem/Vice Chairperson Miller reported on the CVWD 2x2 Committee and attendance to various events throughout the community.

Councilmember/Director Ortiz reported on a meeting with the Environmental Programs Coordinator on a variety of greenhouse emissions items; he reported attendance to the CVWD 2x2 Committee, CVAG Energy & Environmental Resources Committee, and a meeting in Rancho Mirage regarding the Salton Sea.

Councilmember/Director Fermon reported his attendance to the Riverside County Transportation Committee, Coachella Valley Economic (CVEP) Partnership Board and to various events throughout the community.

Councilmember/Director Holmes reported on various events throughout the community.

Mayor/Chairperson reported on various events throughout the community.

6. PRESENTATIONS

a. Certificate of Recognition to Get In Motion Entrepreneurs

Mayor Ramos Amith introduced a brief promo video to highlight Get In Motion Entrepreneurs and subsequently presented a certificate of recognition to Mr. Armando Ehrenzweig, Founder of Get In Motion Entrepreneurs.

7. CITY MANAGER REPORTS AND INFORMATION - None

8. EXCUSE YOUTH ADVISORY COUNCIL – Not Present

9. PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA

The following members of the public spoke under Public Comment:

- Michael Zamudio acknowledged Staff and Council for exceptional customer service
- Christian Jelmerg spoke on Homelessness solutions and tiny home campuses
- Robert Mueller spoke on Salton Sea issues
- Chuck Parker spoke on the Salton Sea MOU amendments
- Eric Lemus spoke on “May Day” and invited everyone to attend the new Community Installation event on May 1

10. CONSENT CALENDAR

a. Minutes for the Regular City Council Meeting held April 3, 2019 and for the Successor Agency Meeting held January 9, 2019
b. City Warrants *Received & Filed*
c. A professional services agreement with Cit Com for $198,825 for consulting services for the selection and implementation of a computer aided dispatch and records management system (CAD/RMS) ***PULLED***
d. Local Government Partnership Program Grant Agreement with the Mobile Source Air Pollution Reduction Review Committee (MSRC) and the purchase of a new additional alternative fuel street sweeper in the amount of $365,000, a replacement zero emissions electric vehicle in the amount of $35,000 and an electric vehicle charging station in the amount of $20,000
e. Construction contract with Elecnor Belco Electric, Inc. in the amount of $684,000 for the Monroe Street Traffic Signal Interconnect Project and Traffic Signal Modifications at Doctor Carreon Boulevard and Oasis Street (Project No. TS1701)

- **f.** Resolution approving certain speed surveys and re-establishing, increasing, and decreasing speed limits in accordance with those surveys on various streets within the city
- **g.** Resolution adopting a list of projects to be funded by Senate Bill 1 (SB 1), Road Repair and Accountability Act of 2017
- **h.** First Amendment to Professional Services Agreement (PSA) between the City of Indio and Sargent Town Planning, Inc., to assist with the completion of the Downtown Specific Plan for an amount not-to-exceed $84,220 and authorizing the City Manager to execute said Amendment
- **i.** Second Amendment to the Professional Services Agreement (PSA) between the City of Indio and Raimi + Associates to assist with the completion of the Indio General Plan Update for an amount not-to-exceed $10,000 and authorizing the City Manager to execute said Amendment

Item c was pulled from the agenda, no action was taken.

After discussion it was moved by Councilmember/Vice Chairperson Miller, seconded by Councilmember/Director Fermon to adopt the Consent Calendar Items a, b, d thru i, motion carried with Councilmember/Director Holmes recusing herself from item h due to a conflict of interest; and approve Resolution Nos. 10076 and 10077 to read as follows:

10076 RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, APPROVING CERTAIN SPEED SURVEYS AND RE-ESTABLISHING, INCREASING, AND DECREASING SPEED LIMITS IN ACCORDANCE WITH THOSE SURVEYS ON VARIOUS STREETS WITHIN THE CITY

10077 RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, ADOPTING A LIST OF PROJECTS FOR FISCAL YEAR 2019-20 FUNDED BY SENATE BILL 1: THE ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017

11. ADMINISTRATIVE ITEMS

- **a.** Discussion Regarding Amendments to the Procedures for the Appointment and Removal of City Commissioners.

City Manager Mark Scott introduced the item for discussion.

City Attorney Roxanne Diaz elaborated on the staff report presented to the City Council.

Mayor Ramos Amith provided a synopsis of justifications for bringing this item forward and opened the topic for discussion.

Discussion ensued by the City Council.

The following members of the public spoke on this topic: Johnathan Becerra, Christopher Martinez and Al Meza.

After further discussion by the City Council, the City Attorney was directed to draft an ordinance to address the appointment/removal process of commissioners and include a 4/5 vote. In addition, clarify the term of service for commissioners and commence the eight (8) year term of service in 2020, with the caveat that the current commissioners with more than eight years of service be grandfathered in. Furthermore, the City Attorney will clean up the ordinance as it pertains to the Investment Committee.

b. Discussion regarding status of City Membership in the East Valley Coalition (EVC).

City Manager Mark Scott introduced the item.

Councilmember Holmes expanded on the item.

Discussion ensued by the City Council.

After discussion, it was directed to retract the $10,000 membership fee the City of Indio paid to the EVC and formally withdraw from the MOU.

12. PUBLIC HEARINGS

a. Disposition and Development Agreement (DDA) for Successor Agency ("Agency") owned property, for the sale of a 8.55 acres parcel ("Site) of land located east of Golf Center Parkway, north of Citrus Avenue, and south of Avenue 45 (APN 611-340-041) between Agency, City of Indio, and Site Developer, and finding that the disposition is in conformance with the General Plan

Carl S. Morgan, Economic Development Director presented a PowerPoint highlighting the background of Ring Power Corporation and an overview of the proposed use of the Golf Center Parkway Parcel.

Greg Landa, Vice President & General Manager for CAT Entertainment Services spoke briefly on this item.

Mayor Ramos Amith opened the public hearing at 6:50 p.m.

Polo Doria spoke briefly on this item during public comment.

There being no further comments, Mayor closed the public hearing at 6:51 p.m.

After discussion, it was moved by Councilmember/Director Holmes, seconded by Mayor Pro Tem/Vice Chairperson Miller, and unanimously carried to approve the Disposition and Development Agreement with Ring Power Corporation and authorize the Executive Director/City Manager to take all actions necessary, including execution of all necessary documents, to effectuate the Disposition and Development Agreement, and find that the disposition of the property is in conformity with the General Plan, and approve City Resolution No. 10078 and Successor Agency Resolution No. 2019-34 to read as follows:

10078 RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, AUTHORIZING THE EXECUTION BY THE CITY OF A DISPOSITION AND DEVELOPMENT AGREEMENT WITH RING POWER CORPORATION (AND THE SUCCESSOR AGENCY TO THE REDEVELOPMENT AGENCY OF THE CITY OF INDIO)

2019-34 RESOLUTION OF THE BOARD OF DIRECTORS OF THE SUCCESSOR AGENCY TO THE REDEVELOPMENT AGENCY OF THE CITY OF INDIO, CALIFORNIA, APPROVING A DISPOSITION AND DEVELOPMENT AGREEMENT AMONG THE SUCCESSOR AGENCY, THE CITY OF INDIO AND RING POWER CORPORATION AUTHORIZING THE CONVEYANCE OF SUCCESSOR AGENCY PROPERTY TO THE CITY OF INDIO AND THEN TO RING POWER CORPORATION

b. Acceptance of Fiscal Year 2018 Edward Byrne Memorial Justice Assistance Grant Program funds in the amount of $33,373, and approval to use this grant to pay for part-time personnel costs associated with the Community Outreach Coordinator and approve and authorize the City Manager to execute an interlocal agreement with the City of Riverside, the designated Fiscal Agent for the 2019 grant

Michael Washburn, Police Chief presented the item to Council for approval.

Mayor Ramos Amith opened the public hearing at 6:55 p.m.

There being no further comments, Mayor closed the public hearing at 6:55 p.m.

After discussion, it was moved by Mayor Pro Tem Miller, seconded by Councilmember Fermon, and unanimously carried to accept the Fiscal Year 2018 JAG Grant allocation in the amount of $33,373; approve the interlocal agreement between participating cities and the City of Riverside, the designated Fiscal Agent, and authorize the City Manager to execute the agreement; and direct the Finance Department to adjust appropriations and estimated revenue as reflected in the financial analysis of the staff report.

c. Resolution establishing recurring and non-recurring administrative fees applicable to small wireless facilities

Kevin Snyder, Community Development Director provided a brief overview of this item and presented to Council for approval.

Mayor Ramos Amith opened the public hearing at 6:59 p.m.

There being no further comments, Mayor closed the public hearing at 6:59 p.m.

After discussion, it was moved by Councilmember Fermon, seconded by Mayor Pro Tem Miller, and unanimously carried to approve Resolution No. 10079 to read as follows:

10079 RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, ESTABLISHING RECURRING AND NON-RECURRING ADMINISTRATIVE FEES APPLICABLE TO SMALL WIRELESS FACILITY PERMITS

13. PUBLIC COMMENTS CONTINUED, IF NEEDED, FOR ITEMS NOT ON THE AGENDA

None

14. ADJOURNED

There being no further business to discuss, Mayor Ramos Amith adjourned the meeting at 7:00 p.m., in memoriam of California Highway Patrol Sergeant Steve Licon, Christopher Griffin, 20-year Goldenvoice veteran employee, and Patrick Pinedo, Indio resident.

Respectfully Submitted,

SABDI SANCHEZ, CMC
CITY CLERK ADMINISTRATOR

Item 11b

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 01, 2019

FROM: City Manager's Office

SUBJECT: Summer Schedule for City Council Meetings

RECOMMENDED MOTION: Approve a summer schedule consisting of the cancellation of the July 3, August 7, and September 4, 2019 Regular City Council meetings.

SUMMARY: The City Council has traditionally cancelled one meeting during the summer months. Based on a review of matters requiring City Council action, it is the City's position that the July 3, August 7, and September 4, 2019 Regular City Council meetings be cancelled.

Alternatively, any of the above meetings could be held or rescheduled on another date should Council so direct.

FINANCIAL ANALYSIS: None

ALTERNATIVES: Hold the meetings or reschedule different dates.

Mark Scott

Mark Scott, City Manager

FINANCIAL DATA				
	Cost associated with this action:	$ 0	In current year budget:	N/A
	Current F.Y. general fund cost:	$ 0	Budget adjustment:	N/A
	Future F.Y. cost:	$ 0	For fiscal year:	N/A

Source of funds: N/A	**Current account balance:** N/A
Account number: N/A	**Balance remaining if approved:** N/A

Legal Review:	Department Head Review:	Financial Review:
N/A	N/A	N/A
Roxanne Diaz City Attorney	Mark Scott City Manager	Rob Rockwell Assistant City Manager & Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
APPROVE	Mark Scott

Return to Agenda

Open Bookmarks

Item 11c

Payment Register 4/13-4/25

Fund	Fund Description	Division Description	Element Description	Object Description	Check Date	Check Number	Vendor Name	Description	Transaction Amount
101	General Fund		Deposits Payable	PM10	04/16/2019	217473		2/26 PM10 DEPOSIT REFUND	$5,000.00
101	General Fund		TOT Residential Rentals		04/18/2019	217483		4/11 TOT REFUND	$1,303.00
101	General Fund		Charges for Services		04/18/2019	217484	DEPARTMENT OF CONSERVATION	10/1-12/18 STRONG MOTION	($11.05)
101	General Fund		Deposits Payable	SMI Payable	04/18/2019	217484	DEPARTMENT OF CONSERVATION	1/1-3/31 STRONG MOTION	$1,944.45
101	General Fund		Charges for Services		04/18/2019	217484	DEPARTMENT OF CONSERVATION	1/1-3/31 STRONG MOTION	($97.22)
101	General Fund		Deposits Payable	SMI Payable	04/18/2019	217484	DEPARTMENT OF CONSERVATION	10/1-12/18 STRONG MOTION	$221.31
101	General Fund		Deposits Payable	PM10	04/18/2019	217489		4/5 PM10 DEPOSIT REFUND	$2,000.00
101	General Fund		Zoning & Subdivision		04/18/2019	217496		2/1 PERMIT REFUND	$500.00
101	General Fund		Life Insurance		04/18/2019	217527	RELIASTAR LIFE INSURANCE	4/9 APRIL 19 INSURANCE	$53.43
101	General Fund		Charges for Services		04/18/2019	217538	SUNLINE TRANSIT AGENCY	3/28 BUS PASSES	($13.00)
101	General Fund		Deposits Payable	SunLine Bus Passes	04/18/2019	217538	SUNLINE TRANSIT AGENCY	3/28 BUS PASSES	$201.00
101	General Fund		Senior Program Contrib.		04/18/2019	217550	WOOD, SCOTT	4/24 COMEDY ENTERTAINMENT	$200.00
101	General Fund		Credit Union		04/18/2019	217552	ALTURA CREDIT UNION	PAYROLL SUMMARY	$5,398.83
101	General Fund		Payroll Payable	ICMA Payable	04/18/2019	217553	ICMA RETIREMENT TRUST #457	PAYROLL SUMMARY	$13,370.46
101	General Fund		Payroll Payable	Union Dues Payable	04/18/2019	217554	INDIO CITY EMPLOYEE ASSOC.	PAYROLL SUMMARY	$693.77
101	General Fund		Payroll Payable	PCU Dues Payable	04/18/2019	217555	INDIO POLICE COMMAND UNIT	PAYROLL SUMMARY	$1,163.86
101	General Fund		Payroll Payable	IPOA Dues Payable	04/18/2019	217556	INDIO POLICE OFFICERS ASSOCIAT	PAYROLL SUMMARY	$5,779.62
101	General Fund		Payroll Payable	Union Dues Payable	04/18/2019	217557	IWA EMPLOYEE ASSOCIATION	PAYROLL SUMMARY	$495.00
101	General Fund		Payroll Payable	Nationwide Payable	04/18/2019	217558	NATIONWIDE RETIREMENT SOLUTION	PAYROLL SUMMARY	$24,667.63
101	General Fund		Payroll Payable	SEIU Dues Payable	04/18/2019	217559	SEIU	PAYROLL SUMMARY	$135.00
101	General Fund		Payroll Payable	IPOA Dues Payable	04/18/2019	217560	U.S. BANK	PAYROLL SUMMARY	$231.69
101	General Fund		Payroll Payable	United Way	04/18/2019	217561	UNITED WAY OF THE DESERT	PAYROLL SUMMARY	$218.00
101	General Fund		Payroll Payable	ICMA Payable	04/18/2019	217562	ICMA RETIREMENT TRUST #457	PAYROLL SUMMARY	$13,359.74
101	General Fund	Building/Safety	Supplies	Office Supplies	04/18/2019	217526	QUILL	2/5 ACCOUNT CORRECTION	$47.83
101	General Fund	City Attorney	Professional Services	Legal Services	04/22/2019	217563	RICHARDS, WATSON & GERSHON	3/28 LEGAL SVCS	$31,668.60
101	General Fund	City Attorney	Professional Services	Legal Services	04/22/2019	217563	RICHARDS, WATSON & GERSHON	3/28 LEGAL SVCS FEB 2019	$23,354.54
101	General Fund	City Clerk	Travel & Training	Dues/Subscriptions/Pubs	04/18/2019	217518	MMASC	4/4 MMASC MEMBERSHIP	$85.00
101	General Fund	City Clerk	Supplies	Office Supplies	04/18/2019	217530	RUBBER STAMPS UNLIMITED, INC.	4/11 RUBBER STAMP	$42.40
101	General Fund	City Council	Supplies	Office Supplies	04/18/2019	217536	STAPLES BUSINESS ADVANTAGE	4/15 OFFICE SUPPLIES	$30.23
101	General Fund	Code Enforcement	Small Tools & Minor Equip	Small Tools & Minor Equip	04/18/2019	217521	OFFICE DEPOT, INC	OFFICE SUPPLIES MW	$56.10
101	General Fund	Code Enforcement	Professional Services	Legal Services	04/18/2019	217532	SILVER & WRIGHT LLP	4/1 ATTORNEY FEES	$8,237.08
101	General Fund	Code Enforcement	Professional Services	Legal Services	04/18/2019	217532	SILVER & WRIGHT LLP	12/1 ATTORNEY FEES	$1,572.59
101	General Fund	Code Enforcement	Outside Services	Rentals & Leases	04/18/2019	217543	TURBO DATA SYSTEMS, INC.	3/31 TPM HANDHELD	$420.00
101	General Fund	Development Planning	Professional Services	Professional Services	04/18/2019	217526	QUILL	2/5 ACCOUNT CORRECTION	($47.83)
101	General Fund	Fire	Supplies	Office Supplies	04/18/2019	217522	OFFICE DEPOT, INC	4/3 OFFICE SUPPLIES	$68.67
101	General Fund	Fire	Contractual Services	Fire/Amb Contract Svcs	04/18/2019	217529	RIVERSIDE COUNTY - FIRE DEPT	2/28 SAFETY STAFF SVCS	$3,765,324.57
101	General Fund	Management Services	Professional Services	Professional Services	04/18/2019	217470	CHANDLER ASSET MANAGEMENT, INC	3/1-3/31 MANAGEMENT SVCS	$2,410.15
101	General Fund	Management Services	Professional Services	Professional Services	04/18/2019	217519	MUNISERVICES, LLC	1/31 LTC DISCOVERY SVCS	$214.80
101	General Fund	Management Services	Outside Services	Printing & Reproduction	04/18/2019	217524	PAUL ASSOCIATES	4/8 BUSINESS CARDS E.C	$74.88
101	General Fund	Management Services	Professional Services	Professional Services	04/18/2019	217545	VACATION RENTAL COMPLIANCE LLC	3/31 VACATION RENTAL SVCS	$2,400.00
101	General Fund	Parks & Parkways	Supplies	R & M Supplies	04/18/2019	217479	COACHELLA VALLEY GLASS	4/8 3 LIGHT LENSES PKCAHU	$435.00
101	General Fund	Parks & Parkways	Supplies	R & M Supplies	04/18/2019	217486	DESERT ELECTRIC SUPPLY	4/5 ELEC SPPLS FOR SHOP	$159.11
101	General Fund	Parks & Parkways	Supplies	R & M Supplies	04/18/2019	217486	DESERT ELECTRIC SUPPLY	4/5 ELEC SPPLS FOR PKNJ	$112.30
101	General Fund	Parks & Parkways	Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$2,949.01
101	General Fund	Parks & Parkways	Professional Services	Professional Services	04/18/2019	217499	HERMANN DESIGN GROUP, INC.	4/2 ARCHITEC SVCS	$172.24
101	General Fund	Parks & Parkways	Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$2,613.79
101	General Fund	Parks & Parkways	Professional Services	Professional Services	04/18/2019	217515	KILLER BEE PEST CONTROL	4/10 REMOVE BEEHIVE	$250.00
101	General Fund	Parks & Parkways	Supplies	Office Supplies	04/18/2019	217524	PAUL ASSOCIATES	4/4 BUSINESS CARDS SERGIO	$74.88
101	General Fund	Parks & Parkways	Supplies	Office Supplies	04/18/2019	217524	PAUL ASSOCIATES	4/4 BUSINESS CARDS GUILLE	$74.86
101	General Fund	Police Administration	Travel & Training	Dues/Subscriptions/Pubs	04/18/2019	217517	LEXIS/NEXIS RISK SOLUTIONS	SPECIAL INVESTIGATION MW	$303.00
101	General Fund	Police Administration	Professional Services	Professional Services	04/18/2019	217531	SERNA & ASSOCIATES	3/31 MARCH 2019 SEC SVCS	$13,286.00
101	General Fund	Police Administration	Supplies	Clothing	04/18/2019	217537	SUN BADGE CO.	BADGE REPAIR MW	$400.97
101	General Fund	Police Administration	Outside Services	Rentals & Leases	04/18/2019	217549	WILLIAMS SCOTSMAN, INC.	4/19 MODULAR LEASE MW	$1,741.73
101	General Fund	Police Field Services	Professional Services	Medical, Lab & Vet.	04/18/2019	217475	AMERICAN FORENSIC NURSES	BLOOD DRAWS MW	$48.50
101	General Fund	Police Field Services	Professional Services	Medical, Lab & Vet.	04/18/2019	217485	DEPARTMENT OF JUSTICE	BLOOD DRAWS MW	$350.00
101	General Fund	Police Field Services	Professional Services	Medical, Lab & Vet.	04/18/2019	217485	DEPARTMENT OF JUSTICE	FNGERPRINTING MW	$268.00
101	General Fund	Police Field Services	Supplies	Animal Supplies	04/18/2019	217487	DESERT FEED BAG	K9 FOOD MW	$664.30
101	General Fund	Police Field Services	Professional Services	Medical, Lab & Vet.	04/18/2019	217495	GOLDSTONE K-9, LLC	K9 NARC TRAINING MW	$175.00

Return to Agenda

Open Bookmarks

101	General Fund	Police Field Services	Outside Repair & Maint	R & M Vehicles	04/18/2019	217514	K & R CAR WASH, INC	3/31 CAR WASH SVCS	$3,000.00
101	General Fund	Police Field Services	Outside Services	Rentals & Leases	04/18/2019	217543	TURBO DATA SYSTEMS, INC.	3/31 TPM HANDHELD	$341.25
101	General Fund	Police Field Services	Professional Services	Professional Services	04/18/2019	217543	TURBO DATA SYSTEMS, INC.	3/19 CITATION PROCESSING	$1,290.22
101	General Fund	Police Field Services	Supplies	Animal Supplies	04/18/2019	217547	VOHNE LICHE KENNELS INC	3/19 K9 TRAINING MW	$350.00
101	General Fund	Police Investigative Svcs	Small Tools & Minor Equip	Small Tools & Minor Equip	04/18/2019	217476	BPS TACTICAL, INC.	NON BALLISTIC VEST COVERS	$3,485.44
101	General Fund	Police Investigative Svcs	Outside Services	Concert Activities	04/18/2019	217521	OFFICE DEPOT, INC	CONCERT OFFICE SUPPLIES M	$505.85
101	General Fund	Police Investigative Svcs	Supplies	Office Supplies	04/18/2019	217521	OFFICE DEPOT, INC	TONER MW	$331.21
101	General Fund	Police Investigative Svcs	Outside Services	Concert Activities	04/18/2019	217544	ULINE	CONCERT OFFICE SUPPLIES M	$414.49
101	General Fund	Police Support Services	Supplies	Office Supplies	04/18/2019	217521	OFFICE DEPOT, INC	MARKERS FOR RANGE MW	$88.99
101	General Fund	Police Support Services	Professional Services	Professional Services	04/18/2019	217548	VOIANCE LANGUAGE SERVICES, LLC	PHONE INTERPRETATION MW	$234.00
101	General Fund	Promotion/Publicity	Professional Services	Professional Services	04/18/2019	217539	THE GREATER CV CHAMBER OF COMM	4/2 HOLIDAY DECORATIONS	$10,400.00
101	General Fund	Senior Services	Capital Outlay	Machinery & Equipment	04/18/2019	217520	NATIONAL BUSINESS FURNITURE	4/4 CHAIRS QTY (8)	$2,916.24
101 - Total									[illegible]
102	General Fund Reserves	Parks & Parkways	Professional Services	Professional Services	04/18/2019	217499	HERMANN DESIGN GROUP, INC.	4/2 ARCHITEC SVCS	$100.26
102 - Total									[illegible]
210	State Gas Tax Fund		Utilities	Electric	04/18/2019	217501	IMPERIAL IRRIGATION DISTRICT	3/11 ENERGY SVCS	$497.35
210	State Gas Tax Fund		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$44,191.65
210 - Total									[illegible]
221	AB3229-SLESF		Supplies	Safety Equipment	04/18/2019	217551	YELLOW MART STORES	3/27 2 PIVOT BIPOD	$130.48
221 - Total									[illegible]
230	CDBG-Comm. Dev. Block Grt		Supplies	Office Supplies	04/18/2019	217474	AMAZON CAPITAL SERVICES, INC.	4/15 SUPPLIES	$1,112.71
230	CDBG-Comm. Dev. Block Grt		Contractual Services	Contractual Services	04/18/2019	217512	INLAND FAIR HOUSING MEDIATION	3/1-3/31 HOUSING SVCS	$1,533.39
230	CDBG-Comm. Dev. Block Grt		Professional Services	Professional Services	04/18/2019	217540	THE RAMSAY GROUP	4/16 PROFESSIONAL SVCS	$1,100.00
230 - Total									[illegible]
240	LLD - Sundance Fund (1)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$192.39
240	LLD - Sundance Fund (1)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$24.92
240 - Total									[illegible]
241	LLD - Suntree Fund (2)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$12.34
241 - Total									[illegible]
244	LLD - Pacesetter Homes(5)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$25.83
244 - Total									25.83
245	LLD - Whispering Palms(6)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$39.32
245 - Total									39.32
246	LLD - Palmwood Fund(7)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$12.46
246 - Total									12.46
248	LLD - Pan American Fd (9)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$26.98
248 - Total									26.98
250	LLD - Santa Fe (11)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$74.51
250	LLD - Santa Fe (11)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.03
250 - Total									87.54
251	LLD - Park Madison Fd(12)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.49
251 - Total									13.49
252	LLD - Indio Centre Fd(13)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$278.89
252 - Total									278.89
253	LLD - Wildflower (14)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.49
253 - Total									13.49
254	LLD - Villa Pacific (15)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$14.66
254 - Total									14.66
255	LLD - Zalay Ranch (16)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$14.32
255 - Total									14.32
257	LLD - Encanto Fund (18)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$74.51
257	LLD - Encanto Fund (18)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$12.69
257 - Total									87.2
258	LLD - Palm Meadows (19)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$26.18
258 - Total									26.18
260	LLD - Santa Rosa (21)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.03
260 - Total									13.03
261	LLD - Riverbend (22)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$24.68
261 - Total									24.68
263	LLD -California Palms(24)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$100.85
263 - Total									100.85
264	LLD - Verandas Fd (25)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.15
264 - Total									13.15

Return to Agenda

Open Bookmarks

265	LLD - Rincon Homes (26)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$160.55
265	LLD - Rincon Homes (26)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$33.91
265 - Total									214.46
266	LLD - Summer Place (27)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$180.55
266	LLD - Summer Place (27)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$25.37
266 - Total									205.92
267	LLD-Calif. Palms II(28)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$25.83
267 - Total									25.83
268	LLD - Cheyenne Ranch (29)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$39.22
268 - Total									39.22
270	LLD - Villa Montego (38)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$234.18
270	LLD - Villa Montego (38)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$171.09
270 - Total									405.27
273	LLD - Shad Hills Vil (33)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$40.39
273 - Total									40.39
274	LLD - Madison Ranch (34)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$258.50
274	LLD - Madison Ranch (34)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$42.10
274 - Total									300.6
277	LLD - La Brisas N (37)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$180.55
277	LLD - La Brisas N (37)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.49
277 - Total									194.04
279	LLD - Shadow Hills (40)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$180.55
279 - Total									180.55
281	LLD - Monticello (39)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$180.55
281	LLD - Monticello (39)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$77.07
281 - Total									257.62
283	LLD-Whittier Ranch (43)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$371.75
283	LLD-Whittier Ranch (43)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$74.64
283 - Total									446.39
284	LLD-Palazzo(44)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$255.06
284 - Total									255.06
286	LLD-Bella Tierra (46)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$74.51
286	LLD-Bella Tierra (46)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$25.83
286 - Total									100.34
287	LLD-Rancho Verde (47)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$282.89
287 - Total									282.89
288	LLD-Hacienda (48)		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$212.79
288 - Total									212.79
290	LLD - Desert Trace (50)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$18.52
290 - Total									18.52
291	LLD - Las Colinas (52)		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$13.37
291 - Total									13.37
510	Water	Administration	Travel & Training	Dues/Subscriptions/Pubs	04/18/2019	217482	DAILY JOURNAL CORPORATION	4/3 GOVT PUBLIC NOTICE	$116.60
510	Water	Administration	Travel & Training	Dues/Subscriptions/Pubs	04/18/2019	217482	DAILY JOURNAL CORPORATION	4/9 INVITING BIDS NOTICE	$1,590.60
510	Water	Administration	Professional Services	Legal Services	04/22/2019	217563	RICHARDS, WATSON & GERSHON	3/26 LEGAL SVCS	$3,500.00
510 - Total									5,207.2
520	Municipal Golf Fund		Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$5,072.99
520	Municipal Golf Fund		Communications	Telephone	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$57.67
520	Municipal Golf Fund		Outside Repair & Maint	Equip R & M Services	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$105.00
520	Municipal Golf Fund		Outside Repair & Maint	Bldg & Grnds-Pest Control	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$125.00
520	Municipal Golf Fund		Utilities	Water	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$142.01
520	Municipal Golf Fund		Supplies	Small Tools & Minor Equip	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$180.00
520	Municipal Golf Fund		Contractual Services	Contract Labor	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$11,473.66
520	Municipal Golf Fund		Professional Services	Professional Services	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$5,600.00
520	Municipal Golf Fund		Outside Services	Rentals & Leases	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$7,687.55
520	Municipal Golf Fund		Supplies	Office Supplies	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$44.54
520	Municipal Golf Fund		Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$23,395.00
520	Municipal Golf Fund		Insurance	Comprehensive Liability	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$898.32
520	Municipal Golf Fund		Supplies	Janitorial Supplies	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$145.33
520	Municipal Golf Fund		Contractual Services	Contractual Services	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$655.31
520	Municipal Golf Fund		Supplies	Recreation Supplies	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$1,046.04
520	Municipal Golf Fund		Travel & Training	Dues/Subscriptions/Pubs	04/18/2019	217516	LANDMARK GOLF COMPANY	4/15 REIMBURSEMENT	$14.00
520 - Total									56,642.44

Return to Agenda

Open Bookmarks

602	Info. Technology Fund	Outside Repair & Maint	Equip R & M Services	04/18/2019	217474	AMAZON CAPITAL SERVICES, INC.	4/9 WIRELESS KEYBOARD	$29.98
602	Info. Technology Fund	Supplies	Small Tools & Minor Equip	04/18/2019	217477	CDWG	4/10 SUPPLIES	$1,313.00
602	Info. Technology Fund	Communications	Telephone	04/18/2019	217494	FRONTIER CALIFORNIA, INC	4/4-5/3 PHONE SVCS	$519.56
602	Info. Technology Fund	Communications	Telephone	04/18/2019	217494	FRONTIER CALIFORNIA, INC	4/7-5/6 PHONE SVCS	$279.06
602	Info. Technology Fund	Outside Services	Software/ Non-Capital	04/18/2019	217513	INTELLI - TECH	4/11 SYMANTEC LICENSE	$760.00
602	Info. Technology Fund	Outside Repair & Maint	Equip R & M Services	04/18/2019	217533	SOFTWARE ONE INC	4/17 1 YR SUBSCRIPTION	$6,465.76
602	Info. Technology Fund	Outside Services	Software/ Non-Capital	04/18/2019	217534	SOLARWINDS, INC	4/12 ANNUAL MAINTENANCE	$4,761.00
602	Info. Technology Fund	Communications	Telephone	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/11-5/10 CABLE SVCS	$431.40
602	Info. Technology Fund	Communications	Communications	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/15-5/14 INTERNET SVCS	$134.98
602	Info. Technology Fund	Communications	Communications	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/16-5/15 INTERNET SVCS	$94.94
602	Info. Technology Fund	Communications	Communications	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/9-5/8 CABLE SVCS	$1,314.00
602	Info. Technology Fund	Communications	Communications	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/11-5/10 CABLE SVCS	$949.00
602	Info. Technology Fund	Communications	Telephone	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/15-5/14 CABLE SVCS	$59.98
602	Info. Technology Fund	Utilities	Cable	04/18/2019	217541	TIME WARNER CABLE ENTERPRISES	4/16-5/15 CABLE SVCS	$56.76
602	Info. Technology Fund	Communications	Telephone	04/18/2019	217542	TPX COMMUNICATIONS COMPANY	4/9 PHONE SVCS	$2,815.80
602	Info. Technology Fund	Communications	Cell Phones	04/18/2019	217546	VERIZON WIRELESS	3/7-4/6 PHONE SVCS	$5,105.21
602 - Total								25,090.43
604	Buildings & Grounds Fund	Utilities	Electric	04/18/2019	217480	COACHELLA VALLEY WATER DISTRIC	4/23 WATER SVCS	$16.96
604	Buildings & Grounds Fund	Contractual Services	Security Services	04/18/2019	217481	COMMAND ONE SECURITY, INC.	4/12 ELEC BREAKERS SHUT O	$85.00
604	Buildings & Grounds Fund	Supplies	R & M Supplies	04/18/2019	217486	DESERT ELECTRIC SUPPLY	4/12 FREIGHT CHARGE	$14.06
604	Buildings & Grounds Fund	Supplies	R & M Supplies	04/18/2019	217488	DESERT STEEL SUPPLY	4/2 4" STEEL WHEEL	$152.25
604	Buildings & Grounds Fund	Outside Repair & Maint	Bldg & Grnds-Landscaping	04/18/2019	217491	EXCEL LANDSCAPE, INC.	3/22 LANDSCAPE SVCS	$1,209.79
604	Buildings & Grounds Fund	Supplies	R & M Supplies	04/18/2019	217492	FERGUSON ENTERPRISES, INC.	3/25 SUPPLIES	$33.15
604	Buildings & Grounds Fund	Outside Repair & Maint	Bldg & Grnds-Pest Control	04/18/2019	217493	FOSTER & SONS PEST CONTROL	3/25 TERMITE AND PEST CON	$591.00
604	Buildings & Grounds Fund	Supplies	R & M Supplies	04/18/2019	217497	HAWK DESIGN	4/5 SIGNS /CITY IWA PRKNG	$320.00
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217496	HEGGE ELECTRIC CONTRACTORS INC	4/11 REMOVE METERED POLE	$4,848.61
604	Buildings & Grounds Fund	Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$18,413.85
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217523	PALM SPRINGS AIR CONDITIONING	4/5 A/C NON OP DATEMU	$1,073.41
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217523	PALM SPRINGS AIR CONDITIONING	4/8 AC NOT COOLING	$175.00
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217523	PALM SPRINGS AIR CONDITIONING	4/2 REPAIRS IPD	$4,446.43
604	Buildings & Grounds Fund	Supplies	Janitorial Supplies	04/18/2019	217525	PRUDENTIAL OVERALL SUPPLY	4/12 MAT MOP TOWEL	$61.00
604	Buildings & Grounds Fund	Supplies	Janitorial Supplies	04/18/2019	217525	PRUDENTIAL OVERALL SUPPLY	4/9 MAT MOP TOWEL	$24.64
604	Buildings & Grounds Fund	Supplies	Janitorial Supplies	04/18/2019	217525	PRUDENTIAL OVERALL SUPPLY	4/10 MAT MOP TOWEL	$202.87
604	Buildings & Grounds Fund	Supplies	Janitorial Supplies	04/18/2019	217525	PRUDENTIAL OVERALL SUPPLY	4/5 MAT MOP TOWEL	$61.00
604	Buildings & Grounds Fund	Supplies	Janitorial Supplies	04/18/2019	217525	PRUDENTIAL OVERALL SUPPLY	4/8 MAT MOP TOWEL	$50.38
604	Buildings & Grounds Fund	Supplies	Office Supplies	04/18/2019	217526	QUILL	3/27 LARGE DIGITAL CLOCK	$105.48
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217528	RIVCO MECHANICAL SERVICES, INC	3/28 INSTALLED PEILCAN WI	$438.00
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217535	SOUTHWEST PLUMBING INC	4/6 SINK CLOGGED IN FLEET	$251.25
604	Buildings & Grounds Fund	Outside Repair & Maint	Outside Repair & Maint	04/18/2019	217535	SOUTHWEST PLUMBING INC	4/10 MAIN LINE CLOGGED	$247.50
604 - Total								32,821.63
772	RDA OBLIGATION RETIREMENT	Utilities	Electric	04/18/2019	217500	IMPERIAL IRRIGATION DISTRICT	4/9 WATER SVCS	$377.35
772	RDA OBLIGATION RETIREMENT	Utilities	Electric	04/18/2019	217511	IMPERIAL IRRIGATION DISTRICT	4/16 ENERGY SVCS	$1,874.64
772	RDA OBLIGATION RETIREMENT	Professional Services	Legal Services	04/22/2019	217563	RICHARDS, WATSON & GERSHON	3/28 LEGAL SVCS FEB 2019	$415.50
772	RDA OBLIGATION RETIREMENT	Communications	Advertising	04/22/2019	217564	RIVERSIDE COUNTY CLERK/RECORDE	4/22 COUNTY RECORDING NOE	$50.00
772 - Total								2,717.69
773	Housing Authority	Professional Services	Legal Services	04/22/2019	217563	RICHARDS, WATSON & GERSHON	3/28 LEGAL SVCS FEB 2019	$675.00
773 - Total								675
Overall - Total								4,136,267.14

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Prepared By

Approved By Director of Finance

Return to Agenda

Open Bookmarks

Item 11d

Selection Criteria:

From Date . . . . :	03/21/2019
To Date . . . . . :	04/18/2019
or	
From Period . . . :	
To Period . . . . :	
Bank Code . . . . :	ALL
Page Break by Fund:	Y
Include Vendor No.:	Y
Print Recap Only .:	N

Approved by: _____
Brian M. Kinder
Manager of Finance & Customer Service

Date: 4/22/ 2019

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11208	5967	ATWORK FRANCHISE INC	071293	3/15 TEMP, WATER TREAT PL	010-4712-471.22-20		9/2019	2,609.15
				071904	3/22 TEMP, WATER TREAT PL	010-4712-471.22-20		9/2019	1,783.81
								Total	4,392.96
03/27/2019	11209	5909	BABCOCK LABORATORIES, I	BC90025-8865M	3/1 WATER SAMPLES, QTY 5	010-4712-471.21-90		9/2019	75.00
								Total	75.00
03/27/2019	11210	5915	BACKFLOW PARTS USA	147561	3/21 BACKFLOW PARTS	010-4713-471.52-60		9/2019	681.25
								Total	681.25
03/27/2019	11211	4605	BIACSI, FRED	43027-44728	3/18 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	150.00
								Total	150.00
03/27/2019	11212	5708	BORDEN EXCAVATING, INC.	18-10-2	2/28 PROGRESS PMT 2	010-4713-471.62-10	WSBD17	9/2019	1,063,696.71
								Total	1,063,696.71
03/27/2019	11213	4605	BRAVO, CELSO	885-53822	3/12 LANDSCAPE REBATE	010-4711-471.22-81	SMART	9/2019	528.00
								Total	528.00
03/27/2019	11214	248	BRINKS, INC.	2580178	2/1-2/28 ARMORED SVCS	010-4714-471.22-70		9/2019	636.85
								Total	636.85
03/27/2019	11215	3905	BUREAU OF RECLAMATION	1801938061	4/10/19-4/9/20 ANNUAL	010-0000-135.05-00		9/2019	225.00
				1801938061	4/10/19-4/9/20 ANNUAL	010-4711-471.22-30		9/2019	75.00
								Total	300.00
03/27/2019	11216	5899	CALIF COMMERCIAL ASPHAL	1985520	3/11 3/8 COLD MIX	010-4713-471.52-90		9/2019	522.86
				1985956	3/12 1/2" MAX MED TYPE A	010-4713-471.52-90		9/2019	355.58
				1987384	3/15 3/8 COLD MIX, 5.18 TO	010-4713-471.52-90		9/2019	479.81
								Total	1,358.25
03/27/2019	11217	603	CDWG	RKK3052	3/8 SAMSUNG 860 EVO	010-4715-471.51-10		9/2019	246.60
				RKR1641	3/8 IBM ULTRIUM LTO 6	010-4715-471.51-10		9/2019	209.06
				RKT9968	3/11 QUANTUM VER+ LBL	010-4715-471.51-10		9/2019	10.00
				RLH2390	3/12 ASUS 27" WS HDMI	010-4715-471.51-10		9/2019	193.37
				RMF5719	3/14 BLACK BOX EZ MODULAR	010-4715-471.51-10		9/2019	143.28
				RMG2282	3/15 BLACK BOX SIDE	010-4715-471.51-10		9/2019	27.10
				RMD2935	3/18 APC SMART UPS C	010-4715-471.51-10		9/2019	421.48
				RPB0374	3/21 VISIONTE IM	010-4715-471.51-10		9/2019	35.34
								Total	1,286.23
03/27/2019	11218	223	CITY OF INDIO	2	1/6 REIMB HIGHWAY 111	010-4713-471.62-10	WT1118	9/2019	391,075.98
				65703	3/18 PERMIT FEE	010-4713-471.24-90		9/2019	1,428.00
								Total	392,503.98
03/27/2019	11219	4605	COFFEY, THOMAS J	48825-62976	3/12 LANDSCAPE REBATE	010-4711-471.22-81	SMART	9/2019	326.00
								Total	326.00
03/27/2019	11220	4605	CORDOVA CASTILLO, MARIA	32053-43484	3/18 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00
03/27/2019	11221	233	CORE & MAIN LP	J921550	3/13 MISC LABOR, FORD	010-4713-471.52-90		9/2019	243.30
				K192210	3/8 SWPINS, QTY 6	010-4712-471.52-90		9/2019	28.77

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11221	233	CORE & MAIN LP	K240760	3/8 FLG RWD/ GV CL	010-4713-471.52-90		9/2019	659.04
				K240796	3/8 FLG TYTE GASKET FLG	010-4713-471.52-90		9/2019	458.27
				K248949	3/12 ADAPTER, QTY 10	010-4713-471.52-90		9/2019	294.17
				K262047	3/14 GALV TOP SECTION	010-4713-471.52-90		9/2019	224.20
				K263885	3/14 GALV TOP SECTION	010-4713-471.52-90		9/2019	49.60
				K267438	3/15 GALV TOP SECTION	010-4713-471.52-90		9/2019	93.47
				K269833	3/15 HEX BOLT KIT	010-4713-471.52-90		9/2019	68.47
				K270180	3/18 PWI-1/2 POLYMER BOX	010-4713-471.52-90		9/2019	410.59
								Total	2,529.88
03/27/2019	11222	1239	COUNTY OF RIVERSIDE - HE	IN0346385	3/8 HEALTH PERMIT, LEVEL	010-4712-471.22-30		9/2019	842.00
								Total	842.00
03/27/2019	11223	5821	D & H WATER SYSTEMS, IN	I 2019-0262	3/11 3/4"X3/8" TUBE W	010-4712-471.52-90		9/2019	4,886.55
				I 2019-0290	3/8 PLANT 1, PLANT 3,	010-4712-471.52-90		9/2019	1,240.39
								Total	6,126.94
03/27/2019	11224	5882	DANGELO CO.	S1357692.003	3/7 REP CLAMPS, REP	010-4713-471.52-90		9/2019	2,831.49
								Total	2,831.49
03/27/2019	11225	4605	DE JESUS, MILQUIADES	125761-30324	3/12 WASHING MACHINE	010-4711-471.22-81	WASHER	9/2019	150.00
								Total	150.00
03/27/2019	11226	4605	DE LA TORRE, TERESA	123177-34518	3/13 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	107.66
								Total	107.66
03/27/2019	11227	5974	DESERT ANTS ENGINEERING	193	12/16 REPLACE SIDEWALK	010-4713-471.24-90		9/2019	3,825.00
								Total	3,825.00
03/27/2019	11228	39	DESERT ELECTRIC SUPPLY	S2615856.001	3/11 WELL 4B-RAB	010-4712-471.52-90		9/2019	148.86
				S2615856.002	3/11 WELL 4A-RAB	010-4712-471.52-90		9/2019	148.86
				S2615856.003	3/11 WELL 4C-RAB	010-4712-471.52-90		9/2019	446.58
				S2615856.004	3/1 WELL 1B RAB	010-4712-471.52-90		9/2019	148.86
				S2615856.005	3/1 CERRA RAB	010-4712-471.52-90		9/2019	297.72
				S2615856.006	3/1 CERRA RAB	010-4712-471.52-90		9/2019	297.72
				S2615956.001	3/11 WELL 1C RAB	010-4712-471.52-90		9/2019	148.86
				S2618454.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	595.45
				S2618650.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2618651.001	3/8 37W WLPK, QTY 5	010-4712-471.52-90		9/2019	148.86
				S2618653.001	3/8 37W WLPK, QTY 5	010-4712-471.52-90		9/2019	744.31
				S2618656.001	3/7 HEAT SHRINK TUBING	010-4712-471.52-90		9/2019	6.53
				S2619136.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2619137.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2619138.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2619139.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2619140.001	3/8 37W WLPK, QTY 1	010-4712-471.52-90		9/2019	148.86
				S2619379.001	3/11 15 IN 1 SCREWDRIVER	010-4712-471.51-10		9/2019	42.96
								Total	4,068.73
03/27/2019	11229	724	DESERT STEEL SUPPLY	15864	3/14 16GX4X8 C.R. SHEET	010-4712-471.52-90		9/2019	110.42
								Total	110.42
03/27/2019	11230	5665	EUROFINS EATON ANALYTIC	L0435419	1/30 WATER SAMPLES, DRINK	010-4712-471.21-90	WQW019	9/2019	135.00

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD YEAR	AMOUNT
03/27/2019	11230	5665	EUROFINS EATON ANALYTIC	L0440076	2/26 WATER SAMPLES, T22	010-4712-471.21-90	WCW2019	9/2019	95.00
				L0440060	3/4 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCW2019	9/2019	410.00
				L0440139	3/5 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCW2019	9/2019	420.00
				L0440262	2/22 WATER SAMPLES, CRV1	010-4712-471.21-90	WCW2019	9/2019	245.00
				L0440311	3/6 WATER SAMPLES, DRINK	010-4712-471.21-90	WCW2019	9/2019	120.00
				L0440315	3/7 WATER SAMPLES, DRINK	010-4712-471.21-90	WCW2019	9/2019	132.00
				L0440319	3/7 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCW2019	9/2019	12.50
				L0440961	3/7 WATER SAMPLES, CRV1	010-4712-471.21-90	WCW2019	9/2019	166.00
				L0441424	3/12 WATER SAMPLES, DRINK	010-4712-471.21-90	WCW2019	9/2019	84.00
				L0441437	3/14 WATER SAMPLES, DRINK	010-4712-471.21-90	WCW2019	9/2019	156.00
				L0442108	3/18 WATER SAMPLES, SPECI	010-4712-471.21-90	WCW2019	9/2019	75.00
								Total	2,050.50
03/27/2019	11231	4605	FELDMAN, SONIA SARKISSI	81531-93306	3/18 WASHING MACHINE	010-4711-471.22-81	WASHER	9/2019	150.00
								Total	150.00
03/27/2019	11232	292	FERGUSON ENTERPRISES, I	0663503	2/20 REPAIR PARTS AND SUP	010-4713-471.52-90		9/2019	11,541.03
				0667579	3/19 16 FLG RWOL GATE	010-4712-471.52-90		9/2019	5,220.00
				7194405	2/25 3/8 CDX50 SCFT	010-4713-471.52-90		9/2019	51.83
				7227304	3/5 WELL U REPAIR PARTS	010-4712-471.52-90		9/2019	108.65
				7228566	3/5 WELL U REPAIR PARTS	010-4712-471.52-90		9/2019	13.86
				7233347	3/6 REPAIR PARTS FOR WELL	010-4712-471.52-90		9/2019	738.70
				7233886	3/6 WELL V REPAIR PARTS	010-4712-471.52-90		9/2019	6.08
				7261492	3/13 LF 3/4 X2 BRS NIP	010-4713-471.52-90		9/2019	62.28
				7280675	3/18 REPAIR PARTS, PLNT 3	010-4712-471.52-90		9/2019	276.21
				7288718	3/20 CONNECTOR WROT	010-4713-471.52-90		9/2019	65.16
				7292282	3/20 HOSE BIB, ADAPTER	010-4712-471.52-90		9/2019	80.55
				7295993	3/21 MEGA TAPE, HOSE BIBB	010-4713-471.52-90		9/2019	24.98
				7297111	3/21 1/4X1-1/2 BRS	010-4713-471.52-90		9/2019	14.37
				7302635	3/22 ADAPTER, NIP GBL	010-4713-471.52-90		9/2019	89.09
								Total	18,294.79
03/27/2019	11233	4605	FERRETTI, DANIEL NAZZAR	101305-60840	3/12 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	9/2019	122.05
								Total	122.05
03/27/2019	11234	4605	FRAMPTON, ROSE	48933-62216	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	269.70
								Total	269.70
03/27/2019	11236	4605	FRIEDMAN, RANDY	91413-79396	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	272.09
								Total	272.09
03/27/2019	11237	5901	FRONTIER COMMUNICATIONS	020516-5 4/19	3/16-4/15 FIOS INTERNET	010-4715-471.27-10		9/2019	209.84
								Total	209.84
03/27/2019	11238	4605	GILBERT, KEVIN PAUL	125319-30586	3/11 LANDSCAPE REBATE	010-4711-471.22-81	SMART	9/2019	1,500.00
								Total	1,500.00
03/27/2019	11239	5856	GOLDEN STATE OVERNIGHT	3869480	3/15 SHIPPING CHARGES	010-4711-471.27-20		9/2019	16.03
								Total	16.03
03/27/2019	11240	4605	GRADILLA, LUISA	74453-57148	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11241	4459	GUTIERREZ, DANIEL	DGUTIERREZ 3/19	3/14 16GX4X8 C.R. SHEET	010-4716-471.26-10		9/2019	90.00
								Total	90.00
03/27/2019	11242	5965	HASA, INC.	631837	3/13 SODIUM HYPO, PLANT 1	010-4712-471.55-40		9/2019	286.59
				631838	3/13 SODIUM HYPO, PLNT 2	010-4712-471.55-40		9/2019	204.93
				631840	3/13 SODIUM HYPO, PLANT 3	010-4712-471.55-40		9/2019	154.08
				631841	3/13 SODIUM HYPO, WELL Z	010-4712-471.55-40		9/2019	154.08
				631842	3/13 SODIUM HYPO, WELL T	010-4712-471.55-40		9/2019	157.16
				631843	3/13 SODIUM HYPO, WELL W	010-4712-471.55-40		9/2019	342.06
				631844	3/13 SODIUM HYPO, PLANT 4	010-4712-471.55-40		9/2019	520.80
								Total	1,819.70
03/27/2019	11243	5844	HAZEN AND SAWYER, P.C.	20038-003-9	1/1-1/31 PROF ENG SVCS	010-4716-471.21-90		9/2019	880.00
								Total	880.00
03/27/2019	11244	5940	HD SUPPLY CONSTRUCTION	50009944804	3/11 LIME OL 2 ZIPPER FRN	010-4713-471.55-70		9/2019	81.51
				50009949629	3/12 1 GAL INDUST ACID	010-4713-471.51-10		9/2019	82.43
				50009962508	3/13 BASIC CONCRETE MIX	010-4713-471.52-90		9/2019	395.24
				50009968610	3/14 1500 LUMENS 12W LED	010-4713-471.51-10		9/2019	188.56
								Total	747.74
03/27/2019	11245	2125	INFOSEND, INC.	149636	2/1-2/18 POSTAGE/PRINTING	010-4714-471.27-20		9/2019	4,319.83
				149636	2/1-2/18 POSTAGE/PRINTING	010-4714-471.28-60		9/2019	766.92
				149637	2/1-2/18 PAY YOUR WAY	010-4714-471.28-60		9/2019	94.27
				149907	2/18-2/28 POSTAGE/PRINTIN	010-4714-471.27-20		9/2019	7,186.17
				149907	2/18-2/28 POSTAGE/PRINTIN	010-4714-471.28-60		9/2019	1,286.07
				149908	2/18-2/28 PAY YOUR WAY	010-4714-471.28-60		9/2019	118.21
				150546	3/4 FEBRUARY MONTHLY	010-4714-471.21-80		9/2019	349.00
								Total	14,120.47
03/27/2019	11246	521	INLAND POWER EQUIPMENT	131778	3/15 WACKER TRACY PUMP	010-4713-471.52-90		9/2019	281.91
								Total	281.91
03/27/2019	11247	3349	INNOVATIVE DOCUMENT SOL	204843	3/1 CONTRACT 4744-01	010-4715-471.55-20		9/2019	197.93
								Total	197.93
03/27/2019	11248	4605	JEW, SANDY	80951-60506	3/18 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	9/2019	107.66
								Total	107.66
03/27/2019	11249	5941	LAGERLOF, SENECAL, GOSN	57729	3/7 LEGAL SVCS MSWD	010-4711-471.21-10		9/2019	144.00
								Total	144.00
03/27/2019	11251	5819	LEGEND PUMP & WELL SERV	55441	3/8 TROUBLE CALLS WELL S	010-4712-471.24-90		9/2019	3,448.00
								Total	3,448.00
03/27/2019	11252	4605	LINGLE, MELISSA MICHELL	97221-87138	3/18 WASHING MACHINE	010-4711-471.22-81	WASHER	9/2019	150.00
								Total	150.00
03/27/2019	11253	4605	LUA, MARTIN	49805-81514	3/18 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00
03/27/2019	11254	4424	MCCALL'S METERS, INC	31478	3/1 CABLE DR, CANOPY LID	010-4713-471.52-60		9/2019	504.53
								Total	504.53

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11255	4605	MCNEIL, THOMAS	87433-45666	3/18 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	150.00
								Total	150.00
03/27/2019	11256	29	OFFICE DEPOT	284498353001	3/7 CLAMP, HANGING 30"	010-4716-471.55-20		9/2019	299.92
				284537178001	3/8 FILE, ROLL, 16 TUBE	010-4716-471.55-20		9/2019	97.86
								Total	397.78
03/27/2019	11257	5781	PAUL ASSOCIATES	83742	3/14 BUSINESS CARDS	010-4716-471.28-60		9/2019	53.30
								Total	53.30
03/27/2019	11258	184	PAUL'S JANITORIAL SERVI	1658	3/22 JANITORIAL SERVICES	010-4712-471.55-10		9/2019	100.00
								Total	100.00
03/27/2019	11259	4605	PEREZ, LEOPOLDO	93713-99648	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	150.00
								Total	150.00
03/27/2019	11261	3553	POLLARD WATER	WP002744	3/1 TERRA LAGO REPLACE	010-4712-471.52-90		9/2019	299.76
								Total	299.76
03/27/2019	11262	4605	RAMIREZ, RICHARD	120991-60040	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	150.00
								Total	150.00
03/27/2019	11263	862	RDO EQUIPMENT CO	P23698	3/21 BACKFLOW REPAIR	010-4713-471.52-60		9/2019	196.76
				P23699	3/21 SHOV W/WOOD HANDLE	010-4713-471.52-60		9/2019	110.84
								Total	307.60
03/27/2019	11264	5617	ROBERT HALF INTERNATION	52963524	3/5 TEMP, WRK WEEK 3/1	010-4714-471.22-20		9/2019	876.80
				53012898	3/12 TEMP WRK WEEK 3/8	010-4714-471.22-20		9/2019	701.44
								Total	1,578.24
03/27/2019	11265	678	ROBERT SKEELS & CO.	48530	2/28 1-3/4" WIDE LAMINATE	010-4713-471.51-10		9/2019	122.35
								Total	122.35
03/27/2019	11266	4605	SALCEDO, DOLORES	7933-49906	3/18 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00
03/27/2019	11267	5851	SIERRA CONTROLS, LLC	120364	3/15 WELL U STARTUP	010-4712-471.21-90		9/2019	270.00
				120365	3/15 TERRA LAGO PUMP DELA	010-4712-471.21-90		9/2019	135.00
				120378	3/15 PLANT 2 STANDARDIZAT	010-4712-471.21-90		9/2019	1,557.50
				120380	3/15 CLEAR SCADA SERVER	010-4712-471.21-90		9/2019	330.00
				120381	3/20 SANDARDIZE PLANT 1	010-4712-471.21-90		9/2019	22,451.82
				120384	3/15 WELL Z PUMP FAIL	010-4712-471.21-90		9/2019	67.50
								Total	24,811.82
03/27/2019	11269	5872	STATE WATER RESOURCES	G331105	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G331480	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G331840	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G331905	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332029	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332106	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332258	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332305	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332470	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11269	5872	STATE WATER RESOURCES	G332684	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332791	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G332792	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333010	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333011	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333012	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333013	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333014	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333015	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333016	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333017	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333018	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
				G333019	3/20 GROUNDWATER EXTRACTI	010-4716-471.22-30		9/2019	50.00
								Total	1,100.00
03/27/2019	11270	4605	TOMLINSON, AMY H	73729-103700	3/11 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	9/2019	218.59
								Total	218.59
03/27/2019	11271	78	TOPS N BARRICADES	1073677	3/13 CLOSE E/B RT LANE	010-4713-471.28-10		9/2019	550.00
				1073701	3/14 E/B RIGHT LANE	010-4713-471.28-10		9/2019	325.00
				1073750	3/15 BIKE LANE CLOSED	010-4713-471.28-10		9/2019	4.00
				1073809	3/18 CLOSE E/B RT LANE	010-4713-471.28-10		9/2019	550.00
								Total	1,429.00
03/27/2019	11272	453	USA BLUE BOOK	837486	3/14 SANDPIPER DIAPH PUMP	010-4712-471.51-10		9/2019	2,135.84
								Total	2,135.84
03/27/2019	11273	4605	VALLE, GILMA	49939-66274	3/13 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00
03/27/2019	11274	3628	VINTAGE ASSOCIATES, INC	211491	3/7 SMRT IRRIG CONT &	010-4711-471.22-81	WAUDIT	9/2019	80.00
				211492	3/6 SMRT IRRG CONT & FLOW	010-4711-471.22-81	WAUDIT	9/2019	140.00
								Total	220.00
03/27/2019	11275	4605	WALKER, WILLIAM HAYDEN	59765-86822	3/12 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	300.00
								Total	300.00
03/27/2019	11276	4605	WASSIL, TIMOTHY	110511-97056	3/13 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	9/2019	391.47
								Total	391.47
03/27/2019	11277	5979	WATERSUITE	1131	3/22 DATA SERVICES	010-4712-471.21-90		9/2019	6,412.40
								Total	6,412.40
03/27/2019	11278	90	AGUILAR, SELENE	85385-85432	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	25.01
								Total	25.01
03/27/2019	11279	90	AMERICA UNDERWRITER S L	68149-59284	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	18.40
								Total	18.40
03/27/2019	11280	90	CHAVEZ, RAMON	40899-86662	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	353.90
								Total	353.90
03/27/2019	11281	90	DUCCING, AMIL	98703-116638	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	134.15

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
								Total	134.15
03/27/2019	11282	90	GREGORY, JONATHAN CHARL	125159-108812	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	19.87
								Total	19.87
03/27/2019	11283	90	INDIO TOWNE CENTER LLC	124093-115950	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	86.95
								Total	86.95
03/27/2019	11284	90	LA QUINTA PALMS REALTY	1203-81314	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	15.45
								Total	15.45
03/27/2019	11285	90	LANDSCAPE & LIGHT #05	9857-85276	CREDIT WATER REFUND	010-0000-219.00-00		9/2019	1,172.82
								Total	1,172.82
03/27/2019	11286	90	MEZA-RENDON, ISAMAR	91171-39554	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	14.73
								Total	14.73
03/27/2019	11287	90	MOKLER, GREGORY LYNN	120829-47256	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	695.15
								Total	695.15
03/27/2019	11288	90	MORAN, NATALIE	123463-78890	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	21.16
								Total	21.16
03/27/2019	11289	90	NIXT, JEFFERY SCOTT	112593-60664	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	16.02
								Total	16.02
03/27/2019	11290	90	PARTON, ELYSSA RUTH	108557-123818	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	13.21
								Total	13.21
03/27/2019	11291	90	ROSENTHAL & ASSOCIATES	107191-102626	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	27.57
								Total	27.57
03/27/2019	11292	90	RUIZ, OLIMPIA	603-53710	FINAL BILL WATER REFUND	010-0000-219.00-00		9/2019	24.32
								Total	24.32
03/27/2019	11293	4605	KOBIELUSZ, EULA	107423-61100	11/1 TOILET REBATE	010-4711-471.22-81	TOILET	9/2019	150.00
								Total	150.00
04/03/2019	11294	403	IMPERIAL IRRIGATION DIS	4027236	4/2 AM PROJECT TRILIOGY	010-4712-471.23-30		10/2019	1,430.00
								Total	1,430.00
04/03/2019	11295	5857	MANAGEMENT SERVICES CO.	19-0111	2/1-2/23 MANAGEMENT SVCS	010-4716-471.21-90		10/2019	9,450.00
								Total	9,450.00
04/10/2019	11296	296	ACOM SOLUTIONS, INC.	0200832-IN	3/26 LICENSE TRANSFER	010-4715-471.28-85		10/2019	1,033.13
								Total	1,033.13
04/10/2019	11297	5986	ADVANCED SYSTEMS CO	1205	4/8 PORTABLE SELF CONTAIN	010-4713-471.51-10		10/2019	8,156.25
								Total	8,156.25
04/10/2019	11298	3987	AIR & HOSE SOURCE INC	345250	3/19 1-1/4" HOSE BARB X	010-4712-471.52-90		10/2019	18.49
				346178	3/28 NYLON TUBING	010-4713-471.52-90		10/2019	94.61
								Total	113.10

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11299	3529	ALL SEASONS LANDSCAPING	2364	3/1-3/31 LANDSCAPE SVCS	010-4712-471.24-90	WALM17	10/2019	2,141.33
								Total	2,141.33
04/10/2019	11300	4605	ALWISHAH, MOHAMED MOHAM	10511-93146	3/19 WASHING MACHINE	010-4711-471.22-81	WASHER	10/2019	150.00
								Total	150.00
04/10/2019	11301	4605	ANBARTOUMIAN, DANIEL GE	125125-33310	3/19 TOILET REBATE	010-4711-471.22-81	TOILET	10/2019	300.00
								Total	300.00
04/10/2019	11302	3773	APPLIED GEODETICS, INC.	2019-03	4/1 GERNERAL GIS UPDATES	010-4716-471.21-90		10/2019	4,735.50
								Total	4,735.50
04/10/2019	11303	5909	BABCOCK LABORATORIES, I	BC91090-8865M	3/14 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
				BC91391-8865M	3/18 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
				BC91795-8865M	3/21 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
				BC91951-8865M	3/22 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
				BC92449-8865M	3/28 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
				BC92601-8865M	3/29 SCHOOL LEAD SAMPLES	010-4712-471.21-90	WCW019	10/2019	75.00
								Total	450.00
04/10/2019	11304	2780	BAVCO	895168	3/20 TEST KIT CALIBRATION	010-4713-471.52-60		10/2019	256.16
								Total	256.16
04/10/2019	11305	5708	BORDEN EXCAVATING, INC.	19-03-1	3/25 STORM CHANNEL REPAIR	010-4713-471.52-90	WT4619	10/2019	3,182.90
								Total	3,182.90
04/10/2019	11306	5899	CALIF COMMERCIAL ASPHAL	1990716	3/26 1/2" MAX MED TYPE A,	010-4713-471.52-90		10/2019	377.29
				1991591	3/26 1/2 " MAX MED TYPE A	010-4713-471.52-90		10/2019	992.49
				1992596	4/1 3/8 COLD MIX, QTY 5	010-4713-471.52-90		10/2019	463.33
				1993049	4/2 3/6 COLD MIX, QTY8.46	010-4713-471.52-90		10/2019	780.22
								Total	2,613.33
04/10/2019	11307	603	CDWG	RSH8543	4/3 STARTECH GIGABIT	010-4715-471.51-10		10/2019	67.64
				RSP5407	4/4 BLACK BOX SHIELDED	010-4715-471.51-10		10/2019	92.43
								Total	160.07
04/10/2019	11308	223	CITY OF INDIO	UUT 0319	4/10 UUT FOR MARCH 2019	010-0000-209.30-00		10/2019	75,208.03
				UUT 0319	4/10 UUT FOR MARCH 2019	010-0000-209.40-00		10/2019	3,760.40-
				65748	4/10 IWA PAYROLL MAR 19	010-0000-202.10-10		10/2019	396,154.38
								Total	467,602.01
04/10/2019	11309	779	CLA-VAL	767609	3/22 PREVENTIVE MAINT OF	010-4712-471.21-90		10/2019	4,438.12
				767671	3/22 STAINLESS STEEL TUBI	010-4712-471.21-90		10/2019	1,913.63
								Total	6,351.75
04/10/2019	11310	575	COACHELLA VALLEY WATER	332509 3/19	3/1-3/31 RAC METERED CHRG	010-4711-471.22-30	RAC	10/2019	82,599.62
								Total	82,599.62
04/10/2019	11311	5985	COMMERCIAL TRANSPORTATI	3411	3/24 CDL WRITTEN SEMINAR	010-4712-471.26-10		10/2019	442.32
				3411	3/24 CDL WRITTEN SEMINAR	010-4713-471.26-10		10/2019	221.16
								Total	663.48
04/10/2019	11312	233	CORE & MAIN LP	K300868	3/22 5 1/2 POLYMER BOX	010-4713-471.52-90		10/2019	124.15

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11312	233	CORE & MAIN LP	K306096	3/25 DBL STRAP BRNZ SAD	010-4713-471.52-90		10/2019	170.68
				K343229	4/3 DCBFPP TOP W/BALL	010-4713-471.52-60		10/2019	1,749.36
				K346527	4/2 1 SOFT K COPPER	010-4713-471.52-90		10/2019	405.64
								Total	2,449.83
04/10/2019	11313	320	CORONET CONCRETE PRODUC	1103454	3/19 FILL SAND, RECYCLED	010-4713-471.52-90		10/2019	217.50
								Total	217.50
04/10/2019	11314	4407	CV STRATEGIES	4959	3/8 COMM SVCS FOR FEB 19	010-4711-471.22-81	WATER	10/2019	4,938.64
				4959	3/8 COMM SVCS FOR FEB 19	010-4714-471.27-40		10/2019	756.36
								Total	5,695.00
04/10/2019	11315	39	DESERT ELECTRIC SUPPLY	S2622728.001	3/20 20A125V RECEPTACLE	010-4712-471.51-10		10/2019	18.54
				S2624419.001	3/26 STEEL STRAPS, QTY 10	010-4712-471.51-10		10/2019	11.65
				S2625608.001	3/28 WP2LED37 37W	010-4712-471.51-10		10/2019	148.86
				S2625610.001	3/28 WP2LED37 37W	010-4712-471.51-10		10/2019	148.86
				S2625611.001	3/28 WP2LED37 37W	010-4712-471.51-10		10/2019	148.86
				S2625734.001	3/29 BELL END ELL, CONDUI	010-4712-471.51-10		10/2019	55.10
				S2627727.001	4/4 CARSON GREEN HDPE	010-4713-471.52-90		10/2019	501.52
								Total	1,033.39
04/10/2019	11316	5887	DESERT HOSE & SUPPLY CO	16064	3/27 IONEX REPAIR PARTS	010-4712-471.52-90		10/2019	327.48
				16079	3/28 COMPRESSION MPT, COMP	010-4712-471.52-90		10/2019	114.04
				16168	4/3 BRASS BUSHING, 3/8"	010-4712-471.52-90		10/2019	84.03
				16241	4/8 3/8" COMPRESSION X	010-4712-471.52-90		10/2019	16.49
								Total	542.04
04/10/2019	11317	5957	DRP ENGINEERING, INC	14	3/31 PROF HYDROGEOLOGICAL	010-4716-471.21-90		10/2019	1,481.50
				15	3/31 WELL 3B INVOICE	010-4716-471.21-90		10/2019	640.00
								Total	2,121.50
04/10/2019	11318	4605	ELLIS, DONALD R	84729-93086	3/27 TOILET REBATE	010-4711-471.22-81	TOILET	10/2019	300.00
								Total	300.00
04/10/2019	11319	5665	EUROFINS EATON ANALYTIC	L0431042	1/3 WATER SAMPLES, DRINK	010-4712-471.21-90	WCWQ19	10/2019	265.00
				L0442598	3/19 WATER SAMPLES, SPECI	010-4712-471.21-90	WCWQ19	10/2019	50.00
				L0442643	3/21 WATER SAMPLES, DRINK	010-4712-471.21-90	WCWQ19	10/2019	240.00
				L0443898	3/26 WATER SAMPLES, DRINK	010-4712-471.21-90	WCWQ19	10/2019	265.00
				L0443911	3/27 WATER SAMPLES, SPECI	010-4712-471.21-90	WCWQ19	10/2019	87.50
				L0443915	3/28 WATER SAMPLES, SPECI	010-4712-471.21-90	WCWQ19	10/2019	87.50
				L0443925	3/27 WATER SAMPLES, T22	010-4712-471.21-90	WCWQ19	10/2019	75.00
				L0444199	3/28 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCWQ19	10/2019	5.00
				L0444472	3/27 WATER SAMPLES, CRV1	010-4712-471.21-90	WCWQ19	10/2019	166.00
				L0444474	3/28 WATER SAMPLES, CRV1	010-4712-471.21-90	WCWQ19	10/2019	166.00
				L0444644	4/1 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCWQ19	10/2019	140.00
				L0444909	4/2 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCWQ19	10/2019	35.00
				L0444910	4/2 WATER SAMPLES, SPECIA	010-4712-471.21-90	WCWQ19	10/2019	140.00
				L0445114	4/4 WATER SAMPLES, DRINK	010-4712-471.21-90	WCWQ19	10/2019	240.00
								Total	1,962.00
04/10/2019	11320	292	FERGUSON ENTERPRISES, I	0665815	3/26 T10 MEASURE CHAMBER	010-4713-471.52-50		10/2019	1,448.56
				7015622	1/9 REPAIR PARTS FOR	010-4712-471.52-90		10/2019	117.82
				7177487	2/25 1/2 PVC S80 THRD	010-4712-471.52-90		10/2019	53.90

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11320	292	FERGUSON ENTERPRISES, I	7182116	2/25 3/8 COMP NUT, 3/8	010-4712-471.52-90		10/2019	6.62
				7182116-1	2/25 3/8 COMP NUT, 3/8	010-4712-471.52-90		10/2019	14.76
				7308628	3/25 PLANT 4 REPAIR	010-4712-471.52-90		10/2019	306.10
				7312825	3/26 REPAIR PARTS WELL S	010-4712-471.52-90		10/2019	39.99
				7346013	4/3 LF 1X3/4 BRS RED COUP	010-4713-471.52-60		10/2019	64.62
								Total	2,052.37
04/10/2019	11321	4936	FOXCROFT EQUIPMENT AND	805119	3/26 REBUILD UPGRADE	010-4712-471.52-90		10/2019	2,249.38
				805120	3/26 REBUILD UPGRADE	010-4712-471.52-90		10/2019	2,249.38
								Total	4,498.76
04/10/2019	11322	4605	FREGOSO, FERNANDO HERNA	118949-107592	3/13 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	9/2019	356.00
								Total	356.00
04/10/2019	11323	4605	GARBER, STEVEN	63629-89682	3/27 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	10/2019	204.00
								Total	204.00
04/10/2019	11324	5856	GOLDEN STATE OVERNIGHT	3877789	3/31 SHIPPING CHRGS	010-4711-471.27-20		10/2019	17.64
								Total	17.64
04/10/2019	11325	215	GRAINGER, INC.	9121761358	3/20 HANDHELD LIGHT, LED	010-4713-471.51-10		10/2019	348.05
								Total	348.05
04/10/2019	11326	54	GRANITE CONSTRUCTION CO	1555328	3/26 SS1-HTON	010-4713-471.52-90		10/2019	186.19
								Total	186.19
04/10/2019	11327	5965	HASA, INC.	633162	3/27 SODIUM HYPO, PLANT 3	010-4712-471.55-40		10/2019	546.99
				633186	3/27 SODIUM HYPO, WELL S	010-4712-471.55-40		10/2019	446.64
				633187	3/27 SODIUM HYPO, PLANT 4	010-4712-471.55-40		10/2019	530.04
				633188	3/27 SODIUM HYPO, WELL W	010-4712-471.55-40		10/2019	204.93
				633189	3/27 SODIUM HYPO, PLANT 1	010-4712-471.55-40		10/2019	428.35
								Total	2,157.15
04/10/2019	11328	5844	HAZEN AND SAWYER, P.C.	20038-003-10	2/1-2/28 PROF ENG SVCS	010-4716-471.21-90		10/2019	237.98
								Total	237.98
04/10/2019	11329	5940	HD SUPPLY CONSTRUCTION	10010272340	3/21 WYE METAL HOSE	010-4712-471.52-90		10/2019	234.98
				10010316371	3/29 MEASURING WHEEL	010-4712-471.52-90		10/2019	153.86
								Total	388.84
04/10/2019	11330	101	HOME DEPOT CREDIT SERVI	1012320	2/21 BUCKET, BOLT CUTTER	010-4713-471.52-60		10/2019	55.19
								Total	55.19
04/10/2019	11331	4605	HOUCK, EDWARD DEWAYNE	124751-32988	3/27 LANDSCAPE REBATE	010-4711-471.22-81	SMART	10/2019	1,001.00
								Total	1,001.00
04/10/2019	11332	5928	IFLOWENERGY SOLUTIONS,	100736	1/17 METERS CONFIG 23573	010-0000-141.10-70		10/2019	3,949.27
				100748	1/30 METERS CONFIG 23573	010-0000-141.10-70		10/2019	3,972.87
								Total	7,922.14
04/10/2019	11333	403	IMPERIAL IRRIGATION DIS	50002511	2/6-3/5 WELL 3B ELECTRI	010-4712-471.23-30		10/2019	544.88
				50003032	2/6-3/5 WELL 4A ELECTR	010-4712-471.23-30		10/2019	16,769.06
				50139555	2/6-3/5 WELL S ELECTRIC	010-4712-471.23-30		10/2019	3,225.96

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11333	403	IMPERIAL IRRIGATION DIS	50218178	2/6-3/5 WELL V ELECTRIC	010-4712-471.23-30		10/2019	310.75
				50237457	2/6-3/5 WELL U ELECTRIC	010-4712-471.23-30		10/2019	1,756.88
				50248706	2/6-3/5 WELL W	010-4712-471.23-30		10/2019	3,088.23
				50277890	2/6-3/5 SHADOW LAKE	010-4712-471.23-30		10/2019	333.70
				50315816	2/6-3/5 WELL AA ELECTRI	010-4712-471.23-30		10/2019	563.25
				50353239	2/6-3/5 WELL Z ELECTRIC	010-4712-471.23-30		10/2019	4,075.27
				50356180	2/6-3/5 TERRA LAGO BOO	010-4712-471.23-30		10/2019	1,688.01
				50367035	2/6-3/5 WELL BB BOOSTER	010-4712-471.23-30		10/2019	609.16
				50439042	2/6-3/5 WELL 1B BOOST	010-4712-471.23-30		10/2019	2,858.69
				50456393	2/6-3/5 WELL 2C, BOOST	010-4712-471.23-30		10/2019	1,860.17
				50464803	2/6-3/5 WELL 3A/C, BOOST	010-4712-471.23-30		10/2019	1,079.72
				50488871	2/6-3/5 WEL IE ELECTRIC	010-4712-471.23-30		10/2019	816.03
				50496966	2/22-3/25 WELL 13A BST	010-4712-471.23-30		10/2019	1,368.34
				50527587	2/6-3/5 WELL 2D, BOOST	010-4712-471.23-30		10/2019	2,675.05
				50662390	2/6-3/5 PLANT 13	010-4712-471.23-30		10/2019	134.74
								Total	43,757.89
04/10/2019	11334	2125	INFOSEND, INC.	150910	3/15 BILL POSTAGE	010-4714-471.27-20		10/2019	4,046.13
				150910	3/15 BILL POSTAGE	010-4714-471.28-60		10/2019	656.46
				150911	3/15 WEB PORTAL INSERT	010-4714-471.28-60		10/2019	1,209.67
				151780	3/29 BILL POSTAGE	010-4714-471.27-20		10/2019	7,489.47
				151780	3/29 BILL POSTAGE	010-4714-471.28-60		10/2019	1,211.22
				151781	3/29 WEBPORTAL INSERT	010-4714-471.28-60		10/2019	290.21
				151990	3/1 MARCH 2019 MONTHLY	010-4714-471.21-80		10/2019	352.50
								Total	15,255.66
04/10/2019	11335	3349	INNOVATIVE DOCUMENT SOL	205644	4/1 CONTRACT 4744-01	010-4715-471.55-20		10/2019	32.49
								Total	32.49
04/10/2019	11336	4605	LANTERMAN, HENRY	66641-102296	3/27 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	10/2019	236.00
								Total	236.00
04/10/2019	11337	5819	LEGEND PUMP & WELL SERV	55428	3/8 REHAB & REDEVELOPMNT	010-4712-471.24-90		10/2019	117,828.00
								Total	117,828.00
04/10/2019	11338	3920	LOR GEOTECHNICAL GROUP	17230	3/29 MATERIALS TESTING	010-4713-471.62-10	WSWT17	10/2019	12,609.00
								Total	12,609.00
04/10/2019	11339	5673	MCDONALD ELECTRIC, INC.	11412	3/26 SERVICE CALLS, ELECT	010-4712-471.24-90		10/2019	6,581.54
								Total	6,581.54
04/10/2019	11340	4605	MERCADO, RICARDO S.	49971-96210	4/1 TOILET REBATE	010-4711-471.22-81	TOILET	10/2019	300.00
								Total	300.00
04/10/2019	11341	4605	MOEHLE, ALLEN CHARLES	123001-81766	4/1 LANDSCAPE REBATE	010-4711-471.22-81	SMART	10/2019	979.00
								Total	979.00
04/10/2019	11342	5198	NAPA AUTO PARTS - DESER	028095	2/1 GOJO ORANGE 14OZ, GLA	010-4713-471.51-10		10/2019	18.40
				028101	2/4 LARGE NITRILE GLOVES	010-4716-471.55-70		10/2019	16.03
				028106	2/5 10PC INLINE FILTER	010-4712-471.52-90		10/2019	11.84
				028107	2/5 FREIGHT, SHIPMENT	010-4713-471.52-60		10/2019	29.11
				028135	2/8 LYSOL	010-4716-471.51-10		10/2019	6.96
				028162	2/14 DUCT TAPE, QTY 2	010-4713-471.51-10		10/2019	4.13

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11342	5198	NAPA AUTO PARTS - DESER	028168	2/14 LATEX DISPOSABLE	010-4712-471.55-70		10/2019	14.33
				028169	2/14 WIRE BRUSH, QTY 3	010-4712-471.51-10		10/2019	12.69
				028174	2/15 1/16 COMBO WRENCH	010-4712-471.51-10		10/2019	912.67
				028183	2/19 7" WIRE CUTTER	010-4713-471.51-10		10/2019	36.18
				028184	2/19 WATER FILTER, QTY 2	010-4712-471.52-90		10/2019	107.61
				028192	2/20 3 TON JACK STANDS	010-4712-471.51-10		10/2019	123.27
				028196	2/20 TOW STRAP, QTY 1	010-4712-471.51-10		10/2019	18.02
				028245	2/25 RATCHET, EXT 6	010-4713-471.51-10		10/2019	49.92
				028250	2/25 FREIGHT, FILTER	010-4712-471.52-90		10/2019	451.05
				028252	2/25 DIAPHRAGM PUMP	010-4712-471.52-90		10/2019	1,060.55
								Total	2,872.78
04/10/2019	11343	29	OFFICE DEPOT	290251898001	3/21 RETURNED ITEM CLAMP	010-4716-471.55-20		10/2019	299.92-
				290543742001	3/21 SELF INK DATER	010-4711-471.55-20		10/2019	86.98
				290822126001	3/21 CLAMP, HANGING 36"	010-4716-471.55-20		10/2019	424.11
				293480046001	3/28 SELF INK, DATER	010-4711-471.55-20		10/2019	43.49
				297123984001	4/2 TONER, QTY 4	010-4711-471.55-20		10/2019	696.46
								Total	951.12
04/10/2019	11344	4605	OROZCO, ATANACIO SANDOV	114023-40692	3/19 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	10/2019	303.41
								Total	303.41
04/10/2019	11345	5972	PHIBRO-TECH INC	22357	3/31 BRINE WASTE	010-4712-471.55-40		10/2019	1,243.85
								Total	1,243.85
04/10/2019	11346	889	PUMP CHECK	7497	2/26 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7498	2/26 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7499	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7500	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7501	1/30 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7505	1/30 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	245.00
				7506	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	245.00
				7507	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7508	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7509	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
				7510	2/28 PUMP EFFICIENCY TEST	010-4712-471.21-90		10/2019	490.00
								Total	4,900.00
04/10/2019	11347	1235	PURCHASE POWER	0733-7863 4/19	3/21 POSTAGE REFILL	010-4714-471.27-20		10/2019	318.45
				0733-7863 4/19	3/21 POSTAGE REFILL	010-4714-471.82-01		10/2019	79.61
								Total	398.06
04/10/2019	11348	4605	RASCON, MARCO ANTONIO J	103019-84684	4/1 LANDSCAPE REBATE	010-4711-471.22-81	SMART	10/2019	462.00
								Total	462.00
04/10/2019	11349	862	RDO EQUIPMENT CO	P24360	4/2 BACKFLOW PPARTS FOR	010-4713-471.52-60		10/2019	815.19
								Total	815.19
04/10/2019	11350	5617	ROBERT HALF INTERNATION	53060094	3/19 TEMP, WRK WEEK 3/15	010-4714-471.22-20		10/2019	876.80
				53108476	3/26 TEMP, WRK WEEK 3/22	010-4714-471.22-20		10/2019	876.80
				53157149	4/2 TEMP WRK WEEK 3/29	010-4714-471.22-20		10/2019	876.80
								Total	2,630.40

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11351	5610	RUSSELL AIR CONDITIONIN	5656	2/26 REPLACE COMPRESSOR	010-4712-471.24-90		10/2019	4,999.00
								Total	4,999.00
04/10/2019	11352	76	SMITH PIPE & SUPPLY INC	3415410	3/25 REPAIR PARTS	010-4712-471.52-90		10/2019	154.86
				3415961	3/26 3/4 SCH40 PVC PIPE	010-4712-471.52-90		10/2019	19.55
								Total	174.41
04/10/2019	11353	5104	SPS VAR, LLC	14312	3/27 AS400 INSTALLATION	010-4715-471.64-10	WATER	10/2019	7,200.00
								Total	7,200.00
04/10/2019	11354	5960	STREAKWAVE WIRELESS, IN	786720	3/21 DIN RAIL MOUNT POE	010-4715-471.64-10	WATER	9/2019	550.29
				788753	4/1 ISOLATOR RADOME	010-4715-471.64-10	WATER	10/2019	433.00
				788766	4/1 5GHZ NANO STATION	010-4715-471.64-10	WATER	10/2019	117.52
				788699	4/2 5GHZ ROCKET AC GEN2	010-4715-471.64-10	WATER	10/2019	255.67
				789057	4/2 5GHZ LITEAP AC 16DBI	010-4715-471.64-10	WATER	10/2019	99.62
				789981	4/8 5GHZ POWER BEAM	010-4715-471.64-10	WATER	10/2019	267.30
								Total	1,723.40
04/10/2019	11355	5935	SUPERION, LLC	229722	3/14 TRANSACTION MANAGER	010-4714-471.22-70		10/2019	156.56
								Total	156.56
04/10/2019	11356	78	TOPS N BARRICADES	1073928	3/22 TRAFFIC PLANS	010-4713-471.28-10		10/2019	200.00
				1073929	3/22 TRAFFIC PLANS AVE 41	010-4713-471.28-10		10/2019	200.00
				1074004	3/27 CLOSE S/B FAST LANE	010-4713-471.28-10		10/2019	550.00
				1074095	3/29 CLOSE S/B SLOW LANE	010-4713-471.28-10		10/2019	550.00
				1074230	4/4 CONE 28" W6-4" SLEEV	010-4713-471.51-10		10/2019	1,296.84
								Total	2,796.84
04/10/2019	11357	415	UNDERGROUND SERVICE ALE	18DSBFEE1466	4/1 CALI STATE FEE FOR	010-4713-471.24-90		10/2019	105.29
				320190330	4/1 NEW TICKET CHARGES	010-4713-471.24-90		10/2019	186.55
								Total	291.84
04/10/2019	11358	453	USA BLUE BOOK	855529	4/2 PVDF TUBING 100' ROLL	010-4712-471.51-10		10/2019	1,662.75
								Total	1,662.75
04/10/2019	11359	4605	VELEZ, FIDEL	86367-104026	3/19 WASHING MACHINE	010-4711-471.22-81	WASHER	10/2019	150.00
								Total	150.00
04/10/2019	11360	2132	VERIZON WIRELESS	9826836125	2/23-3/23 PHONE CHRGS	010-4712-471.27-50		10/2019	192.90
				9826836125	2/23-3/23 PHONE CHRGS	010-4715-471.27-50		10/2019	1,566.86
				9826836126	2/24-3/23 BACKUP ROUTER	010-4715-471.27-50		10/2019	39.02
								Total	1,798.78
04/10/2019	11361	3628	VINTAGE ASSOCIATES, INC	211768	3/28 SMRT IRRIG CONT	010-4711-471.22-81	WAUDIT	10/2019	80.00
				211899	3/31 SMRT IRRIG CONT	010-4711-471.22-81	WAUDIT	10/2019	80.00
								Total	160.00
04/10/2019	11362	4562	WILLDAN FINANCIAL SERVI	010-41069	4/4 DISCLOSURE SVCS	010-4711-471.21-90		10/2019	1,520.00
								Total	1,520.00
04/10/2019	11363	4605	WILLIAMS, GENEVA GAIL	77935-102554	3/27 IRRIGATION REBATE	010-4711-471.22-81	IRRIGA	10/2019	236.00
								Total	236.00

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11364	4605	ZACK, DALE ERWIN ALAN	112597-84882	4/1 LANDSCAPE REBATE	010-4711-471.22-81	SMART	10/2019	608.00
								Total	608.00
04/10/2019	11365	90	BEBER, TERRI ANN	122375-114238	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	14.50
								Total	14.50
04/10/2019	11366	90	BRACAMONTE JR, ART	101531-99968	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	5.76
								Total	5.76
04/10/2019	11367	90	BRACELIN, JOAN	74287-96976	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	79.52
								Total	79.52
04/10/2019	11368	90	BUCCOLA, ROBERT ANTHONY	103875-104876	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	25.01
								Total	25.01
04/10/2019	11369	90	DELGADO, NORMA A	83087-79766	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	19.31
								Total	19.31
04/10/2019	11370	90	DOELL, ROGER & HEATHER	101999-32044	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	90.72
								Total	90.72
04/10/2019	11371	90	FERRANTE, MICHAEL R	76781-93018	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	13.77
								Total	13.77
04/10/2019	11372	90	FLORES, STEVEN	120179-99472	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	13.28
								Total	13.28
04/10/2019	11373	90	FORDUM, GINGER	98681-123272	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	24.99
								Total	24.99
04/10/2019	11374	90	FOSSEY, DEREK BRUCE	117491-87930	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	80.15
								Total	80.15
04/10/2019	11375	90	FROEMMING, SHANNON	32561-38882	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	28.84
								Total	28.84
04/10/2019	11376	90	GARCIA, AIMEE B.	30837-44216	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	26.29
								Total	26.29
04/10/2019	11377	90	GONZALES, BRITTANY ELIZ	94255-57246	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	23.81
								Total	23.81
04/10/2019	11378	90	GRANITE CONSTRUCTION CO	44459-84442	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	763.47
								Total	763.47
04/10/2019	11379	90	GRANT, CARL STILLFORS	123647-99712	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	15.45
								Total	15.45
04/10/2019	11380	90	HAHN, WILLIAM EDWARDO	113069-82592	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	41.02
								Total	41.02
04/10/2019	11381	90	HO, GABRIEL THIEN	125249-92086	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	42.08
								Total	42.08

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11382	90	HUGHES, BETTY JANE	118643-104390	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	31.22
								Total	31.22
04/10/2019	11383	90	JACOBS, LENI RAE	76767-106512	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	49.84
								Total	49.84
04/10/2019	11384	90	KOHLER, TRAVIS ALAN	125745-87160	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	25.19
								Total	25.19
04/10/2019	11385	90	LEGARRETA, ADESSA JANE	118067-42730	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	19.87
								Total	19.87
04/10/2019	11386	90	LOPEZ, FRANCISCA	122123-84598	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	12.89
								Total	12.89
04/10/2019	11387	90	LUA, RICARDO ALFONSO	121347-80722	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	68.95
								Total	68.95
04/10/2019	11388	90	NAVARRO, RICARDO SANCHE	74817-38826	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	26.29
								Total	26.29
04/10/2019	11389	90	QUIGG, PATRICIA E.	13783-32984	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	14.33
								Total	14.33
04/10/2019	11390	90	RICKETSON, NOREMAN	33193-100886	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	54.85
								Total	54.85
04/10/2019	11391	90	RODRIGUEZ, ELSA	88683-39336	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	9.17
								Total	9.17
04/10/2019	11392	90	ROSENLUND, BRIAN SCOTT	116243-65960	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	5.12
								Total	5.12
04/10/2019	11393	90	SERRANO, MARIA	31903-43418	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	23.72
								Total	23.72
04/10/2019	11394	90	STERN, JAMES BRYAN	104931-92852	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	13.94
								Total	13.94
04/10/2019	11395	90	STIEHR, MARK DAVID	99601-43410	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	5.14
								Total	5.14
04/10/2019	11396	90	TERAN, ROSALINDA	125403-106406	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	21.88
								Total	21.88
04/10/2019	11397	90	THE BEVERLY LAW GROUP	110023-85506	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	26.29
								Total	26.29
04/10/2019	11398	90	THE CLUB AT POLO ESTATE	113785-125584	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	9,408.89
				113785-126264	CREDIT WATER REFUND	010-0000-219.00-00		10/2019	1,499.53
								Total	10,908.42
04/10/2019	11399	90	VIVES, ALMA MIREYA	113703-39488	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	16.75

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
								Total	16.75
04/10/2019	11400	90	YANG, ZHEN LIN	90907-97552	FINAL BILL WATER REFUND	010-0000-219.00-00		10/2019	8.24
								Total	8.24
						189 Checks	**	Fund Total	2,449,940.37

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11250	5983	LEADERSHIP COUNSEL FOR	7004011719	1/17 DAC ONSITE PLUMBING	020-0000-400.22-90		9/2019	194.40
								Total	194.40
						1 Checks	** Fund Total		194.40

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
04/10/2019	11306	223	CITY OF INDIO	65747	4/5 EAST VALLEY RECLAMATI	050-4711-471.11-10		10/2019	215.30
				65747	4/5 EAST VALLEY RECLAMATI	050-4711-471.21-20		10/2019	3,250.00
								Total	3,465.30
						1 Checks	** Fund Total		3,465.30

Return to Agenda

Open Bookmarks

CHECK DATE	CHECK NUMBER	VENDOR	NAME	INVOICE	DESCRIPTION	G/L NUMBER	PROJECT	PERIOD/ YEAR	AMOUNT
03/27/2019	11243	5844	HAZEN AND SAWYER, P.C.	20038-002-11	1/1-1/31 MSTR PLN AND HYD	310-4716-471.21-90		9/2019	6,172.50
								Total	6,172.50
03/27/2019	11260	4976	PLANIT REPROGRAPHICS SY	872657	3/22 DRAWINGS	310-4713-471.62-10	WT1119	9/2019	624.18
				872658	3/22 SPECIFICATIONS PROJE	310-4713-471.62-10	WT1119	9/2019	60.35
								Total	684.53
04/10/2019	11328	5844	HAZEN AND SAWYER, P.C.	20038-002-12	2/1-2/28 MSTR PLN & HYD	310-4716-471.21-90		10/2019	12,032.50
								Total	12,032.50
						3 Checks	**	Fund Total	18,889.53
						194 Checks	***	Bank Total	2,472,489.60
						194 Checks	****	Grand Total	2,472,489.60

BANK	NAME	FUND		AMOUNT
00	IWA Union Bank of California	010	Indio Water Authority	2,449,940.37
		020	PROP 84 ROUND 3 GRANT	194.40
		050	EAST VALLEY REC AUTHORITY	3,465.30
		310	CIF-Wtr Fac/Maint Constr	18,889.53
			Total	2,472,469.60 *
			Grand Total	2,472,469.60 *

Item 11e

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: Finance Department

SUBJECT: Report of Investments for the quarter ending March 31, 2019.

RECOMMENDED MOTION: Receive and file the fiscal year 18/19 Third-Quarter Investment Report.

SUMMARY: The attached quarterly-account statement (Attachment A) reflects investment activity for the period of January 1, 2019, through March 31, 2019. The statement was reviewed by the City's Investment Committee on April 25, 2019 with no objections noted. The City's Investment Committee is composed of the City Treasurer, Finance Director, Mayor, Mayor Pro Tem, and one citizen at large. All investments and transactions are in compliance with Government Code and City policy. Interest accrued for the quarter ending March 31, 2019, for all pooled funds totaled $332,397. Total investments owned and/or managed by the City, totaled $75,091,779.

BACKGROUND: In accordance with Government Code and the City's investment policy, staff confirms that the City has an adequate cash flow to meet its expenditure requirements for the next six months, pending any future actions by the City Council or any unforeseen catastrophe.

(continued on the next page)

for
Prepared by: Liberty Urban

FINANCIAL DATA				
	Cost associated with this action:	$ 0	In current year budget:	N/A
	Current F.Y. general fund cost:	$ 0	Budget adjustment:	N/A
	Future F.Y. cost:	$ 0	For fiscal year:	N/A

Source of funds: N/A	Current account balance: N/A
Account number: N/A	Balance remaining if approved: N/A

Legal Review:	Department Head Review:	Financial Review:
N/A	N/A	Rob Rockwell
Roxanne Diaz City Attorney	Rob Rockwell Asst. City Manager & Finance Director	Rob Rockwell Asst. City Manager & Finance Director

CITY MANAGERS RECOMMENDATION:	CITY MANAGERS SIGNATURE:
Receive/File	Mark Scott

The investment objectives of the City of Indio are first, to provide safety of principal to ensure the preservation of capital in the overall portfolio; second, to provide sufficient liquidity to meet all operating requirements; and third, to earn a commensurate rate of return consistent with the constraints imposed by the safety and liquidity objectives. The performance objective for the portfolio is to earn an average market yield over a market cycle that equals or exceeds the market index: the Bank of America Merrill Lynch Index of 1-5 Year Treasury securities. In order to achieve this objective, the portfolio is invested in high quality money market instruments, US Treasury and Agency securities, and US Corporate notes with a maximum maturity of five years. For the quarter ending March 31, 2019, the average market yield of the City's investments was 2.46%, and the average market yield of the Bank of America Merrill Lynch Index of 1-5 Year Treasury securities was 2.29%.

Quarterly investment-reporting requirements as required in the City's investment policy (Section XII, Paragraph A) are met in the Investment Report as follows:

Quarterly Reporting Requirement	*Description*	*Report Location (Page #)*
1	An asset listing showing par value, cost and accurate and complete market value of each security, type of investment, issuer, maturity date, and interest rate	28-34
2a	Average maturity of the portfolio and modified duration of the portfolio	15, 22, 25
2b	Maturity distribution of the portfolio	20
2c	Average portfolio credit quality	19
2d	Time-weighted total rate of return for the portfolio for the prior one month, three months, twelve months, year to date, and since inception compared to the Benchmark Index returns for the same period	21
3	A statement of compliance with investment policy	14
4	A statement that the City has adequate funds to meet its cash flow requirements for the next six months	Staff Report

ALTERNATIVES: N/A

ATTACHMENTS:

A. Chandler Asset Management Investment Report – Period Ending March 31, 2019

Attachment A

INVESTMENT REPORT

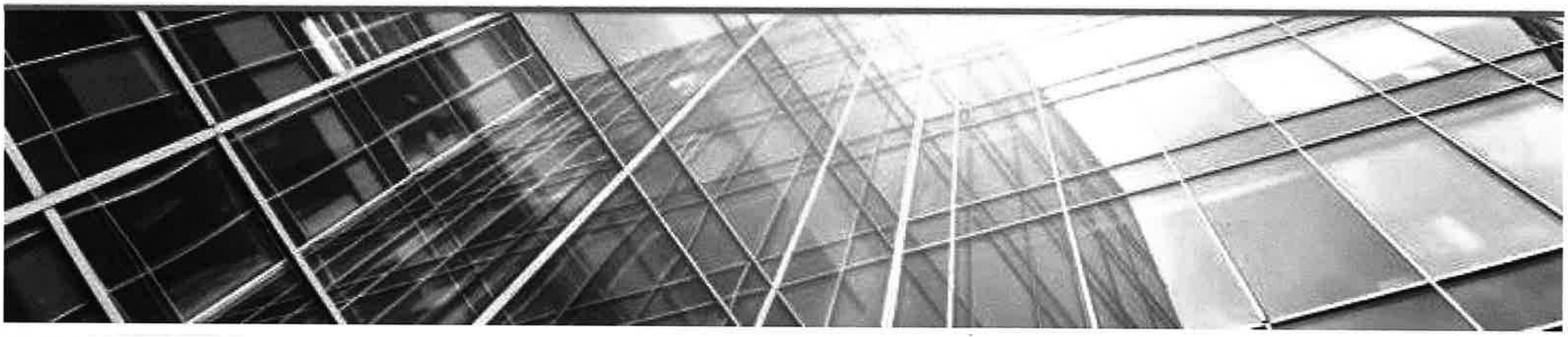
Open Bookmarks

CHANDLER ASSET MANAGEMENT

City of Indio

Period Ending March 31, 2019

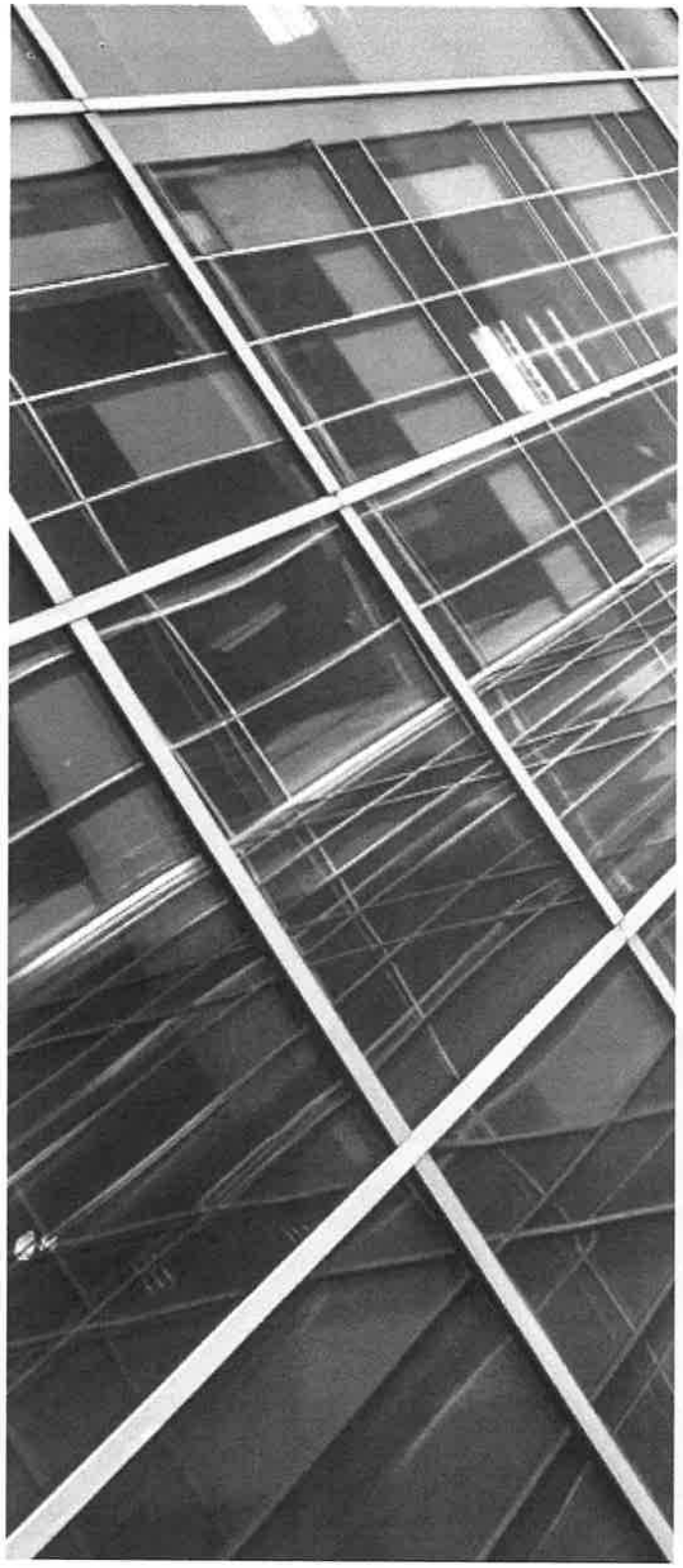
CHANDLER ASSET MANAGEMENT, INC. | 800.317.4747 | www.chandlerasset.com



Open Bookmarks

Table of Contents

As of March 31, 2019



Section 1 | Economic Update

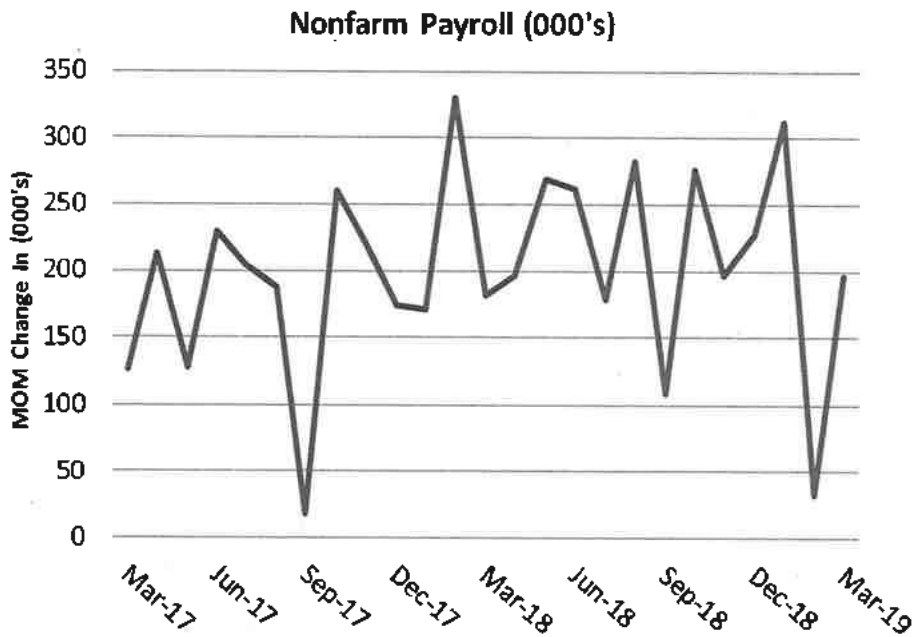
Economic Update

- The Federal Open Market Committee kept the target fed funds rate unchanged in March at a range of 2.25%-2.50%. However, the Fed's economic projections, along with the tone of the policy statement and the Fed Chair's press conference, were more dovish than expected. The Fed's median forecast now calls for a target fed funds rate of 2.4% at year-end, which implies that there will be no further rate hikes this year. The Fed is projecting one rate hike in 2020 (to and effective rate of 2.6%) and then expects to keep policy on hold in 2021. The Fed's longer-run fed funds rate target is still 2.8%. This implies that the Fed intends to keep the target fed funds rate below the neutral rate for the foreseeable future. Furthermore, the Fed announced that they will begin slowing down the reduction of their balance sheet and conclude their balance sheet reduction program at the end of September 2019. This will leave the Fed with a larger balance sheet (slightly higher than $3.5 trillion) than they originally expected.

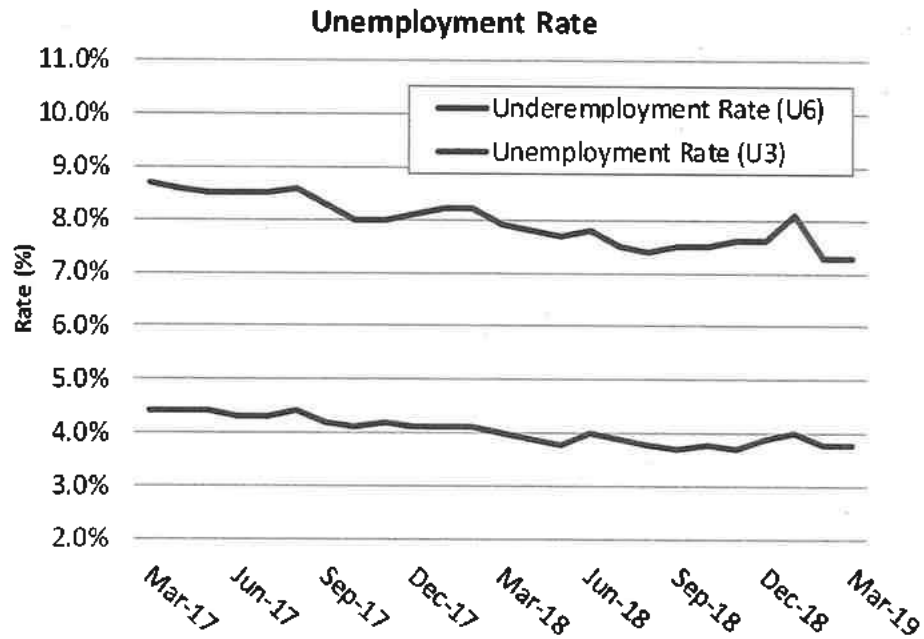
- Domestic and global economic growth has slowed and inflation pressures remain muted. However, the labor market remains a bright spot in the US economy. We believe some of the factors hindering current economic growth (trade disputes, recent government shutdown, Brexit uncertainty) may be somewhat transitory. While economic growth is likely to remain under pressure over the near-term, we believe a strong labor market coupled with an increasingly dovish Fed may lead to better than expected economic growth later this year. Overall, the economy is expected to grow 2.0%-2.5% this year versus 2.9% in 2018.

- The yield curve inverted in March with the 10-year Treasury yield temporarily falling below the 3-month T-bill yield. At month-end, the 3-month T-bill yield was down 5 basis points to 2.38%, the 2-year Treasury yield was down about 25 basis points to 2.26%, and the 10-year Treasury yield was down 31 basis points to 2.41%. The spread between 2- and 10-year Treasury yields was less than 15 basis points at March month-end. An inversion of the yield curve in which the 10-year Treasury yield is lower than the 3-month T-bill is generally viewed as a powerful predictive signal of an upcoming recession. However, our 6-month economic forecast does not call for a recession.

Employment



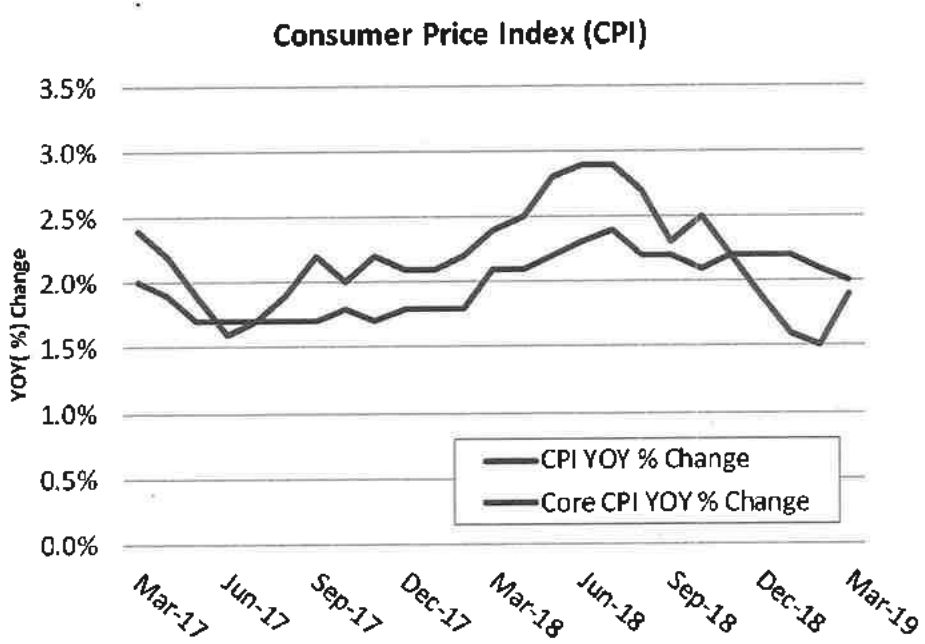
Source: US Department of Labor



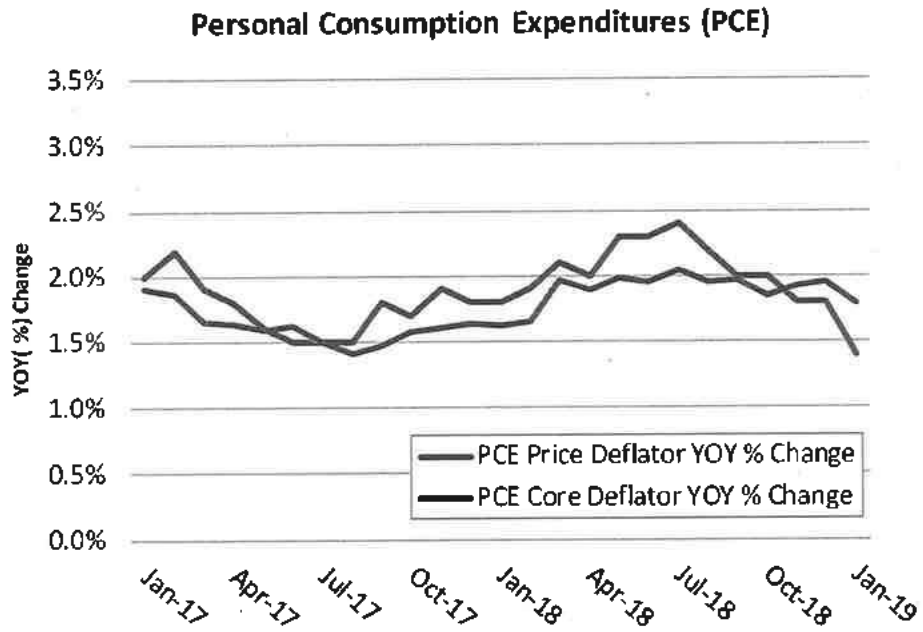
Source: US Department of Labor

U.S. payrolls rose by 196,000 in March, exceeding the consensus forecast of 177,000. February payrolls were revised up modestly to 33,000 from 20,000. On a trailing 3-month and 6-month basis payrolls increased an average of 180,000 and 207,000 per month, respectively. The unemployment rate was unchanged at 3.8% in March, as expected. A broader measure of unemployment called the U-6, which includes those who are marginally attached to the labor force and employed part time for economic reasons, was also unchanged at 7.3%. The labor participation rate edged down to 63.0% from 63.2%. The weakest aspect of the employment report was wages which rose just 0.1% in March (slightly below expectations of 0.2%), following a 0.4% increase in February. On a year-over-year basis, wages were up 3.2% in March, versus up 3.4% in February.

Inflation



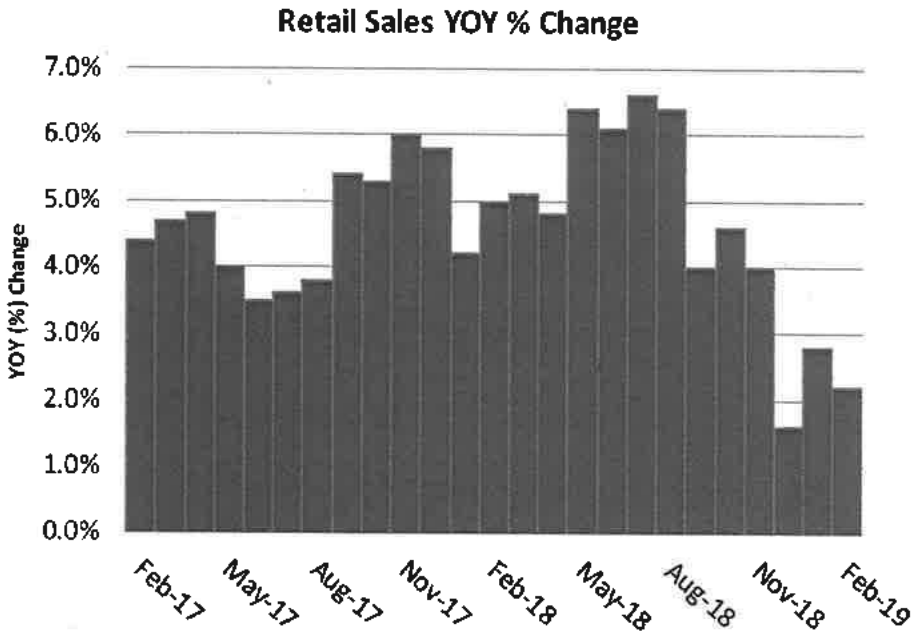
Source: US Department of Labor



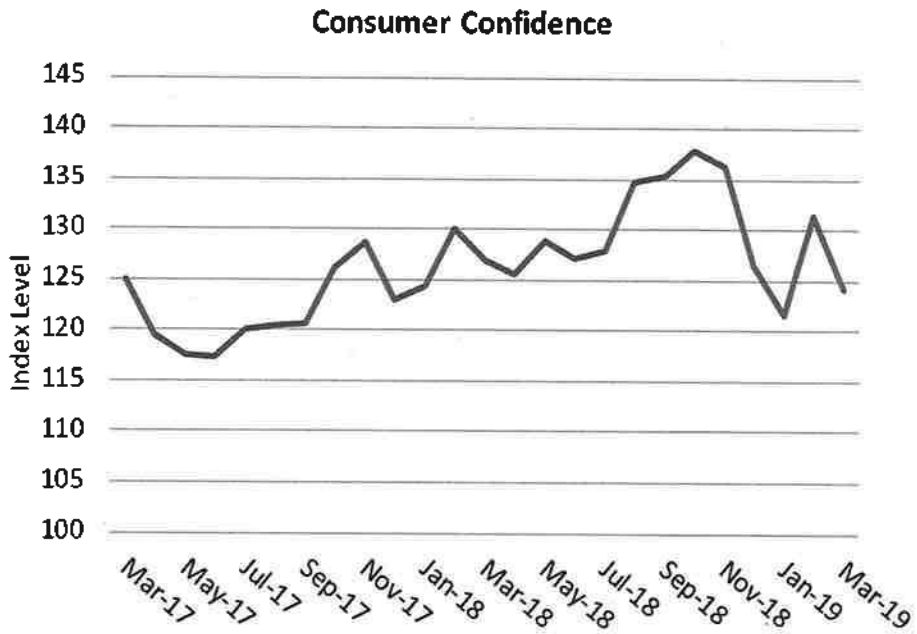
Source: US Department of Commerce

Headline inflation picked up in March fueled by higher energy prices, but core data remains at or slightly below the Fed's target. The Consumer Price Index (CPI) was up 1.9% year-over-year in March, versus up 1.5% year-over-year in February. Core CPI (CPI less food and energy) was up 2.0% year-over-year in March, versus up 2.1% year-over-year in February. The Personal Consumption Expenditures (PCE) index was up just 1.4% year-over-year in January, versus up 1.8% year-over-year in December. Core PCE eased to 1.8% year-over-year in January from 2.0% in December, falling below the Fed's 2.0% inflation target.

Consumer



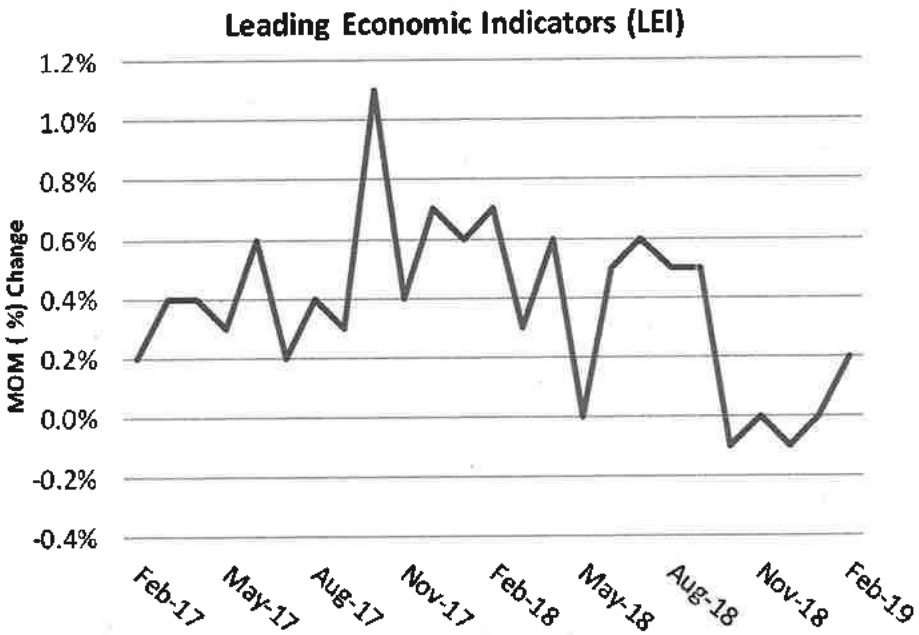
Source: US Department of Commerce



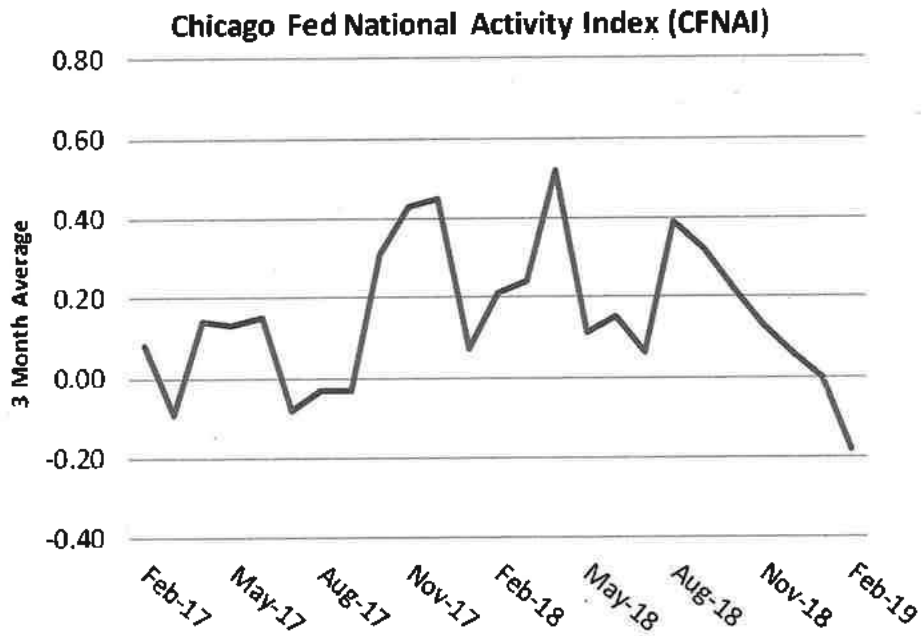
Source: The Conference Board

Retail sales were disappointing in February, but the results for January were revised higher. On a year-over-year basis, retail sales were up 2.2% in February, versus up 2.8% year-over-year in January. On a month-over-month basis, retail sales fell 0.2% in February, below expectations for 0.3% growth, following an upwardly revised 0.7% increased in January. Excluding autos and gas, retail sales fell 0.6% in February, month-over-month, well below the 0.4% growth expectation. However, this decline followed upwardly revised growth of 1.7% in January. The Consumer Confidence Index eased to 124.1 in March from a very strong level of 131.4 in February, missing expectations. Consumers were less upbeat about the labor market in the latest survey, potentially because of the weak headline non-farm payrolls report in February.

Economic Activity



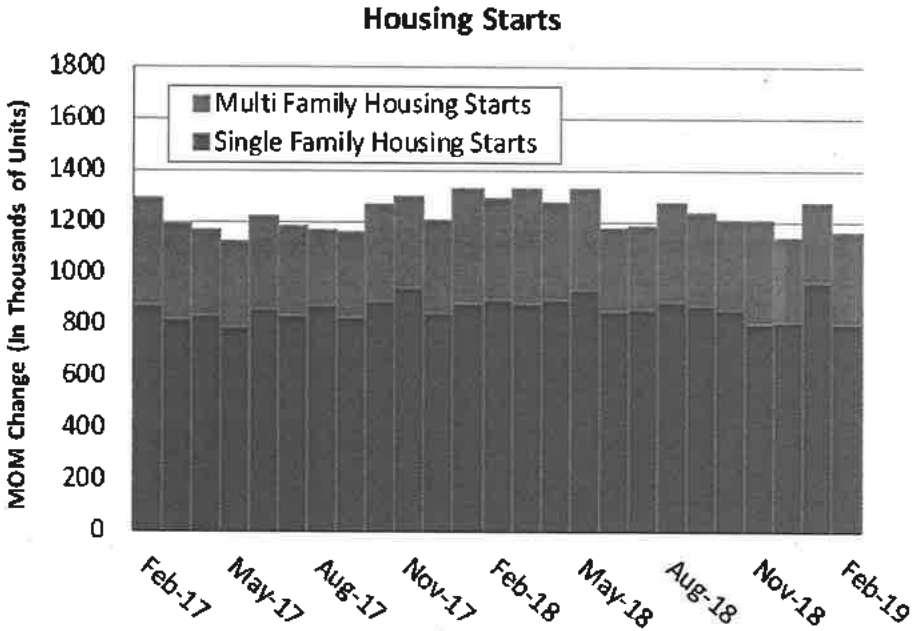
Source: The Conference Board



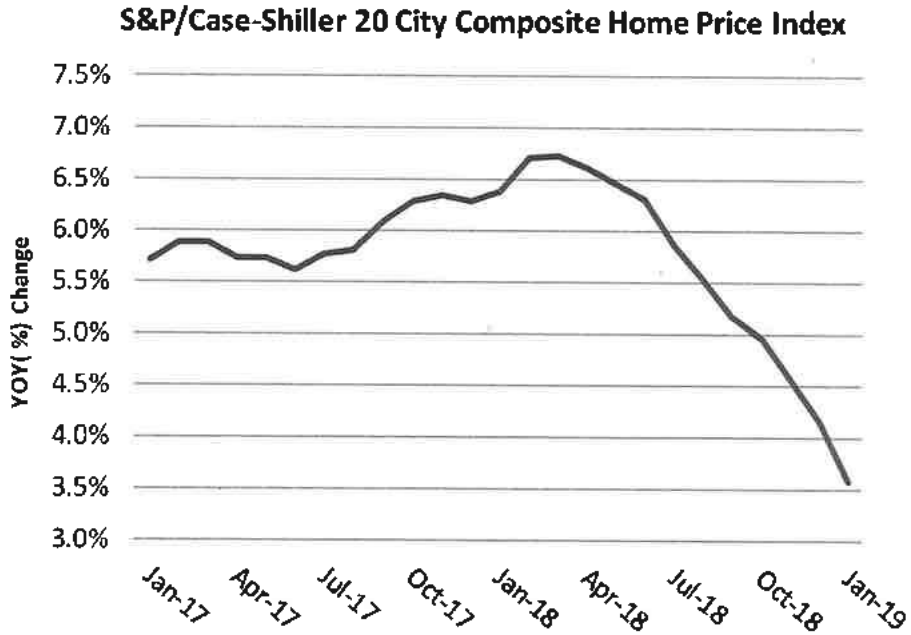
Source: Federal Reserve Bank of Chicago

The Leading Economic Index (LEI) rose 0.2% in February, on a month-over-month basis, following no change in January. The Conference Board believes that the economy will continue to expand in the near-term but growth may decelerate by year-end. The Chicago Fed National Activity Index (CFNAI) decreased to -0.29 in February from an upwardly-revised -0.25 in January. On a 3-month moving average basis, the index declined to -0.18 from zero. The CFNAI suggests that the economy is slowing down but is not indicative of a recession. Periods of economic contraction have historically been associated with values below -0.70 on a 3-month moving average basis.

Housing



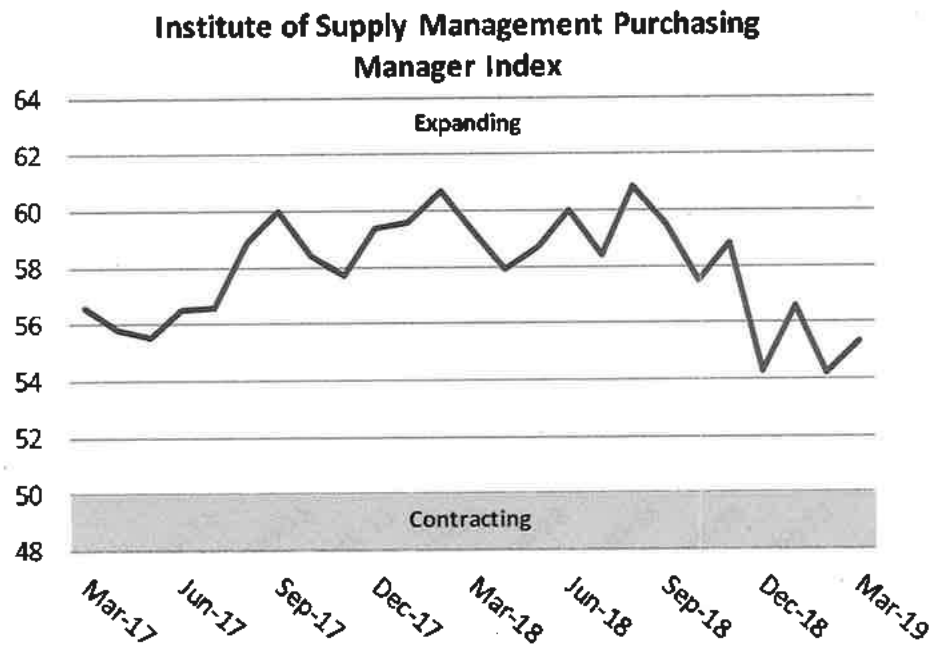
Source: US Department of Commerce



Source: S&P

In February, total housing starts were weaker than expected, down 8.7% to a 1.162 million annualized rate. However, this follows growth of 11.7% in the prior month. Multi-family starts rose 17.8% in February to 357,000, following a 7.1% decline in January. Single-family starts fell 17.0% in February to 805,000, following a 19.2% increase in January. According to the Case-Shiller 20-City home price index, home prices were up just 3.6% year-over-year in January, versus up 4.1% in December. Home price appreciation has slowed over the past year.

Manufacturing



Source: Institute for Supply Management

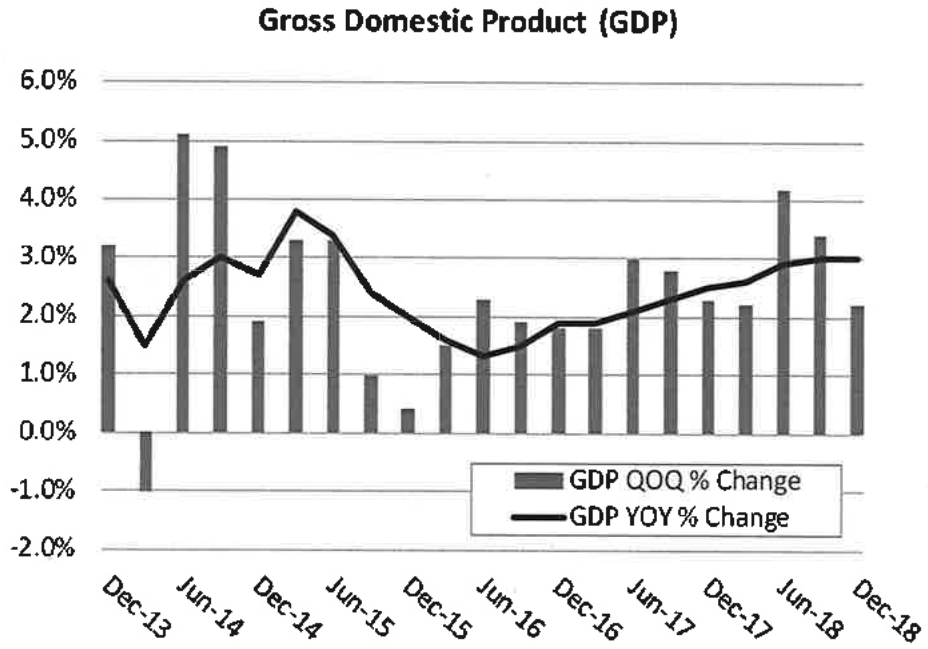
Source: Federal Reserve

The Institute for Supply Management (ISM) manufacturing index increased to 55.3 in March from 54.2 in February. A reading above 50.0 suggests the manufacturing sector is expanding. The Industrial Production index was up 3.5% year-over-year in February versus up 3.9% year-over-year in January. On a month-over-month basis, the manufacturing component of the index fell 0.4% in February, following a 0.5% decrease in January. Capacity Utilization declined to 78.2% in February from 78.3% in January, and remains below the long-run average of 79.8% indicating there is still excess capacity for growth.

Gross Domestic Product (GDP)

Components of GDP	3/18	6/18	9/18	12/18
Personal Consumption Expenditures	0.4%	2.6%	2.4%	1.7%
Gross Private Domestic Investment	1.6%	-0.1%	2.5%	0.7%
Net Exports and Imports	0.0%	1.2%	-2.0%	-0.1%
Federal Government Expenditures	0.2%	0.2%	0.2%	0.1%
State and Local (Consumption and Gross Investment)	0.1%	0.2%	0.2%	-0.1%
Total	**2.2%**	**4.2%**	**3.4%**	**2.2%**

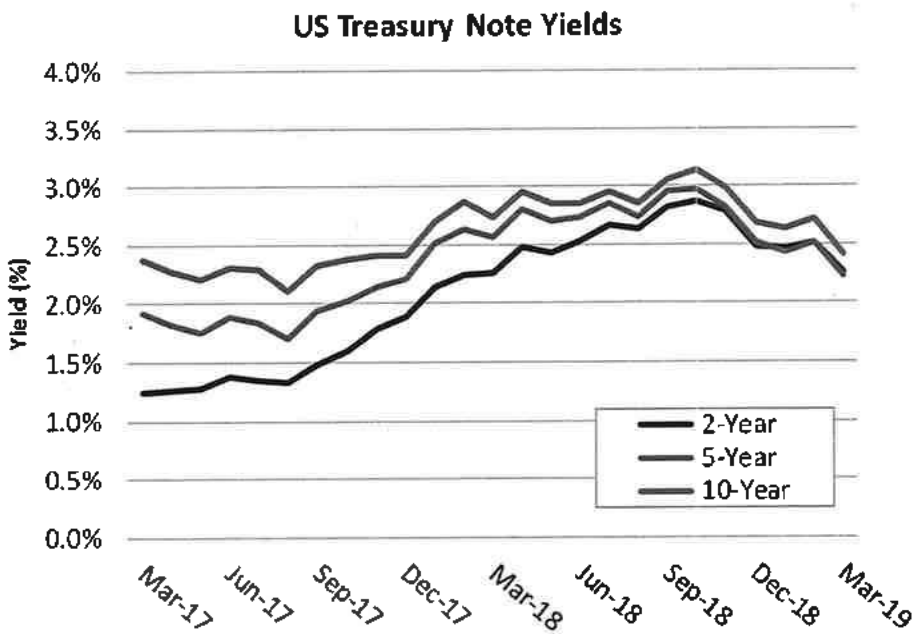
Source: US Department of Commerce



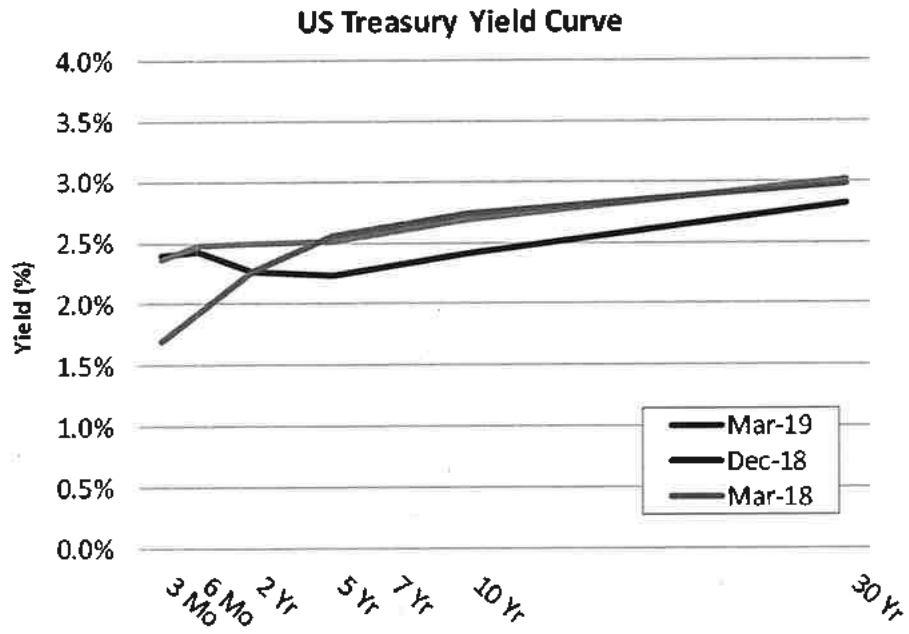
Source: US Department of Commerce

Fourth quarter GDP growth was revised down as expected to an annualized rate of 2.2%, from the advance estimate of 2.6%. This follows GDP growth of 3.4% in the third quarter and 4.2% in the second quarter. Although consumer spending was less robust than the previous two quarters, it continued to fuel overall economic growth. The consensus forecast calls for a more pronounced slowdown in economic growth in the first quarter of 2019 to 1.5%. Overall, GDP growth is expected to slow this year to 2.0%-2.5% from 2.9% last year, according to the consensus.

Bond Yields

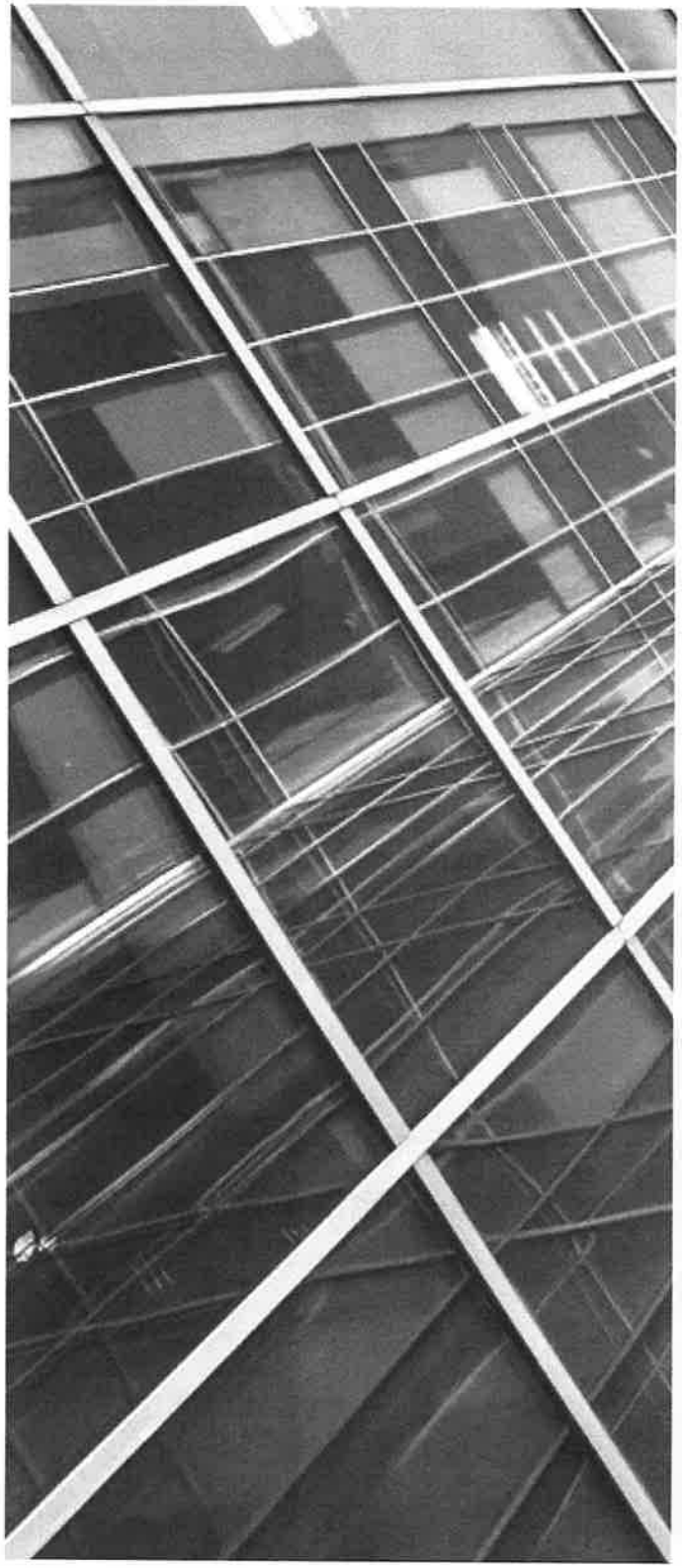


Source: Bloomberg



Source: Bloomberg

On a year-over-year basis at the end of March, the Treasury yield curve flattened with short-term rates higher and long-term rates lower on a year-over-year basis. The yield on 3-month T-bills rose nearly 70 basis points year-over-year, 2-Year Treasury yields were essentially flat, and the yield on 10-Year Treasuries declined more than 33 basis points. The spread between 2-Year and 10-year Treasury yields narrowed from 47 basis points to less than 15 basis points, year-over-year. Rate hikes by the Federal Reserve have put upward pressure on shorter-term rates, while slower global economic growth, subdued inflation expectations, and a flight to quality have put downward pressure on longer-term rates.



Section 2 | Account Profile

Objectives

Investment Objectives

The City of Indio's investment objectives, in order of priority, are to provide safety to ensure the preservation of capital in the overall portfolio, provide sufficient liquidity for cash needs and a market rate of return consistent with the investment program.

Chandler Asset Management Performance Objective

The performance objective for the accounts is to achieve a rate of return over a market cycle that equals or exceeds the return on a market index of similar duration and sector allocation.

Strategy

In order to achieve these objectives, the portfolio invests in high quality fixed income securities consistent with the investment policy and California Government Code.

Compliance

As of March 31, 2019

City of Indio

Assets managed by Chandler Asset Management are in full compliance with state law and with the City's investment policy.

Category	Standard	Comment
Treasury Issues	No Limitation	*Complies*
Federal Agencies	No Limitation	*Complies*
Supranationals	"AA" rated or better by a NRSRO; 30% maximum; 10% max per issuer; USD denominated senior unsecured unsubordinated obligations issued or unconditionally guaranteed by IBRD, IFC, IADB	*Complies*
Municipal Securities	10% maximum; 5% max per issuer; Approval by City Council required	*Complies*
Banker's Acceptances	"A1" rated or higher by two NRSROs; and "A" rated or higher long-term debt by two NRSROs; 40% maximum; 5% max per issuer; 180 days max maturity	*Complies*
Commercial Paper	"A1" rated or higher by two NRSROs; and "A" rated or higher long-term debt by two NRSROs; 25% maximum; 5% max per issuer; 270 days max maturity; Issuer is a corporation organized and operating within the U.S. with assets in excess of $500 million	*Complies*
Corporate Medium Term Notes (MTN)	"A" rated category or better by two NRSROs; 30% maximum; 5% max per issuer; Issued by corporations organized and operating within the U.S. or by depository institutions licensed by the U.S. or any state and operating within the U.S.	*Complies*
Negotiable Certificates of Deposit (NCD)	No rating required if amount of the NCD is covered by FDIC insured limit; If above FDIC insured limit, "A" long-term debt rated or better by a NRSRO; or "A-1" short-term debt rated or better by a NRSRO; 30% maximum; Issued by nationally or state-chartered bank, a savings association or federal association, a state or federal credit union, or by a federally licensed or state-licensed branch of a foreign bank.	*Complies*
Time Deposits/Certificates of Deposit (FDIC/Collateralized)	Amount per institution is limited to the maximum covered under FDIC; Collateralized for CDs/TDs in excess of insured amounts	*Complies*
Repurchase Agreements	1 year max maturity; Not used by investment adviser	*Complies*
Mortgage Pass-Through, Asset-Backed Securities, CMO	"AA" rated category or better by two NRSROs; "A" rated issuer by two NRSROs; 20% maximum (combined MPT/ABS/CMO)	*Complies*
Money Market Mutual Funds	Highest rating or "AAA" rated by two NRSROs; or SEC registered adviser with AUM >$500 million and experience greater than 5 years; 20% maximum	*Complies*
Local Agency Investment Fund (LAIF)	Max permitted amount in LAIF	*Complies*
Prohibited Securities	Inverse floaters; Ranges notes, Interest-only strips from mortgaged backed securities; Zero interest accrual securities; Reverse repurchase agreements; Futures; Options; Margin; Securities lending; Foreign currency denominated securities	*Complies*
Maximum Per Issuer	5% max per issuer, except US Government, its agencies and instrumentalities, Supranational securities, and money market mutual funds	*Complies*
Max Callable	15% maximum	*Complies*
Maximum Maturity	5 years	*Complies*

Portfolio Characteristics

As of March 31, 2019

City of Indio

	3/31/2019		12/31/2018
	Benchmark*	Portfolio	Portfolio
Average Maturity (yrs)	2.65	2.52	2.51
Average Modified Duration	2.53	2.24	2.23
Average Purchase Yield	n/a	2.11%	2.05%
Average Market Yield	2.29%	2.46%	2.75%
Average Quality**	AAA	AA/Aa2	AA/Aa2
Total Market Value		30,011,995	29,602,738

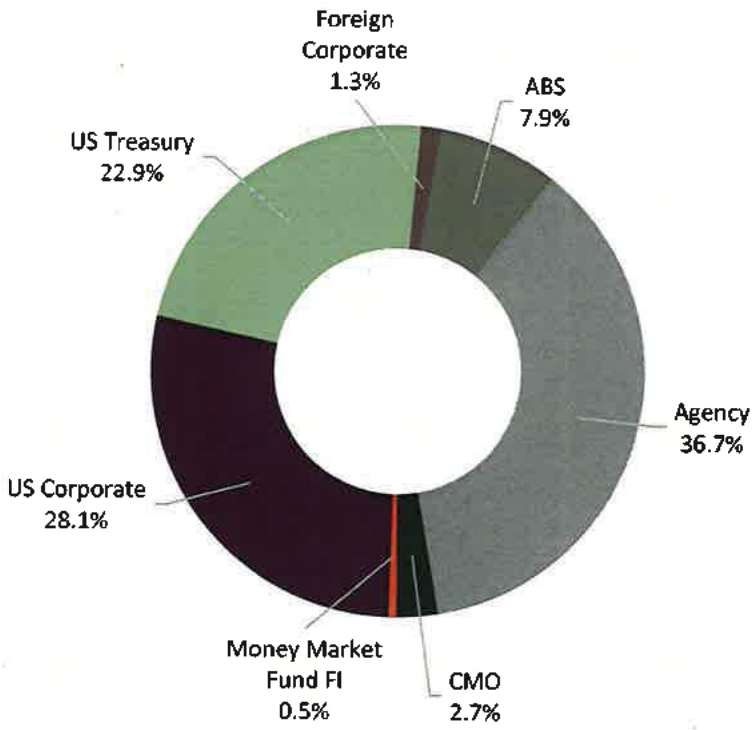
**ICE BAML 1-5 Yr US Treasury/Agency Index*
***Benchmark is a blended rating of S&P, Moody's, and Fitch. Portfolio is S&P and Moody's respectively.*

Sector Distribution

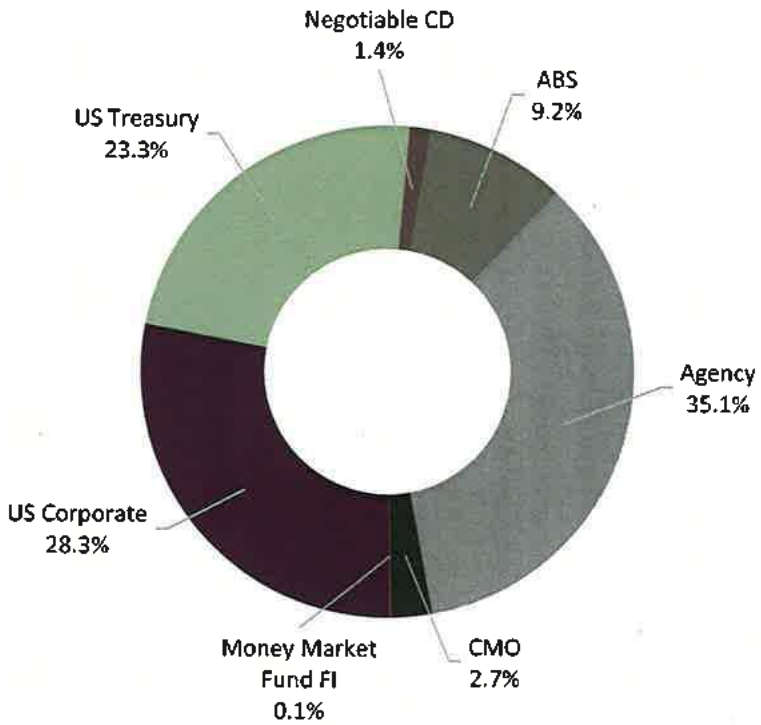
As of March 31, 2019

City of Indio

March 31, 2019



December 31, 2018



Issuers

As of March 31, 2019

City of Indio – Account #10043

Issue Name	Investment Type	% Portfolio
Government of United States	US Treasury	22.86%
Federal National Mortgage Association	Agency	13.80%
Federal Home Loan Bank	Agency	12.27%
Federal Home Loan Mortgage Corp	Agency	9.96%
Federal Home Loan Mortgage Corp	CMO	2.68%
John Deere ABS	ABS	2.68%
Honda Motor Corporation	US Corporate	1.38%
Deere & Company	US Corporate	1.37%
Royal Bank of Canada	US Corporate	1.34%
PNC Financial Services Group	US Corporate	1.33%
Costco Wholesale Corporation	US Corporate	1.33%
JP Morgan ABS	ABS	1.33%
IBM Corp	US Corporate	1.31%
Apple Inc	US Corporate	1.27%
Toronto Dominion Holdings	Foreign Corporate	1.27%
Chubb Corporation	US Corporate	1.26%
Eli Lilly & Co	US Corporate	1.25%
ChevronTexaco Corp	US Corporate	1.25%
Pepsico Inc	US Corporate	1.25%
Bank of New York	US Corporate	1.24%
General Dynamics Corp	US Corporate	1.22%
Bank of America Corp	US Corporate	1.19%
Occidental Petroleum Corporation	US Corporate	1.18%
Toyota ABS	ABS	1.16%
American Express ABS	ABS	1.16%
Paccar Financial	US Corporate	0.97%
Boeing Company	US Corporate	0.88%
Honda ABS	ABS	0.84%
Wells Fargo Corp	US Corporate	0.83%
Berkshire Hathaway	US Corporate	0.83%
Toyota Motor Corp	US Corporate	0.83%
State Street Bank	US Corporate	0.83%
Oracle Corp	US Corporate	0.82%
Microsoft	US Corporate	0.82%
Qualcomm Inc	US Corporate	0.75%
Exxon Mobil Corp	US Corporate	0.75%
Nissan ABS	ABS	0.75%
Federal Farm Credit Bank	Agency	0.67%

Issuers

As of March 31, 2019

City of Indio – Account #10043

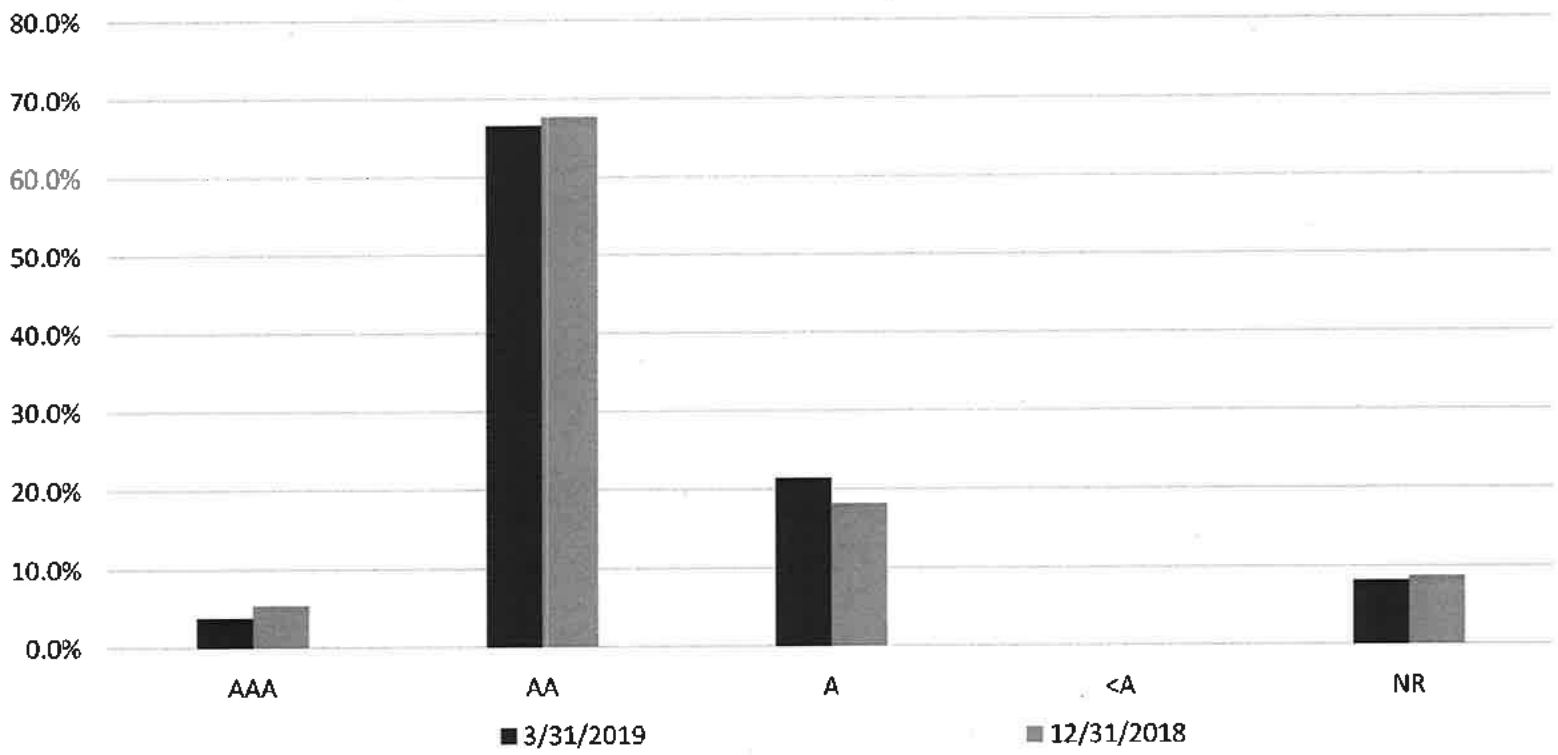
Issue Name	Investment Type	% Portfolio
JP Morgan Chase & Co	US Corporate	0.59%
Federated GOVT Obligation MMF	Money Market Fund FI	0.53%
TOTAL		**100.00%**

Quality Distribution

As of March 31, 2019

City of Indio

March 31, 2019 vs. December 31, 2018



	AAA	AA	A	<A	NR
03/31/19	3.8%	66.6%	21.4%	0.0%	8.1%
12/31/18	5.4%	67.7%	18.2%	0.0%	8.7%

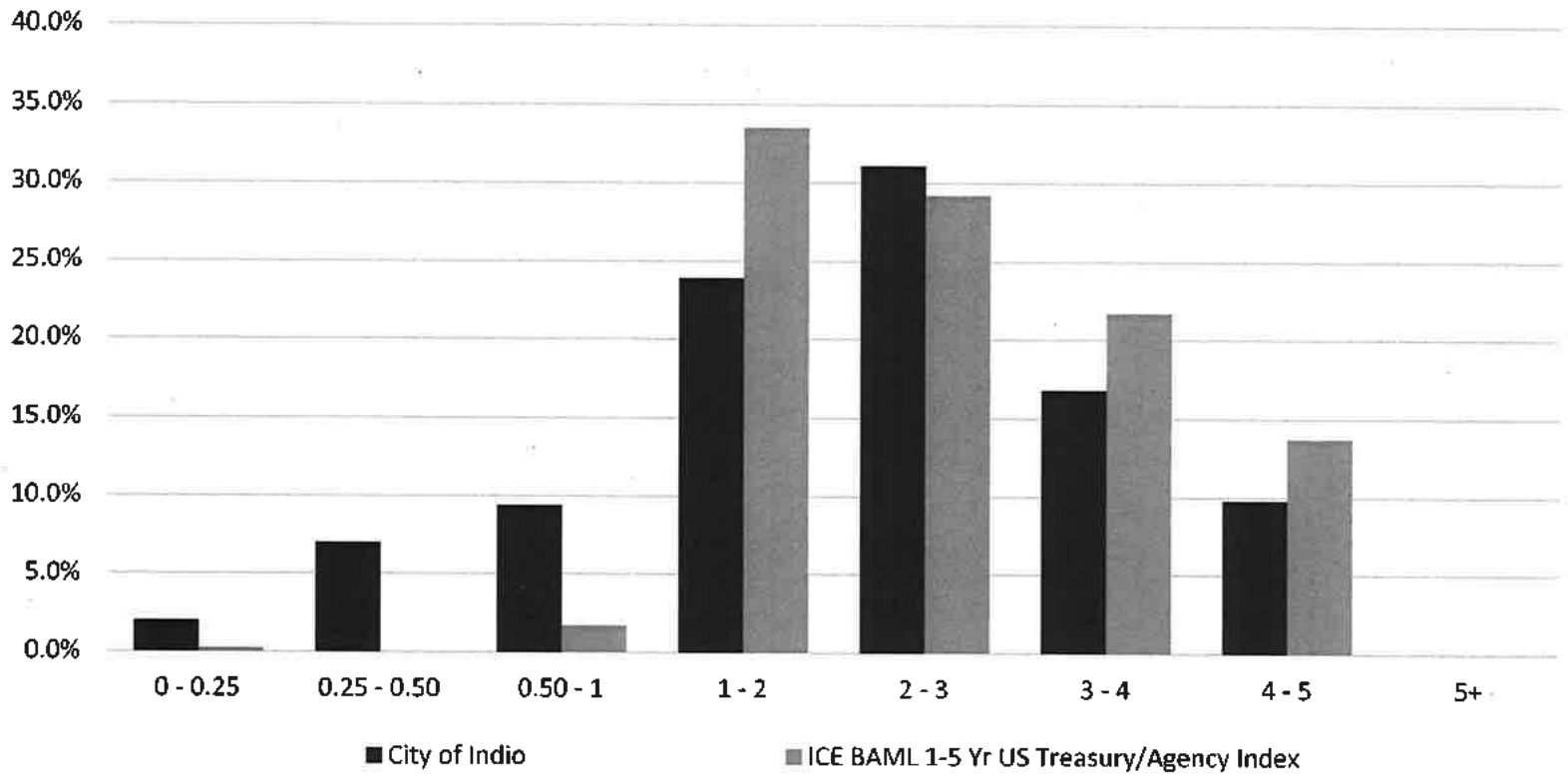
Source: S&P Ratings

Duration Distribution

As of March 31, 2019

City of Indio

Portfolio Compared to the Benchmark as of March 31, 2019



	0 - 0.25	0.25 - 0.50	0.50 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5+
Portfolio	2.0%	7.0%	9.4%	23.9%	31.1%	16.8%	9.8%	0.0%
Benchmark*	0.2%	0.0%	1.7%	33.5%	29.2%	21.7%	13.7%	0.0%

**ICE BAML 1-5 Yr US Treasury/Agency Index*

Investment Performance

As of March 31, 2019

			Annualized				
TOTAL RATE OF RETURN	**3 months**	**12 months**	**2 years**	**3 years**	**5 years**	**10 years**	**Since Inception**
City of Indio	1.38%	3.36%	1.78%	1.23%	1.16%	N/A	1.24%
ICE BAML 1-5 Yr US Treasury/Agency Index	1.21%	3.14%	1.52%	0.98%	1.29%	N/A	1.53%

Total rate of return: A measure of a portfolio's performance over time. It is the internal rate of return, which equates the beginning value of the portfolio with the ending value; it includes interest earnings, realized and unrealized gains and losses in the portfolio.

Portfolio Characteristics

As of March 31, 2019

City of Indio LAIF Account

	3/31/2019 Portfolio	12/31/2018 Portfolio
Average Maturity (yrs)	0.00	0.00
Modified Duration	0.00	0.00
Average Purchase Yield	2.44%	2.31%
Average Market Yield	2.44%	2.31%
Average Quality*	NR/NR	NR/NR
Total Market Value	40,213,871	25,011,308

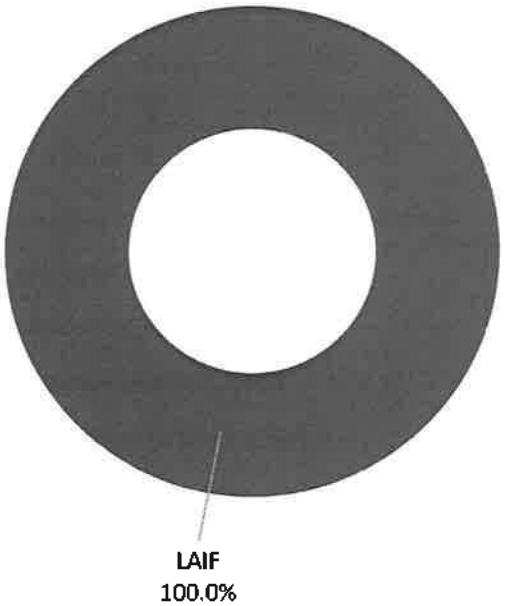
**Portfolio is S&P and Moody's, respectively.*

Sector Distribution

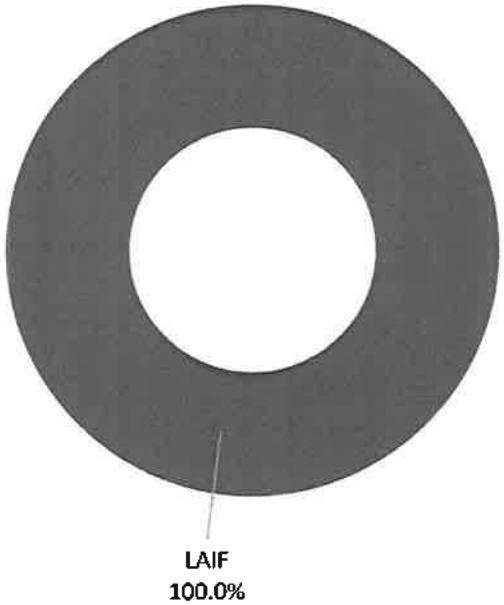
As of March 31, 2019

City of Indio LAIF Account

March 31, 2019



December 31, 2018



Section 3 | Consolidated Information

Portfolio Characteristics

As of March 31, 2019

City of Indio Consolidated

	3/31/2019 Portfolio	12/31/2018 Portfolio
Average Maturity (yrs)	1.08	1.36
Modified Duration	0.96	1.21
Average Purchase Yield	2.30%	2.17%
Average Market Yield	2.45%	2.55%
Average Quality*	AA/Aa2	AA/Aa2
Total Market Value	70,225,866	54,614,046

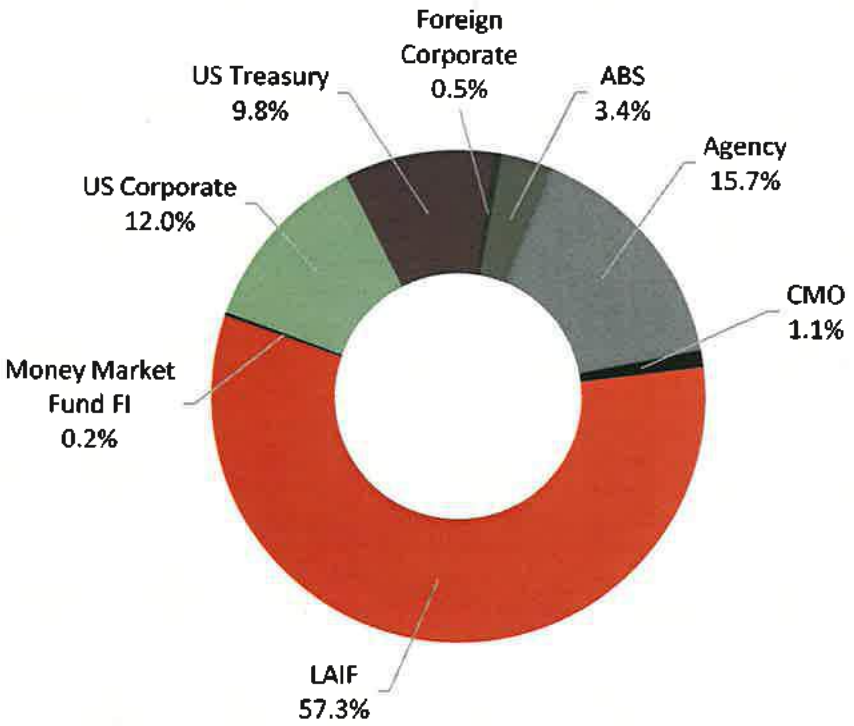
** Portfolio is S&P and Moody's respectively.*

Sector Distribution

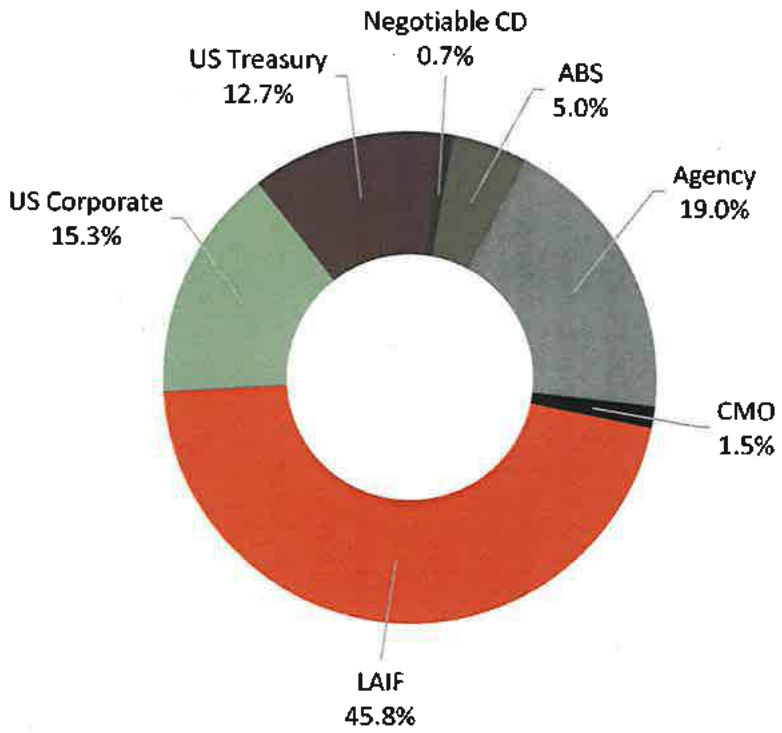
As of March 31, 2019

City of Indio Consolidated

March 31, 2019



December 31, 2018



Section 4 | Portfolio Holdings

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
ABS									
47788BAB0	John Deere Owner Trust 2017-B A2A 1.590% Due 04/15/2020	7,467.60	07/11/2017 1.60%	7,466.95 7,466.95	99.95 3.25%	7,463.54 5.28	0.02% (3.41)	Aaa / NR AAA	1.04 0.03
65478GAB6	Nissan Auto Receivables Owner 2017-B A2A 1.560% Due 05/15/2020	89,418.90	08/16/2017 1.57%	89,415.38 89,415.38	99.86 2.85%	89,295.57 62.00	0.30% (119.81)	Aaa / NR AAA	1.13 0.11
89237RAB4	Toyota Auto Receivable 2017-C A2A 1.580% Due 07/15/2020	148,678.07	07/25/2017 1.59%	148,676.65 148,676.65	99.80 2.66%	148,379.01 104.41	0.49% (297.64)	Aaa / AAA NR	1.29 0.19
89238BAB8	Toyota Auto Receivables Owner 2018-A A2A 2.100% Due 10/15/2020	200,754.07	01/23/2018 2.12%	200,733.55 200,733.55	99.82 2.78%	200,384.27 187.37	0.67% (349.28)	Aaa / AAA NR	1.55 0.30
65478VAD9	NAROT 2016-B A3 1.320% Due 01/15/2021	134,900.34	02/22/2018 1.97%	133,651.46 133,651.46	99.51 2.69%	134,241.08 19.79	0.45% 589.62	Aaa / NR AAA	1.80 0.36
161571HF4	Chase CHAIT 2016-A5 1.270% Due 07/15/2021	400,000.00	09/27/2018 2.11%	395,328.13 395,328.13	99.62 2.64%	398,470.00 225.78	1.33% 3,141.87	NR / AAA AAA	2.29 0.28
47788BAD6	John Deere Owner Trust 2017-B A3 1.820% Due 10/15/2021	405,000.00	Various 2.79%	400,478.25 400,478.25	99.36 2.72%	402,427.41 327.60	1.34% 1,949.16	Aaa / NR AAA	2.55 0.71
47788CAC6	John Deere Owner Trust 2016-B A4 2.660% Due 04/18/2022	95,000.00	02/21/2018 2.68%	94,993.17 94,993.17	100.04 2.64%	95,041.99 112.31	0.32% 48.82	Aaa / NR AAA	3.05 1.19
43815HAC1	Honda Auto Receivables Owner 2018-3 A3 2.950% Due 08/22/2022	250,000.00	08/21/2018 2.98%	249,965.70 249,965.70	100.69 2.56%	251,723.00 204.86	0.84% 1,757.30	Aaa / NR AAA	3.40 1.70
02587AAJ3	American Express Credit 2017-1 1.930% Due 09/15/2022	350,000.00	06/21/2018 2.92%	344,558.59 344,558.59	99.39 2.66%	347,870.95 300.22	1.16% 3,312.36	Aaa / NR AAA	3.46 0.85
47788EAC2	John Deere Owner Trust 2018-B A3 3.080% Due 11/15/2022	295,000.00	07/18/2018 3.10%	294,977.64 294,977.64	100.73 2.68%	297,140.23 403.82	0.99% 2,162.59	Aaa / NR AAA	3.63 1.72
TOTAL ABS		**2,376,218.98**	**2.52%**	**2,360,245.47** **2,360,245.47**	**2.68%**	**2,372,437.05** **1,953.44**	**7.91%** **12,191.58**	**Aaa / AAA** **Aaa**	**2.62** **0.80**
Agency									
3133EFW52	FFCB Note 1.150% Due 07/01/2019	200,000.00	10/24/2016 1.04%	200,594.00 200,594.00	99.70 2.34%	199,404.80 575.00	0.67% (1,189.20)	Aaa / AA+ AAA	0.25 0.25
3137EAEH8	FHLMC Note 1.375% Due 08/15/2019	305,000.00	07/25/2017 1.47%	304,432.70 304,432.70	99.61 2.42%	303,818.43 535.87	1.01% (614.27)	Aaa / AA+ AAA	0.38 0.37
313380FB8	FHLB Note 1.375% Due 09/13/2019	420,000.00	11/04/2015 1.46%	418,609.80 418,609.80	99.51 2.47%	417,951.66 288.75	1.39% (658.14)	Aaa / AA+ NR	0.45 0.45
3137EADM8	FHLMC Note 1.250% Due 10/02/2019	650,000.00	09/24/2015 1.34%	647,666.50 647,666.50	99.39 2.47%	646,054.50 4,039.93	2.17% (1,612.00)	Aaa / AA+ AAA	0.51 0.49

Open Bookmarks

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
3130AA3R7	FHLB Note 1.375% Due 11/15/2019	375,000.00	11/17/2016 1.39%	374,887.50 374,887.50	99.37 2.39%	372,654.75 1,947.92	1.25% (2,232.75)	Aaa / AA+ AAA	0.63 0.61
3130A0JR2	FHLB Note 2.375% Due 12/13/2019	425,000.00	12/13/2017 1.91%	428,867.50 428,867.50	99.97 2.41%	424,886.10 3,028.13	1.43% (3,981.40)	Aaa / AA+ AAA	0.70 0.69
3137EAEF2	FHLMC Note 1.375% Due 04/20/2020	600,000.00	07/06/2017 1.64%	595,695.60 595,695.60	98.91 2.43%	593,481.00 3,689.58	1.99% (2,214.60)	Aaa / AA+ AAA	1.06 1.03
313383HU8	FHLB Note 1.750% Due 06/12/2020	600,000.00	07/19/2017 1.57%	602,994.00 602,994.00	99.19 2.44%	595,131.00 3,179.17	1.99% (7,863.00)	Aaa / AA+ NR	1.20 1.17
3135G0T60	FNMA Note 1.500% Due 07/30/2020	600,000.00	08/15/2017 1.58%	598,698.00 598,698.00	98.85 2.38%	593,072.40 1,525.00	1.98% (5,625.60)	Aaa / AA+ AAA	1.33 1.31
3137EAEK1	FHLMC Note 1.875% Due 11/17/2020	500,000.00	11/27/2017 1.95%	498,980.00 498,980.00	99.24 2.35%	496,191.00 3,489.58	1.66% (2,789.00)	Aaa / AA+ AAA	1.64 1.58
3135G0F73	FNMA Note 1.500% Due 11/30/2020	400,000.00	12/10/2015 1.81%	394,044.00 394,044.00	98.57 2.38%	394,299.60 2,016.67	1.32% 255.60	Aaa / AA+ AAA	1.67 1.62
3130A7CV5	FHLB Note 1.375% Due 02/18/2021	425,000.00	08/04/2016 1.09%	430,372.00 430,372.00	98.25 2.33%	417,548.48 698.00	1.39% (12,823.52)	Aaa / AA+ AAA	1.89 1.84
3135G0U35	FNMA Note 2.750% Due 06/22/2021	450,000.00	06/28/2018 2.70%	450,666.00 450,666.00	100.95 2.31%	454,275.45 3,403.13	1.52% 3,609.45	Aaa / AA+ AAA	2.23 2.13
3137EAEC9	FHLMC Note 1.125% Due 08/12/2021	385,000.00	09/27/2016 1.28%	382,124.05 382,124.05	97.28 2.31%	374,537.63 589.53	1.25% (7,586.42)	Aaa / AA+ AAA	2.37 2.31
3135G0N82	FNMA Note 1.250% Due 08/17/2021	385,000.00	10/05/2016 1.41%	382,177.95 382,177.95	97.55 2.31%	375,584.44 588.19	1.25% (6,593.51)	Aaa / AA+ AAA	2.38 2.32
3135G0Q89	FNMA Note 1.375% Due 10/07/2021	380,000.00	10/24/2016 1.43%	379,091.80 379,091.80	97.79 2.28%	371,603.14 2,525.42	1.25% (7,488.66)	Aaa / AA+ AAA	2.52 2.44
3130AF5B9	FHLB Note 3.000% Due 10/12/2021	75,000.00	11/29/2018 2.91%	75,189.00 75,189.00	101.72 2.30%	76,291.65 1,056.25	0.26% 1,102.65	Aaa / AA+ NR	2.54 2.40
3135G0S38	FNMA Note 2.000% Due 01/05/2022	400,000.00	01/30/2017 2.04%	399,180.00 399,180.00	99.22 2.29%	396,897.20 1,911.11	1.33% (2,282.80)	Aaa / AA+ AAA	2.77 2.66
313378CR0	FHLB Note 2.250% Due 03/11/2022	375,000.00	04/25/2017 1.95%	380,126.25 380,126.25	99.81 2.32%	374,278.88 468.75	1.25% (5,847.37)	Aaa / AA+ NR	2.95 2.83
3135G0T45	FNMA Note 1.875% Due 04/05/2022	425,000.00	06/19/2017 1.88%	424,935.83 424,935.83	98.90 2.25%	420,331.80 3,895.83	1.41% (4,604.03)	Aaa / AA+ AAA	3.02 2.88
3135G0T94	FNMA Note 2.375% Due 01/19/2023	525,000.00	04/11/2018 2.71%	517,261.50 517,261.50	100.27 2.30%	526,413.82 2,493.75	1.76% 9,152.32	Aaa / AA+ AAA	3.81 3.60
3137EAEN5	FHLMC Note 2.750% Due 06/19/2023	550,000.00	07/20/2018 2.86%	547,239.00 547,239.00	101.74 2.31%	559,593.65 4,285.42	1.88% 12,354.65	Aaa / AA+ AAA	4.22 3.94

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
3135G0U43	FNMA Note 2.875% Due 09/12/2023	575,000.00	09/12/2018 2.96%	572,642.50 572,642.50	102.34 2.32%	588,456.73 872.48	1.96% 15,814.23	Aaa / AA+ AAA	4.45 4.16
3130A0F70	FHLB Note 3.375% Due 12/08/2023	545,000.00	Various 2.75%	560,558.20 560,558.20	104.55 2.34%	569,788.24 5,773.60	1.92% 9,230.04	Aaa / AA+ AAA	4.69 4.29
3130A0XE5	FHLB Note 3.250% Due 03/08/2024	400,000.00	03/28/2019 2.27%	418,164.00 418,164.00	104.24 2.34%	416,947.20 830.56	1.39% (1,216.80)	Aaa / AA+ NR	4.94 4.55
TOTAL Agency		**10,970,000.00**	**1.92%**	**10,985,197.68** **10,985,197.68**	**2.36%**	**10,959,493.55** **53,707.62**	**36.70%** **(25,704.13)**	**Aaa / AA+** **Aaa**	**2.26** **2.14**
CMO									
3137B5JM6	FHLMC K034 A2 3.531% Due 07/25/2023	400,000.00	11/08/2018 3.39%	401,984.38 401,984.38	103.57 2.59%	414,280.00 1,177.00	1.38% 12,295.62	NR / NR AAA	4.32 3.89
3137B7MZ9	FHLMC K036 A2 3.527% Due 10/25/2023	375,000.00	10/29/2018 3.32%	378,691.41 378,691.41	103.73 2.59%	388,978.13 220.44	1.30% 10,286.72	Aaa / NR AAA	4.57 4.07
TOTAL CMO		**775,000.00**	**3.36%**	**780,675.79** **780,675.79**	**2.59%**	**803,258.13** **1,397.44**	**2.68%** **22,582.34**	**Aaa / NR** **Aaa**	**4.44** **3.98**
Foreign Corporate									
89114QCB2	Toronto Dominion Bank Note 3.250% Due 03/11/2024	375,000.00	03/26/2019 2.97%	379,747.50 379,747.50	101.19 2.99%	379,448.63 677.08	1.27% (298.87)	Aa3 / A AA-	4.95 4.53
TOTAL Foreign Corporate		**375,000.00**	**2.97%**	**379,747.50** **379,747.50**	**2.99%**	**379,448.63** **677.08**	**1.27%** **(298.87)**	**Aa3 / A** **AA-**	**4.95** **4.53**
Money Market Fund FI									
60934N104	Federated Investors Government Obligations Fund	158,515.86	Various 2.29%	158,515.86 158,515.86	1.00 2.29%	158,515.86 0.00	0.53% 0.00	Aaa / AAA AAA	0.00 0.00
TOTAL Money Market Fund FI		**158,515.86**	**2.29%**	**158,515.86** **158,515.86**	**2.29%**	**158,515.86** **0.00**	**0.53%** **0.00**	**Aaa / AAA** **Aaa**	**0.00** **0.00**
US Corporate									
94974BGF1	Wells Fargo Corp Note 2.150% Due 01/30/2020	250,000.00	11/09/2016 1.98%	251,327.50 251,327.50	99.53 2.72%	248,836.75 910.76	0.83% (2,490.75)	A2 / A- A+	0.84 0.82
22160KAG0	Costco Wholesale Corp Note 1.750% Due 02/15/2020	250,000.00	11/09/2016 1.62%	250,990.00 250,990.00	99.22 2.66%	248,057.75 559.03	0.83% (2,932.25)	Aa3 / A+ A+	0.88 0.86
747525AD5	Qualcomm Inc Note 2.250% Due 05/20/2020	225,000.00	08/04/2016 1.33%	232,605.00 232,605.00	99.58 2.63%	224,051.40 1,842.19	0.75% (8,553.60)	A2 / A- NR	1.14 1.10

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
00440EAT4	Chubb INA Holdings Inc Callable Note Cont 10/3/2020 2.300% Due 11/03/2020	375,000.00	07/13/2017 2.01%	378,498.75 378,498.75	99.50 2.62%	373,138.50 3,545.83	1.26% (5,360.25)	A3 / A A	1.60 1.53
78012KKU0	Royal Bank of Canada Note 2.500% Due 01/19/2021	400,000.00	01/24/2018 2.64%	398,360.00 398,360.00	99.98 2.51%	399,914.80 2,000.00	1.34% 1,554.80	Aa2 / AA- AA	1.81 1.74
30231GAV4	Exxon Mobil Corp Callable Note Cont 2/1/2021 2.222% Due 03/01/2021	225,000.00	09/27/2016 1.68%	230,136.75 230,136.75	99.55 2.47%	223,978.50 416.63	0.75% (6,158.25)	Aaa / AA+ NR	1.92 1.86
084670BQ0	Berkshire Hathaway Callable Note Cont 2/15/2021 2.200% Due 03/15/2021	250,000.00	01/30/2017 2.19%	250,132.50 250,132.50	99.54 2.44%	248,857.25 244.44	0.83% (1,275.25)	Aa2 / AA A+	1.96 1.86
89236TCZ6	Toyota Motor Credit Corp Note 1.900% Due 04/08/2021	250,000.00	04/25/2017 2.16%	247,535.00 247,535.00	98.63 2.60%	246,572.75 2,282.64	0.83% (962.25)	Aa3 / AA- A+	2.02 1.95
713448DX3	Pepsico Inc. Callable Note Cont 3/15/2021 2.000% Due 04/15/2021	375,000.00	11/20/2017 2.24%	372,030.00 372,030.00	99.14 2.43%	371,790.00 3,458.33	1.25% (240.00)	A1 / A+ A	2.04 1.97
037833AR1	Apple Inc Note 2.850% Due 05/06/2021	375,000.00	Various 1.86%	390,225.00 390,225.00	100.66 2.52%	377,470.50 4,304.69	1.27% (12,754.50)	Aa1 / AA+ NR	2.10 2.00
369550BE7	General Dynamics Corp Note 3.000% Due 05/11/2021	360,000.00	Various 3.25%	357,474.00 357,474.00	100.90 2.56%	363,251.52 4,200.00	1.22% 5,777.52	A2 / A+ NR	2.12 2.01
166764BG4	Chevron Corp Callable Note Cont 4/15/2021 2.100% Due 05/16/2021	375,000.00	Various 2.18%	373,762.50 373,762.50	99.28 2.45%	372,309.75 2,953.13	1.25% (1,452.75)	Aa2 / AA NR	2.13 2.05
22160KAJ4	Costco Wholesale Corp Note 2.150% Due 05/18/2021	150,000.00	08/14/2017 2.01%	150,775.50 150,775.50	99.62 2.33%	149,436.30 1,191.46	0.50% (1,339.20)	Aa3 / A+ A+	2.13 2.05
857477AV5	State Street Bank Note 1.950% Due 05/19/2021	250,000.00	11/01/2016 1.93%	250,237.50 250,237.50	98.68 2.59%	246,689.25 1,787.50	0.83% (3,548.25)	A1 / A AA-	2.14 2.06
594918BP8	Microsoft Callable Note Cont 7/8/21 1.550% Due 08/08/2021	250,000.00	10/24/2016 1.71%	248,170.00 248,170.00	97.61 2.60%	244,028.25 570.49	0.82% (4,141.75)	Aaa / AAA AA+	2.36 2.28
68389XBK0	Oracle Corp Callable Note Cont 8/01/21 1.900% Due 09/15/2021	250,000.00	10/05/2016 1.93%	249,627.50 249,627.50	98.36 2.59%	245,888.75 211.11	0.82% (3,738.75)	A1 / AA- A	2.46 2.38
24422ETL3	John Deere Capital Corp Note 2.650% Due 01/06/2022	260,000.00	04/09/2018 3.09%	255,959.60 255,959.60	99.96 2.67%	259,887.94 1,626.81	0.87% 3,928.34	A2 / A A	2.77 2.63
06406RAA5	Bank of NY Mellon Corp Callable Note Cont 1/7/2022 2.600% Due 02/07/2022	370,000.00	Various 2.51%	371,470.80 371,470.80	99.94 2.62%	369,787.62 1,443.00	1.24% (1,683.18)	A1 / A AA-	2.86 2.65
674599CK9	Occidental Petroleum Callable Note Cont 3/15/2022 2.600% Due 04/15/2022	350,000.00	06/18/2018 3.27%	341,649.00 341,649.00	99.94 2.62%	349,785.10 4,196.11	1.18% 8,136.10	A3 / A A	3.04 2.87

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
532457BQ0	Eli Lilly & Co Note 2.350% Due 05/15/2022	375,000.00	08/24/2017 2.15%	378,270.00 378,270.00	99.43 2.54%	372,870.00 3,329.17	1.25% (5,400.00)	A2 / A+ A	3.13 2.96
69353RFE3	PNC Bank Callable Note Cont 6/28/2022 2.450% Due 07/28/2022	400,000.00	07/25/2017 2.45%	399,964.00 399,964.00	99.62 2.57%	398,460.00 1,715.00	1.33% (1,504.00)	A2 / A A+	3.33 3.16
44932HAC7	IBM Credit Corp Note 2.200% Due 09/08/2022	400,000.00	11/29/2017 2.57%	393,444.00 393,444.00	98.06 2.80%	392,241.60 562.22	1.31% (1,202.40)	A1 / A A	3.44 3.28
48128BAB7	JP Morgan Chase & Co Callable Note 1X 1/15/2022 2.972% Due 01/15/2023	175,000.00	02/09/2018 3.19%	173,311.25 173,311.25	99.96 2.98%	174,926.85 1,097.99	0.59% 1,615.60	A2 / A- AA-	3.80 3.09
24422ETG4	John Deere Capital Corp Note 2.800% Due 03/06/2023	150,000.00	05/21/2018 3.48%	145,521.00 145,521.00	100.40 2.69%	150,595.80 291.67	0.50% 5,074.80	A2 / A A	3.93 3.69
097023BQ7	Boeing Co Callable Note Cont 4/15/2023 1.875% Due 06/15/2023	273,000.00	02/13/2019 2.98%	260,870.61 260,870.61	96.11 2.86%	262,382.21 1,507.19	0.88% 1,511.60	A2 / A A	4.21 3.98
02665WCJ8	American Honda Finance Note 3.450% Due 07/14/2023	115,000.00	07/11/2018 3.49%	114,801.05 114,801.05	102.76 2.76%	118,171.93 848.60	0.40% 3,370.88	A2 / A NR	4.29 3.94
69371RP59	Paccar Financial Corp Note 3.400% Due 08/09/2023	285,000.00	08/06/2018 3.41%	284,883.15 284,883.15	101.27 3.09%	288,609.24 1,399.67	0.97% 3,726.09	A1 / A+ NR	4.36 4.01
02665WCQ2	American Honda Finance Note 3.625% Due 10/10/2023	280,000.00	10/03/2018 3.64%	279,770.40 279,770.40	103.55 2.79%	289,931.60 4,821.25	0.98% 10,161.20	A2 / A NR	4.53 4.09
06051GHF9	Bank of America Corp Callable Note 1X 3/5/2023 3.550% Due 03/05/2024	350,000.00	03/06/2019 3.46%	351,435.00 351,435.00	101.55 3.12%	355,429.90 897.36	1.19% 3,994.90	A2 / A- A+	4.93 3.64
TOTAL US Corporate		**8,393,000.00**	**2.49%**	**8,383,237.36** **8,383,237.36**	**2.64%**	**8,367,351.81** **54,214.27**	**28.06%** **(15,885.55)**	**A1 / A+** **A+**	**2.68** **2.48**
US Treasury									
912828UF5	US Treasury Note 1.125% Due 12/31/2019	400,000.00	04/11/2016 0.98%	402,141.96 402,141.96	99.04 2.43%	396,140.80 1,131.22	1.32% (6,001.16)	Aaa / AA+ AAA	0.75 0.74
912828J84	US Treasury Note 1.375% Due 03/31/2020	375,000.00	11/09/2016 1.20%	377,169.23 377,169.23	98.98 2.41%	371,176.88 14.09	1.24% (5,992.35)	Aaa / AA+ AAA	1.00 0.98
912828XH8	US Treasury Note 1.625% Due 06/30/2020	375,000.00	10/05/2016 1.13%	381,754.19 381,754.19	99.05 2.40%	371,425.88 1,531.85	1.24% (10,328.31)	Aaa / AA+ AAA	1.25 1.22
912828L65	US Treasury Note 1.375% Due 09/30/2020	600,000.00	07/25/2017 1.60%	595,736.38 595,736.38	98.55 2.37%	591,281.40 22.54	1.97% (4,454.98)	Aaa / AA+ AAA	1.50 1.47
912828N89	US Treasury Note 1.375% Due 01/31/2021	350,000.00	11/17/2016 1.62%	346,596.88 346,596.88	98.31 2.32%	344,093.75 797.65	1.15% (2,503.13)	Aaa / AA+ AAA	1.84 1.80
912828R77	US Treasury Note 1.375% Due 05/31/2021	375,000.00	10/05/2016 1.24%	377,242.47 377,242.47	98.11 2.28%	367,895.63 1,728.19	1.23% (9,346.84)	Aaa / AA+ AAA	2.17 2.11

Holdings Report

As of March 31, 2019

City of Indio - Account #10043

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
912828S76	US Treasury Note 1.125% Due 07/31/2021	600,000.00	08/15/2017 1.69%	587,134.82 587,134.82	97.42 2.27%	584,508.00 1,118.78	1.95% (2,626.82)	Aaa / AA+ AAA	2.34 2.28
912828D72	US Treasury Note 2.000% Due 08/31/2021	400,000.00	11/09/2016 1.49%	409,454.46 409,454.46	99.37 2.27%	397,484.40 695.65	1.33% (11,970.06)	Aaa / AA+ AAA	2.42 2.34
912828F21	US Treasury Note 2.125% Due 09/30/2021	375,000.00	11/17/2016 1.73%	381,959.27 381,959.27	99.67 2.26%	373,769.63 21.77	1.25% (8,189.64)	Aaa / AA+ AAA	2.50 2.42
912828RR3	US Treasury Note 2.000% Due 11/15/2021	400,000.00	12/28/2016 2.04%	399,298.22 399,298.22	99.38 2.24%	397,531.20 3,027.62	1.33% (1,767.02)	Aaa / AA+ AAA	2.63 2.52
912828H86	US Treasury Note 1.500% Due 01/31/2022	375,000.00	02/23/2017 1.89%	368,116.49 368,116.49	97.96 2.25%	367,353.38 932.32	1.23% (763.11)	Aaa / AA+ AAA	2.84 2.75
912828X47	US Treasury Note 1.875% Due 04/30/2022	600,000.00	07/06/2017 1.95%	597,986.39 597,986.39	98.92 2.24%	593,531.40 4,723.76	1.99% (4,454.99)	Aaa / AA+ AAA	3.08 2.95
912828XG0	US Treasury Note 2.125% Due 06/30/2022	600,000.00	07/12/2017 1.89%	606,681.70 606,681.70	99.66 2.23%	597,961.20 3,205.11	2.00% (8,720.50)	Aaa / AA+ AAA	3.25 3.11
912828TJ9	US Treasury Note 1.625% Due 08/15/2022	650,000.00	09/28/2017 1.87%	642,537.33 642,537.33	98.02 2.24%	637,152.10 1,313.02	2.13% (5,385.23)	Aaa / AA+ AAA	3.38 3.26
912828M49	US Treasury Note 1.875% Due 10/31/2022	450,000.00	11/29/2017 2.11%	445,113.28 445,113.28	98.76 2.24%	444,427.65 3,542.82	1.49% (685.63)	Aaa / AA+ AAA	3.59 3.42
TOTAL US Treasury		**6,925,000.00**	**1.66%**	**6,918,923.07** **6,918,923.07**	**2.29%**	**6,835,733.30** **23,806.39**	**22.86%** **(83,189.77)**	**Aaa / AA+** **Aaa**	**2.39** **2.31**
TOTAL PORTFOLIO		**29,972,734.84**	**2.12%**	**29,966,542.73** **29,966,542.73**	**2.46%**	**29,876,238.33** **135,756.24**	**100.00%** **(90,304.40)**	**Aa1 / AA** **Aaa**	**2.52** **2.24**
TOTAL MARKET VALUE PLUS ACCRUALS						**30,011,994.57**			

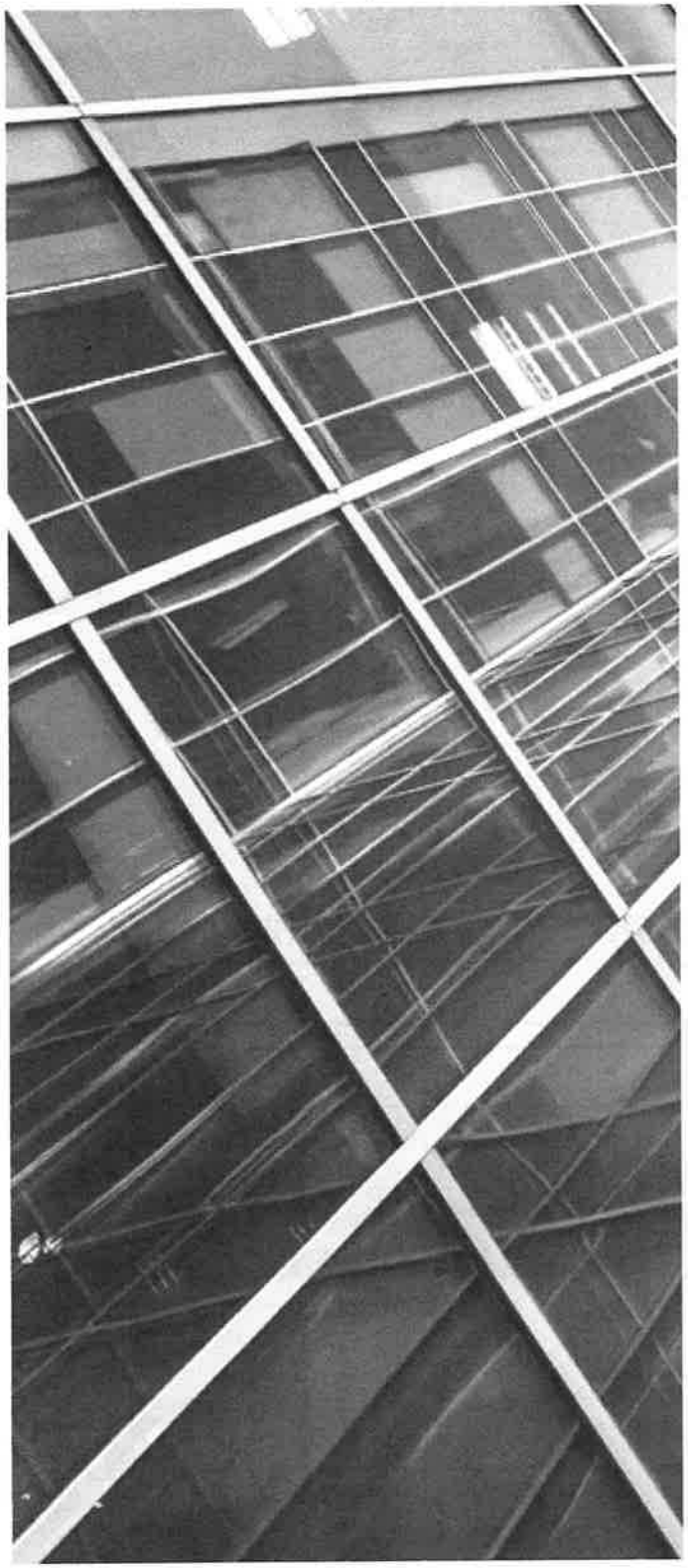
Open Bookmarks

Holdings Report

As of March 31, 2019

City of Indio LAIF Account - Account #10067

CUSIP	Security Description	Par Value/Units	Purchase Date Book Yield	Cost Value Book Value	Mkt Price Mkt YTM	Market Value Accrued Int.	% of Port. Gain/Loss	Moody/S&P Fitch	Maturity Duration
LAIF									
90LAIF$00	Local Agency Investment Fund State Pool	40,021,077.07	Various 2.44%	40,021,077.07 40,021,077.07	1.00 2.44%	40,021,077.07 192,794.29	100.00% 0.00	NR / NR NR	0.00 0.00
TOTAL LAIF		**40,021,077.07**	**2.44%**	**40,021,077.07** **40,021,077.07**	**2.44%**	**40,021,077.07** **192,794.29**	**100.00%** **0.00**	**NR / NR** **NR**	**0.00** **0.00**
TOTAL PORTFOLIO		**40,021,077.07**	**2.44%**	**40,021,077.07** **40,021,077.07**	**2.44%**	**40,021,077.07** **192,794.29**	**100.00%** **0.00**	**NR / NR** **NR**	**0.00** **0.00**
TOTAL MARKET VALUE PLUS ACCRUALS						**40,213,871.36**			



Section 5 | Transactions

Transaction Ledger

As of March 31, 2019

City of Indio - Account #10043

December 31, 2018 through March 31, 2019

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
ACQUISITIONS										
Purchase	01/17/2019	3130A0F70	300,000.00	FHLB Note 3.375% Due: 12/08/2023	102.919	2.73%	308,757.00	1,096.88	309,853.88	0.00
Purchase	02/15/2019	097023BQ7	273,000.00	Boeing Co Callable Note Cont 4/15/2023 1.875% Due: 06/15/2023	95.557	2.98%	260,870.61	853.13	261,723.74	0.00
Purchase	03/08/2019	06051GHF9	350,000.00	Bank of America Corp Callable Note 1X 3/5/2023 3.55% Due: 03/05/2024	100.410	3.46%	351,435.00	103.54	351,538.54	0.00
Purchase	03/28/2019	89114QCB2	375,000.00	Toronto Dominion Bank Note 3.25% Due: 03/11/2024	101.266	2.97%	379,747.50	575.52	380,323.02	0.00
Purchase	03/29/2019	3130A0XE5	400,000.00	FHLB Note 3.25% Due: 03/08/2024	104.541	2.27%	418,164.00	758.33	418,922.33	0.00
Subtotal			**1,698,000.00**				**1,718,974.11**	**3,387.40**	**1,722,361.51**	**0.00**
TOTAL ACQUISITIONS			**1,698,000.00**				**1,718,974.11**	**3,387.40**	**1,722,361.51**	**0.00**
DISPOSITIONS										
Sale	01/17/2019	3130A8DB6	130,000.00	FHLB Note 1.125% Due: 06/21/2019	99.410	2.52%	129,233.00	105.63	129,338.63	-1,089.40
Sale	01/17/2019	3137EAEH8	60,000.00	FHLMC Note 1.375% Due: 08/15/2019	99.300	2.60%	59,580.00	348.33	59,928.33	-308.40
Sale	01/17/2019	912828TC4	100,000.00	US Treasury Note 1% Due: 06/30/2019	99.336	2.48%	99,335.94	46.96	99,382.90	-1,051.11
Sale	02/15/2019	17275RAR3	250,000.00	Cisco Systems Note 2.125% Due: 03/01/2019	99.996	2.19%	249,990.00	2,420.14	252,410.14	-2,305.00
Sale	03/28/2019	69371RN28	200,000.00	Paccar Financial Corp Note 1.3% Due: 05/10/2019	99.825	2.79%	199,650.00	996.67	200,646.67	1,144.00
Subtotal			**740,000.00**				**737,788.94**	**3,917.73**	**741,706.67**	**-3,609.91**

Transaction Ledger

As of March 31, 2019

City of Indio - Account #10043

December 31, 2018 through March 31, 2019

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
Call	03/25/2019	91159HHH6	230,000.00	US Bancorp Callable Note Cont 3/25/2019 2.2% Due: 04/25/2019	100.000	2.20%	230,000.00	2,108.33	232,108.33	0.00
Subtotal			**230,000.00**				**230,000.00**	**2,108.33**	**232,108.33**	**0.00**
Maturity	02/28/2019	89114MCU9	400,000.00	Toronto Dominion Bank Yankee CD 2.46% Due: 02/28/2019	100.000		400,000.00	5,002.00	405,002.00	93.07
Subtotal			**400,000.00**				**400,000.00**	**5,002.00**	**405,002.00**	**93.07**
TOTAL DISPOSITIONS			**1,370,000.00**				**1,367,788.94**	**11,028.06**	**1,378,817.00**	**-3,516.84**

Transaction Ledger

As of March 31, 2019

City of Indio LAIF Account - Account #10067

December 31, 2018 through March 31, 2019

Transaction Type	Settlement Date	CUSIP	Quantity	Security Description	Price	Acq/Disp Yield	Amount	Interest Pur/Sold	Total Amount	Gain/Loss
ACQUISITIONS										
Purchase	01/15/2019	90LAIF$00	131,109.39	Local Agency Investment Fund State Pool	1.000	2.31%	131,109.39	0.00	131,109.39	0.00
Subtotal			**131,109.39**				**131,109.39**	**0.00**	**131,109.39**	**0.00**
Security Contribution	02/05/2019	90LAIF$00	6,000,000.00	Local Agency Investment Fund State Pool	1.000		6,000,000.00	0.00	6,000,000.00	0.00
Security Contribution	02/08/2019	90LAIF$00	6,000,000.00	Local Agency Investment Fund State Pool	1.000		6,000,000.00	0.00	6,000,000.00	0.00
Security Contribution	03/20/2019	90LAIF$00	3,000,000.00	Local Agency Investment Fund State Pool	1.000		3,000,000.00	0.00	3,000,000.00	0.00
Subtotal			**15,000,000.00**				**15,000,000.00**	**0.00**	**15,000,000.00**	**0.00**
TOTAL ACQUISITIONS			**15,131,109.39**				**15,131,109.39**	**0.00**	**15,131,109.39**	**0.00**

Important Disclosures

As of March 31, 2019

Information contained herein is confidential. Prices are provided by IDC, an independent pricing source. In the event IDC does not provide a price or if the price provided is not reflective of fair market value, Chandler will obtain pricing from an alternative approved third party pricing source in accordance with our written valuation policy and procedures. Our valuation procedures are also disclosed in Item 5 of our Form ADV Part 2A.

Performance results are presented gross-of-advisory fees and represent the client's Total Return. The deduction of advisory fees lowers performance results. These results include the reinvestment of dividends and other earnings. Past performance may not be indicative of future results. Therefore, clients should not assume that future performance of any specific investment or investment strategy will be profitable or equal to past performance levels. All investment strategies have the potential for profit or loss. Economic factors, market conditions or changes in investment strategies, contributions or withdrawals may materially alter the performance and results of your portfolio.

Index returns assume reinvestment of all distributions. Historical performance results for investment indexes generally do not reflect the deduction of transaction and/or custodial charges or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing historical performance results. It is not possible to invest directly in an index.

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This report is provided for informational purposes only and should not be construed as a specific investment or legal advice. The information contained herein was obtained from sources believed to be reliable as of the date of publication, but may become outdated or superseded at any time without notice. Any opinions or views expressed are based on current market conditions and are subject to change. This report may contain forecasts and forward-looking statements which are inherently limited and should not be relied upon as indicator of future results. Past performance is not indicative of future results. This report is not intended to constitute an offer, solicitation, recommendation or advice regarding any securities or investment strategy and should not be regarded by recipients as a substitute for the exercise of their own judgment.

Fixed income investments are subject to interest, credit and market risk. Interest rate risk: the value of fixed income investments will decline as interest rates rise. Credit risk: the possibility that the borrower may not be able to repay interest and principal. Low rated bonds generally have to pay higher interest rates to attract investors willing to take on greater risk. Market risk: the bond market in general could decline due to economic conditions, especially during periods of rising interest rates.

Ratings information have been provided by Moody's, S&P and Fitch through data feeds we believe to be reliable as of the date of this statement, however we cannot guarantee its accuracy.

Security level ratings for U.S. Agency issued mortgage-backed securities ("MBS") reflect the issuer rating because the securities themselves are not rated. The issuing U.S. Agency guarantees the full and timely payment of both principal and interest and carries a AA+/Aaa/AAA by S&P, Moody's and Fitch respectively.

Benchmark Disclosures

As of March 31, 2019

ICE BAML 1-3 Yr US Treasury Index

The ICE BAML 1-3 Year US Treasury Index tracks the performance of US dollar denominated sovereign debt publicly issued by the US government in its domestic market. Qualifying securities must have at least one year remaining term to final maturity and less than three years remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of $1 billion. Qualifying securities must have at least 18 months to final maturity at the time of issuance. (Index: G1O2. Please visit www.mlindex.ml.com for more information)

ICE BAML 1-5 Yr US Treasury/Agency Index

The ICE BAML 1-5 Year US Treasury & Agency Index tracks the performance of US dollar denominated US Treasury and nonsubordinated US agency debt issued in the US domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). Qualifying securities must have at least one year remaining term to final maturity and less than five years remaining term to final maturity, at least 18 months to maturity at time of issuance, a fixed coupon schedule and a minimum amount outstanding of $1 billion for sovereigns and $250 million for agencies. (Index: GVA0. Please visit www.mlindex.ml.com for more information)

Item 11f

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: City Manager's Office

SUBJECT: Amendment to the Agreement between the City and Sunline Transit Agency for Bus Shelter Advertising Agreement.

RECOMMENDED MOTION: Approve the Amendment to the Bus Shelter Advertising Agreement between the City of Indio and SunLine Transit Agency to extend the term for an additional four years.

SUMMARY: The City of Indio and SunLine Transit Agency ("SunLine") propose to extend the current bus shelter advertising agreement by an additional four (4) years, bringing the new end date to July 17, 2023 rather than 2019. There are no other changes beyond this proposed time extension. The agreement allows the City the opportunity to advertise events and programs on available bus shelter advertising space at no cost in lieu of SunLine paying revenues to the City generated from paid advertising. As presented, SunLine retains more of the advertising revenues to supplement operating costs not met by fares, levies, taxes and grants while saving the City significant advertising costs on bus shelters.

Prepared By: Bethany Maciel
Management Analyst

FINANCIAL DATA	Cost associated with this action:	N/A	In current year budget:	N/A
	Current F.Y. general fund cost:	N/A	Budget adjustment:	N/A
	Future F.Y. cost:	N/A	For fiscal year:	18/19

Source of funds:	N/A	Current account balance:	N/A
Account number:	N/A	Balance remaining if approved:	N/A

Legal Review:	Department Review:	Financial Review:
Roxanne Diaz City Attorney	Scott Trujillo Deputy City Manager	Rob Rockwell Assistant City Manager/ Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
Approve	Mark Scott

BACKGROUND: For the last 11 years, the City has contracted with SunLine for advertising and the maintenance of bus shelters. The original agreement with SunLine, executed in 2007, required SunLine to pay the City $25 per month from advertising revenues for each bus shelter that displays paid advertising. During that time, SunLine paid the City an average of $1,045 annually (or approximately $11,500 over the term).

In July 2018, the City and SunLine discussed revising the bus shelter advertising agreement to remove the revenue sharing component if SunLine agreed to waive advertising costs for the City. This was a benefit to the City since the costs of advertising exceeds the revenue the City was collecting under the original agreement from 2007. By way of example, it costs the City $150 to place advertising on each bus shelter for a two-week period so the placement of advertising on 20 bus shelters for eight weeks would cost the City $12,000. This is nearly the total amount of advertising revenues received by the City over the past 10 years. Accordingly, the parties executed a new one year agreement and removed the revenue sharing component. This allowed SunLine to keep much needed revenues to pay for operational costs while saving the City thousands of dollars to advertise at bus shelters to promote City events and programs. There are 60 bus shelter advertising spaces in the City and 20 are regularly available and not occupied by revenue generating advertisements. This has saved the City approximately $78,000 annually in advertising expenses.

In addition, the current agreement includes terms regarding the placement of bus shelters and their maintenance. Under the agreement, the City permits and grants the exclusive right to Sunline to place its shelters, including those that have advertising panels, on City right-of-way. There is no cost to Sunline and the City agrees to waive any permit fees associated with the installation of such shelters. Also, under the current agreement, Sunline continues to maintain and clean the bus shelters, and installs and removes City-sponsored advertising at no additional charge. The City is only be responsible for designing the bus shelter ads and ordering printed copies.

The current agreement expires on July 17, 2019. The City and SunLine recommend that the agreement be extended for four (4) additional years. The extension of the Bus Shelter Advertising Agreement between the City of Indio and SunLine Transit Agency will continue to allow for cost savings and marketing opportunities to promote City events and programs at bus shelters.

FINANCIAL ANALYSIS: The City will use the Promotion and Publicity budget to fund any costs associated with printing and ad design, if necessary.

ATTACHMENTS:

A. Amendment to the Agreement
B. 2018 Agreement

Return to Agenda

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Attachment A

AMENDMENT TO THE ADVERTISING INSTALLATION AND MAINTENANCE RELATED TO BUS SHELTERS AGREEMENT BETWEEN THE CITY OF INDIO AND SUNLINE TRANSIT AGENCY

This Amendment ("Amendment") is entered into on this 1st day of May, 2019 between the City of Indio ("City") and Sunline Transit Agency, a joint powers authority ("Agency") and is to that agreement for advertising installation and maintenance related to bus shelters dated July 18, 2018.

RECITALS

A. City and Agency entered into an agreement on July 18, 2019 for the provision of advertising by the City on bus shelters managed by the Agency and for bus shelter maintenance provided by the Agency ("Agreement").

B. The term of the Agreement is for one year but the City and Agency desire to amend the Agreement to extend the term by an additional four years through July 17, 2023.

NOW, THEREFORE, for good and valuable consideration, the parties agree as follows:

Section 1. Section 3.01 of the Agreement is amended to read as follows:

"The term of this Agreement shall be for a period of five (5) years commencing on the date first ascribed above."

Section 2. Except as specifically amended by this Amendment, the remaining terms of the Agreement shall remain in full force and effect.

In witness whereof the parties have executed this Amendment on the date set forth above.

SIGNATURES ON FOLLOWING PAGES

CITY OF INDIO:

MARK SCOTT
City Manager

ATTEST:

CYNTHIA HERNANDEZ, CMC
City Clerk

APPROVED AS TO FORM:

ROXANNE M. DIAZ
City Attorney

Return to Agenda

Open Bookmarks

SUNLINE TRANSIT AGENCY

_____
Signature

_____
Name

_____
Title

Attachment B

AGREEMENT BETWEEN CITY OF INDIO AND SUNLINE TRANSIT AGENCY CONCERNING ADVERTISING INSTALLATION AND MAINTENANCE RELATED TO BUS SHELTERS

This Agreement is made and entered into this 18th day of July, 2018, by and between SunLine Transit Agency ("SunLine"), a California joint powers authority and the City of Indio ("City"), a California municipal corporation.

SunLine is a government entity composed of and represented by the County of Riverside and the cities of Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella. The Board of Directors of SunLine is composed of one elected official from each of its member entities.

SunLine is the public transit provider for the City which enables both its citizens and visitors to enjoy a safe, reliable, nonpolluting mode of public transportation. SunLine's installation and maintenance of bus shelters in the City provides great benefit to citizens and visitors alike by providing clean sheltered places for travelers to wait for public transportation services. The placement of shelters within the City also provides an amenity of great benefit to the elderly and to senior citizens within the City.

SunLine owns certain advertising bus shelters within the City and wishes to provide for continued advertising in such shelters.

Revenue from advertising enables SunLine to install new additional shelters as a transit amenity at no cost to the public. Advertising revenue also pays for maintenance of shelters and for additional transit services at no cost to the public.

SunLine and City are now desirous of entering into an agreement with regard to the placement of present and future shelters and to provide for continued advertising in such shelters.

NOW, THEREFORE, the parties hereto agree as follows:

I.

GENERAL TERMS

1.01 City hereby grants SunLine the exclusive right to place advertising associated with bus shelters placed by SunLine within the public right of way within the City's jurisdiction. In exercising the exclusive right granted it under this Agreement, SunLine shall ensure that the following standards and requirements are met:

(a) Shelter designs meet and comply with all applicable SunLine design requirements and City building codes, zoning ordinances, vehicular code ordinances and regulations, and all other applicable City resolutions, ordinances and codes;

(b) All City design criteria and approvals have been obtained; and,

(c) Adequate easements, encroachment permits, licenses, and/or rights-of-way have been obtained.

1.02 The City shall waive all permit and/or license fees imposed by or on behalf of the City that may pertain to SunLine's installation and operation of the bus shelters within its jurisdiction.

1.03 In consideration for the grant of the exclusive rights referred to in paragraph 1.01 above, SunLine shall continue to clean and maintain all bus shelters as well as the area within a 25-foot radius of each shelter including emptying trash and separating recyclable items from collected trash. In addition, SunLine will remove or cause the removal of all graffiti appearing on any shelter within the City in an expeditious manner.

1.04 In the event that the City has any problems or questions related to advertising placed on the bus shelters within its jurisdiction, it shall contact SunLine. In any such case, SunLine shall endeavor to secure a prompt resolution of any issue within its legal power to resolve. City acknowledges and recognizes that certain limits may arise in connection with SunLine's ability to regulate the content of advertising, particularly those limits arising under the First Amendment to the United States Constitution and the California Constitution. Within such limits, SunLine will endeavor to correct or address any problem that the City might have with advertising placed in bus shelters within its jurisdiction in an expeditious manner.

1.05 Sunline will place and install City provided advertisements for City sponsored events, programs and City sponsored agencies on available bus shelter advertising space not occupied by a revenue generating advertisement within that City's city limits.

(a) Any advertising produced and provided by the City shall comply with Sunline's Advertising Policy attached in Exhibit "A" – Sunline Advertising Policy.

(b) Sunline reserves the right to relocate any City sponsored advertisement to another location if a revenue generating advertisement has requested the same location as the City advertisement.

II.

COMPENSATION

2.01 In lieu of payment for revenue generating advertisements, Sunline will place and install City provided advertisements for City sponsored events, programs and City sponsored agencies on available bus shelter advertising space not occupied by a revenue generating advertisement within that City's city limits.

III.

DURATION

3.01 The term of this Agreement shall be for a period of one (1) year commencing on the date first ascribed above.

3.02 Either party may terminate this agreement upon thirty (30) days written notice to the other party. In the event this Agreement is terminated, the City may require SunLine to remove any or all paid advertisements from SunLine bus shelters within the City after the expiration or termination of any contracts between SunLine and third parties for such advertisements. All SunLine bus shelters that were installed with appropriate City permits and approvals shall be allowed to remain in place despite the termination of this Agreement.

IV.

INSURANCE

4.01 SunLine shall ensure the full repair or replacement of all shelters in the City as well as required appurtenances thereto during the entire term of this Agreement and any extensions thereof.

V.

SPECIAL PROVISIONS

5.01 It is SunLine's intent to illuminate all shelters during hours of darkness whenever possible and SunLine agrees to utilize its best efforts to accomplish illumination. However, the City acknowledges that illumination is not always feasible and agrees that SunLine is excused from providing illumination in such cases. SunLine and the City shall jointly approve the placement of any vending machines in any shelter in the City. No vending machine will be placed without the approval of both City and SunLine.

5.02 SunLine shall, upon at least 30 days' written notice, provide for the relocation or removal of any shelter at any time the City requires use of the right of way upon which any shelter is situated, whether for street or sidewalk realignment, street, highway, or utility line repairs, or for any other lawful purpose, and whether such removal or relocation is temporary or permanent. Upon a determination by the City that urgency dictates removal in a shorter period of time, SunLine shall act within ten (10) days to cause removal of the shelter if reasonably feasible.

5.03 City shall ensure that the cost of removal or relocation of shelters within the right of way is included in the budget of projects where such removal or relocation is required. In any case where the cost is included, SunLine shall be reimbursed for relocation or removal costs referenced in paragraph 5.02. In any case where the cost has not been budgeted, SunLine and the City shall negotiate and endeavor to agree upon an arrangement to share in the cost of removal or replacement of any shelter as provided under paragraph 5.02.

5.04 The City reserves the right to require conformity with design review standards, including site plan review showing actual physical locations with setbacks, sidewalk space remaining, adequate distances from corners and from driveways. All such features must be satisfactory to the City and to SunLine and shall be in compliance with the Americans with Disabilities Act ("ADA") and with Federal Transit Administration ("FTA") requirements. SunLine shall provide an adequate cement pad under shelters. Within the limits imposed by the FTA and the ADA, the City shall have the right to approve or deny approval to any particular design as to its specific site plan and location, including the right to specify a particular design for a specific location.

5.05 The parties acknowledge and agree that ADA and FTA requirements as to the configuration and approach to newly installed bus shelters may be extremely costly, depending upon the existing condition of the planned location and the adjoining or existing access features. In the event that the City requests placement of a bus shelter in an area that requires substantial expenditures in order to comply with the ADA and with FTA requirements, the City will be requested by SunLine to bear all or a major portion of the costs of installation. The parties shall cooperate in placement of shelters and in the negotiation of costs required to accommodate ADA and with FTA requirements.

VI.

MISCELLANEOUS PROVISIONS

6.01 Attorneys' Fees

In any dispute between the parties resulting in litigation, the prevailing party shall be entitled to recover from the other party all reasonable costs, including, without limitation, reasonable attorneys' fees. "Prevailing party" shall include, without limitation, a party which dismisses an action for recovery in exchange for sums allegedly due, or in exchange for performance for covenants allegedly breached, or in exchange for considerations substantially equal to the relief sought in the action, or which receives, in connection with any dispute, performance from the other party substantially equivalent to any of these.

6.02 Entire Agreement

This Agreement contains the entire agreement of the parties relating to the rights granted and the obligations assumed herein. Any oral representations or modifications concerning this instrument shall have no force or effect unless contained in a subsequent written modification signed by the parties.

6.03 Indemnity

SunLine shall indemnify, defend, and hold harmless the City, and its elected officials, officers, employees, agents, and representatives, against all liability, demands, claims, costs, losses, damages, recoveries, settlements, and expenses (including interest, penalties, attorney fees, expert witness fees, costs, and expenses) incurred by the City, known or unknown, contingent or otherwise, directly or indirectly arising from or

related to any suit, action or claim that may arise from SunLine's performance under this Agreement.

The City shall indemnify, defend, and hold harmless SunLine, and its board of directors, officers, employees, agents, and representatives, against all liability, demands, claims, costs, losses, damages, recoveries, settlements, and expenses (including interest, penalties, attorney fees, expert witness fees, costs, and expenses) incurred by SunLine, known or unknown, contingent or otherwise, directly or indirectly arising from or related to any suit, action or claim that may arise from City's performance under this Agreement.

6.04 Counterparts

This Agreement may be executed in counterparts, which shall be treated as originals in all respects.

6.05 This Agreement is entered into at Riverside County, California.

6.06 This Agreement shall not be construed in any way to create a partnership or joint venture in any respect between SunLine and the City, or between City and any contractor of SunLine or any of SunLine's remaining member entities. SunLine is acting purely as an independent contractor and not as an officer, agent, partner, joint venture and/or employee of City.

6.07 Notices

Any notices given under this Agreement shall be in writing and shall be served either personally or delivered by U.S. Mail, postage prepaid, registered or certified mail, return receipt requested. Notices shall be deemed received at the earlier of actual receipt or three days following deposit in U.S. Mail, postage prepaid. Unless otherwise specified, time limits based upon notice shall be computed from the date of mailing. Notices shall be directed to the following addresses:

Lauren Skiver
CEO/General Manager
SunLine Transit Agency
32-505 Harry Oliver Trail
Thousand Palms, CA 92276

Mark Scott
City Manager
City of Indio
100 Civic Center Mall.
Indio, CA 92201

mscott@indio.org /
msommons@indio.org

Either party may change its address for notice purposes by giving notice to the other, provided that the address change will not be effective until 10 days after notice of the change.

6.08 Non-Assignment

Neither SunLine nor City shall assign or otherwise transfer their rights and obligations under this Agreement without prior written consent of the other. Any such assignment without consent shall be void.

6.09 Headings

The title and headings of the various sections of this Agreement are intended solely for convenience of reference and are not intended to explain, modify, or alter the terms of this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement on the date first written above.

SUNLINE TRANSIT AGENCY

DATED: 7/31/18

By: _____
Lauren Skiver
CEO/General Manager

CITY OF INDIO

DATED: 7-20-18

By: Mark Scott
Mark Scott
City Manager

ATTEST:

By: Maria Yziano for
Cynthia Hernandez
City Clerk

EXHIBIT "A"

SunLine Transit Agency
Advertising Policy
Policy No: B-020598

Adopted: 01/28/98
Revised: 04/25/18

ADVERTISING POLICY

PURPOSE

SunLine Transit Agency (STA), acting in a proprietary capacity, operates public bus service in the Coachella Valley. STA's desire to sell advertisement space stems from the recognized need to earn revenues to supplement operating costs that are not otherwise met through farebox revenue and local, state and federal levies, taxes and grants.

SCOPE

This policy applies to all SunLine Transit Agency employees or contractors.

POLICY

It is STA's policy that its buses, bus shelters and any and all other forums for advertising under this policy are not public forums for political discourse or expressive activity.

These areas are not intended to provide a forum for all types of advertisements, but only the limited advertisements accepted under the policy. All advertising shall be subject to this uniform view point neutral policy.

Excluded advertising: Copy may not be displayed and, if displayed, will be removed by STA if it falls within the categories listed below.

In excluding said advertising, STA seeks to maintain a professional advertising environment that will maximize advertising revenue and minimize interference with or disruption to its transit system.

It further seeks to maintain an image of neutrality on political, religious and other issues that are not the subject of commercial advertising and may instead be the subject of public debate and concern. Finally, STA's goal is to continue to build and retain ridership.

Subject thereto, a proposed advertisement will be excluded if Sunline, in its sole discretion, determines it:

1. Contains defamatory , libelous or obscene matter.

2. Is false, misleading or deceptive.

3. Supports or opposes any labor organization or any action by, on behalf of or against any labor organization.

4. Relates to or promotes any illegal activity.

5. Contains implicit or explicit sexual references, pictures or text, or includes material harmful to minors.

6. Depicts or promotes the sale of alcohol, cannabis, tobacco products, any illegal products, service or entity and/or firearms.

7. Depicts or advocates violence.

8. Includes language that is obscene, vulgar or profane.

9. Demeans, degrades or has the effect of promoting discrimination against any group or individual on the basis of race, color, religion, national origin, age, sex, disability, ancestry or sexual orientation.

10. Opposes the nomination or election of a candidate for public office, the investigation, prosecution or recall of a public official or the passage of a levy or bond issue. Constitutes an unauthorized endorsement defined as advertising that implies or declares that STA endorses a product, service, viewpoint, event or program. This definition does not include advertising for a service, event or program for which STA is an official sponsor, co-sponsor or participant.

11. Constitutes a religious advertisement defined as advertising that contains direct or indirect reference to religion, a deity or which includes reference to the existence, non- existence or other characteristics of a deity or any religious creed, denomination, belief, tenet, cause or issue relating to, opposing or questioning any religion. This includes, text, symbols, images commonly associated with any religion or deity or any religious creed, denomination, belief, tenet, cause or issue relating to, opposing or questioning any religion.

12. Advertising that encourages person to refrain from using SunLine Transit Agency services or public transit in general.

13. Advertising that explicitly and directly promotes or encourages the use or means of transportation in direct competition with public transit.

PERMITTED ADVERTISING

In permitting limited advertising, STA seeks only to supplement fare revenue and other income that funds its operations and to promote its services.

STA does not desire to have its passengers subject to advertisements containing controversial material relating to political, religious or other issues about which public opinion can be widely divergent.

To realize the maximum benefit from the sale of space, all advertising programs must be managed in a manner that will generate as much revenue as practicable while ensuring that the advertising does not discourage use of the system, does not diminish STA's reputation in the communities it serves and is consistent with the goal of providing safe and efficient public transportation.

1. Commercial advertising has a sole purpose of promoting a business or to sell products, goods or services. It does not include advertising that both promotes a business or offers to sells products, goods or services and also conveys a political or religious message or can be construed as issue advocacy or which expresses an opinion or position.

2. Operations advertising is permitted. This is defined as advertising that promotes STA and its services.

3. Governmental advertising is permitted. This is defined as advertising that promotes programs and events of governmental entities, political subdivisions and state agencies.

4. Political advertising is permitted. Ad content must be approved and must state "Paid Advertisement" as part of the creative artwork. The font must be an appropriate size.

5. Entering into barter deals is permitted if Sunline determines that it is a benefit to Sunline Transit Agency.

6. Customers requesting advertisement orders will need to provide payment upfront – before each advertising period (flight) begins.

ADMINISTRATION AND ENFORCEMENT OF POLICY

Review by the General Manager.

The CEO/General Manager or designee shall review all advertisement content and determine whether it complies with this policy.

If the CEO/General Manager or designee determines that the advertisement does not comply, written notification of same shall be provided to the advertiser with a copy of this policy.

On an as needed basis, the CEO/General Manager may refer any controversial proposed ad content to the Board for approval or rejection with a majority vote.

The Board of Directors may override any decision by the CEO/General Manager on ad content with a majority vote.

Sunline Transit Agency shall submit bus shelter ad content to the corresponding city, delegated to the City Manager, for approval. The cities have five business days to respond. Sunline Transit Agency will have ad content approval discretion, if the corresponding city fails to respond within the five day period.

The Board designates the General Manager to administer the Advertising Policy. This delegation is with the power of re-delegation to appropriate staff.

Return to Agenda

Open Bookmarks

Item 11g

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: Public Works Department

SUBJECT: Professional Services Agreement with Albert A. Webb and Associates in the amount of $36,604, for the design, engineering, bidding and construction management services for street improvements within the general area known as the Sun Gold Community Phase 4 under the CDBG-funded Better Neighborhoods Program.

RECOMMENDED MOTION: Approve a Professional Services Agreement with Albert A. Webb and Associates in the amount of $36,604, for the design, engineering, bidding and construction management services for street improvements within the general area known as the Sun Gold Community Phase 4 under the CDBG-funded Better Neighborhoods Program and approve an additional 10% contingency of $3,660.40.

SUMMARY: Staff is seeking Council's approval for a Professional Services Agreement with Albert A. Webb and Associates for the design, engineering, bidding and construction management services for street improvements on Biskra Street, Leroy Way, Deglet Noor Street, Arabia Street and King Street. A map of Phase 4 is provided as Attachment A. The proposed agreement with Albert A. Webb and Associates for professional services will initiate the "design phase" of this Better Neighborhoods Program (BNP) Project.

(Continued on the next page)

Prepared by: Roldan Lopez
Associate Engineer

FINANCIAL DATA	Cost associated with this action:	$25,074.00	In current year budget:	Yes
	Current F.Y. general fund cost:	$0	Budget adjustment:	No
	Future FY. cost:	$15,190.00	For fiscal year:	18/19

Source of funds: CDBG Funds	Current account balance: N/A
Account number: 230-0000-400-2225	Balance remaining if approved: N/A

Legal Review:	Department Head Review:	Financial Review:
Roxanne Diaz City Attorney	Timothy T. Wassil, PE Public Works Director	Rob Rockwell Assistant City Manager & Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
APPROVE	Mark Scott

BACKGROUND: The Better Neighborhoods Program ("BNP") funded through CDBG, identifies low and moderate income neighborhoods that are in need of infrastructure improvements. This proposed agreement will allow the City to move forward with the reconstruction of Phase 4, the last and final phase, in the Sun Gold Community.

Staff solicited proposals from three (3) prequalified engineering and construction design-consulting firms, which included; Albert A. Webb and Associates, The Altum Group and MSA Consulting, Inc., Albert A. Webb and Associates and The Altum Group were the only firms that submitted proposals. Staff has reviewed the two proposals. The following is a list of the proposals and quotes received:

Engineering / Design Firm	Qualifying Bid
Albert A. Webb and Associates	$36,604
The Altum Group	$53,696

Although the two (2) engineering firms are qualified to complete the scope of work, staff is recommending the award of the contract to the lowest bidder, Albert A. Webb and Associates. Based on staff's review, the scope of work and the fee schedule are reasonable and appropriate.

The primary scope for this work include:

- Preparation of Plans, Specification, and estimates (PS&Es)
- Assistance with the construction Bidding Process (such as preparing bid documents)
- Construction Management Services during the design & construction of Phase 4

This proposed agreement will allow the City to complete the engineering, design and construction management necessary to complete the fourth (and final) phase of the Sun Gold Community Street Improvement Project through the Better Neighborhoods Program (BNP). Phases 1-3 have already been completed, as part of a Council-approved multi-year strategy. It is anticipated that, per this agreement, Albert A. Webb and Associates will complete the required engineering and design of the streets' reconstruction by June 30, 2019, with the additional bidding assistance and project management services starting after July 1, 2019. (Assuming a design is timely provided, the Project will go out to bid for construction in August 2019, with the award of a construction contract, and start of construction estimated to begin in September 2019.)

FINANCIAL ANALYSIS: The agreement, in the amount of $36,604, plus a standard 10% contingency in the amount of $3,660.40, for a total amount of $40,264.40, will be funded with available funds from the City's Fiscal Year 2018-19 CDBG Funds under the CDBG BNP Construction Account. Construction management services cost in the amount of $15,190 out of the $40,264.40 will be spent in Fiscal Year 2019-20. This action will have no financial impact on the City's general fund, as it is entirely being paid by federal funds budgeted for this activity.

ALTERNATIVES:

1. Not approve the Agreement.
2. Request additional information.

ATTACHMENT(S):

A. Project Area Map
B. Agreement for Professional Services

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ATTACHMENT A

Sun Gold Community BNP Project Area

BNP Sun Gold Community Phase 4

0 0.05 0.1 0.2 Miles

ATTACHMENT B

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is made and entered into on this 1st day of May, 2019, by and between the City of Indio, a California municipal Corporation ("City") and Albert A. Webb Associates ("Consultant").

RECITALS

A. City desires to obtain certain professional services as described in this Agreement.

B. Consultant represents that it is qualified by virtue of experience, training, education and expertise to provide the services required by the City.

NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties agree as follows:

Section 1. Consultant's Scope of Work. Consultant shall perform the scope of work described in Exhibit A, attached to this Agreement and incorporated by this reference as though set forth in full, in a manner satisfactory to City and consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions ("Scope of Work" or "Services").

Section 2. Term of Agreement. This Agreement shall commence on the Effective Date and shall remain and continue in effect until the Services are completed unless sooner terminated as for provided herein.

Section 3. Time of Performance. Consultant shall commence its services under this Agreement upon receipt of a written notice to proceed from City and shall perform the Services in conformance with the timeline set forth in Exhibit A or as otherwise established by the Parties in writing.

Section 4. Compensation.

(a) City agrees to compensate Consultant, and Consultant agrees to accept in full satisfaction for the services required by this Agreement, Thirty Six Thousand Six Hundred and Four Dollars ($36,604.00), as more particularly described in Exhibit B ("Consideration"). Said Consideration shall constitute reimbursement of Consultant's fee for the services as well as the actual cost of any staff time, other direct or indirect costs or fees, including the work of employees, consultants and subcontractors, equipment, materials, and supplies necessary to provide the service (including all labor, materials, delivery, tax, assembly, and installation, as applicable). In no event shall the Consultant be paid more than $ 36,604.00 which includes expenses and additional services (if any) during the term of this Agreement.

(b) Unless expressly provided for in Exhibit B, Consultant shall not be entitled to reimbursement for any expenses. Any expenses incurred by Consultant which are not expressly authorized by this Agreement will not be reimbursed by City.

(c) City may request additional services under this Agreement. All such work, however, must be authorized in writing by the City Engineer prior to commencement. Consultant shall perform such

services, and City shall pay for such additional services in accordance with the specific rates of compensation set forth in Exhibit B, or as otherwise agreed upon by the parties. Any work incurred by Consultant which is not expressly authorized by this Agreement will not be reimbursed by City.

Section 4. Method of Payment. City shall pay Consultant in accord with the specific rates of compensation attached hereto, if any, and/or per monthly invoices submitted by Consultant in a form approved by City's Assistant City Manager/Finance Director ("Invoices"). City shall review, approve and pay such undisputed amounts on said Invoices within a reasonable time after City's receipt of same.

Section 5. Independent Consultant. The parties agree, understand and acknowledge that Consultant is not an employee of the City, but is solely an independent Consultant. Consultant expressly acknowledges and agrees that City has no obligation to pay or withhold state or federal taxes or to provide workers' compensation or unemployment insurance or other employee benefits and that any person employed by Consultant shall not be in any way an employee of the City. As such, Consultant shall have the sole legal responsibility to remit all federal and state income and social security taxes and to provide for his/her own workers compensation and unemployment insurance and that of his/her employees or subcontractors. Neither City nor any of its agents shall have control over the conduct of Consultant or any of Consultant's employees, except as otherwise provided heroin. Consultant shall not, at any time, or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of City.

Section 6. Assignment. This agreement shall not be assigned in whole or in part, by Consultant without prior written approval of City. Any attempt by Consultant to so assign this Agreement or any rights, duties or obligations arising hereunder shall be void and of no effect.

Section 7. Responsible Principal(s)

(a) Consultant's responsible principal, Dilesh Sheth, shall be principally responsible for Consultant's obligations under this Agreement and shall serve as principal liaison between City and Consultant. Designation of another Responsible Principal by Consultant shall not be made without prior written consent of City.

(b) City's Responsible Principal shall be the City's City Engineer who shall administer the terms of the Agreement on behalf of City.

Section 8. Personnel. Consultant represents that it has, or shall secure at its own expense, all personnel required to perform Consultant's Scope of Work under this Agreement. All personnel engaged in the work shall be qualified to perform such Scope of Work.

Section 9. Permits and Licenses. Consultant shall obtain and maintain during the Agreement term all necessary licenses, permits and certificates required by law for the provision of services under this Agreement, including a business license.

Section 10. Interests of Consultant. Consultant affirms that it presently has no interest and shall not have any interest, direct or indirect, which would conflict in any manner with the performance of the Scope of Work contemplated by this Agreement. No person having any such interest shall be employed by or be associated with Consultant.

Section 11. Insurance.

(a) Consultant shall at all times during the terms during the term of this Agreement carry, maintain, and keep in full force and effect, insurance as follows:

(1) A policy or policies of Commercial General Liability Insurance, with minimum limits of One Million Dollars ($1,000,000) for each occurrence and Two Million Dollars ($2,000,000) for general aggregate, combined single limit, against any personal injury, death, loss or damage resulting from the wrongful or negligent acts by Consultant.

(2) A policy or policies of Commercial Vehicle Liability Insurance covering personal injury and property damage, with minimum limits of One Million Dollars ($1,000,000) per occurrence combined single limit, covering any vehicle utilized by Consultant in performing the Scope of Work required by this Agreement.

(3) Workers' compensation insurance as required by the State of California.

(4) A policy or policies of Professional Liability Insurance (errors and omissions) with minimum limits of One Million Dollars per claim and Two Million Dollars ($2,000,000) in the aggregate.

(b) Any deductibles or self-insured retentions attached to such policy or policies must be declared to and be approved by City. Further, Consultant agrees to maintain in full force and effect such insurance for one year after performance of work under this Agreement is completed.

(c) Consultant shall require each of its sub-contractors (if any) to maintain insurance coverage which meets all of the requirements of this Agreement.

(d) The City's Risk Manager may, in writing, amend and/or waive the insurance provisions set forth in paragraph (a) herein. In such case, the Consultant shall comply with the insurance provisions required by the City's Risk Manager.

(e) The policy or policies required by this Agreement shall be issued by an insurer admitted in the State of California and with a rating of at least a B+; VII in the latest edition of Best's Insurance Guide or by an insurer acceptable to the City's Risk Manager.

(f) Consultant agrees that if it does not keep the aforesaid insurance in full force and effect City may either immediately terminate this Agreement or, if insurance is available at a reasonable cost, City may take out the necessary insurance and pay, at Consultant's expense, the premium thereon.

(g) At all times during the term of this Agreement, Consultant shall maintain on file with the City Clerk a certificate or certificates of insurance on the form approved by the City's Risk Manager, showing that the aforesaid policies are in effect in the required amounts. Consultant shall, prior to commencement of work under this Agreement, file with the City Clerk such certificate or certificates. The general liability insurance and vehicle insurance shall contain an endorsement naming the City as an additional insured. All of the policies cannot be canceled except on thirty (30) days prior written notice to City, and specifically stating that the coverage contained in the policies affords insurance pursuant to the terms and conditions as set forth in this Agreement.

(h) The insurance provided by Consultant shall be primary to any coverage available to City. The policies of insurance required by this Agreement shall include provisions for waiver of subrogation

(i) Any deductibles or self-insured retentions must be declared to and approved by City. At the option of City, Consultant shall either reduce or eliminate the deductibles or self-insured retentions with respect to City, or Consultant shall procure a bond guaranteeing payment of losses and expenses.

Section 12. Indemnification.

(a) Indemnity for Design Professional Services. Consultant is considered a "design professional" as that term is defined in Civil Code Section 2782.8. in connection with its design professional services, Consultant shall hold harmless and indemnity City, and its elected officials, officers, employees, servants, designated volunteers, and those City agents serving as independent Consultants in the role of City officials 9collectively, "Indemnities"), with respect to any and all claims, demands, damages, liabilities, losses, costs or expenses, including reimbursement of attorneys' fees and costs of defense (collectively, "Claims" hereinafter), including but not limited to Claims relating to death or injury to any person and injury to any property, which arise out of, pertain to, or relate to in whole or in part to the negligence, recklessness, or willful misconduct of Consultant or any of its officers, employees, subcontractors, or agents in the performance of its design professional services under this Agreement.

(b) Other Indemnities. In connection with any and all claims, demands, damages, liabilities, losses, costs or expenses, including attorneys' fees and costs of defense (collectively, "Damages" hereinafter) not covered by Section 12(a), Consultant shall defend, hold harmless and indemnify the Indemnitees with respect to any and all Damages, including but not limited to, Damages relating to death or injury to any person and injury to any property, which arise out of, pertain to, or relate to the acts or omissions of Consultant or any of its officers, employees, subcontractors, or agents in connection with the performance of this Agreement, including without limitation the payment of all consequential damages, attorneys' fees, and other related costs and expenses. With respect such Claims, Consultant shall defend City, with counsel of City's choice, at Consultant's own cost, expense, and risk shall pay and satisfy any judgment, award, or decree that may be rendered against City. Consultant shall reimburse City for any and all legal expenses and costs actually incurred by each of them in connection therewith or in enforcing the indemnity herein provided. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by Consultant or City. All duties of Consultant under this Section shall survive termination of this Agreement.

Section 13. Termination.

(a) City shall have the right to terminate this Agreement for any reason or for no reason upon fifteen calendar days' written notice to Consultant. Consultant agrees to cease all work under this Agreement on or before the effective date of such notice.

(b) In the event of termination or cancellation of this Agreement by City, due to no fault or failure of performance by Consultant, Consultant shall be paid based on the percentage of work satisfactorily performed at the time of termination. In no event shall Consultant be entitled to receive more than the amount that would be paid to Consultant for the full performance of the services required by this Agreement. Consultant shall have no other claim against City by reason of such termination, including any claim for compensation. Upon termination, Consultant shall provide to City any and all Documents, whether in draft or final form, prepared by Consultant as of the date of termination. Consultant may not terminate this Agreement except for City's non-payment upon an Invoice within sixty (60) days of City's receipt thereof.

Section 14. City's Responsibility. City shall provide Consultant with all pertinent data, documents, and other requested information as is available for the proper performance of Consultant's Scope of Work.

Section 15. Information and Documents. All documents, data, studies, surveys, drawings, maps, models, photographs, presentations, records and reports prepared for City in connection with this Agreement ("Documents") shall become the property of City, and City may use all or any portion of the work submitted by Consultant pursuant to this Agreement as City deems appropriate. Consultant may, however, make and retain such copies of said Documents, as Consultant may desire.

Section 16. Changes in the Scope of Work. City shall have the right to order, in writing, changes in the scope of work or the services to be performed. Any changes in the scope of work requested by Consultant must be made in writing and approved by both parties.

Section 17. Notice. Any notices, bills, invoices, etc. required by this Agreement shall be deemed received on (a) the day of delivery if delivered by hand during the receiving party's regular business hours or by facsimile before or during the receiving party's regular business hours; or (b) on the second business day following deposit in the United States mail, postage prepaid to the addresses set forth below, or to such other addresses as the parties may, from time to time, designate in writing pursuant to this section.

If to City: Mark Scott
City Manager
100 Civic Center Mall
Indio, California 92201

If to Consultant: Albert A. Webb Associates
Dilesh R. Sheth, P.E., T.E.

3788 McCray Street
Riverside, California 92506

Section 18. Attorney's Fees. In the event that either party commences any legal action or proceeding to enforce or interpret the provisions of this Agreement, the prevailing party in such action shall be entitled to reasonable attorney's fees, costs and necessary disbursements, in addition to such other relief as may be sought and awarded.

Section 19. Entire Agreement. This Agreement represents the entire integrated agreement between City and Consultant, and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by a written instrument signed by both City and Consultant.

Section 20. Governing Law. The interpretation and implementation of this Agreement shall be governed by the domestic law of the State of California.

Section 21. City Not Obligated to Third Parties. City shall not be obligated or liable under this Agreement to any party other than Consultant.

Section 22. Exhibits; Precedence. All documents referenced as exhibits in this Agreement are hereby incorporated in this Agreement. In the event of any material discrepancy between the express provisions of this Agreement and the provisions of any document incorporated herein by reference, the provisions of this Agreement shall prevail.

Section 23. Equal Employment Opportunity. In connection with its performance under this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, marital status, ancestry or national origin. Consultant shall ensure that applicants are employed, and that employees are treated their employment, without regard to their race, religion, color, sex, age, marital status, ancestry or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

Section 24. Prevailing Wage and Payroll Records. [Check if Applicable]

[X] (a) Notice is hereby given that in accord with California Labor Code Section 1720, *et seq.*, and 1770, *et seq.*, as well as California Code of Regulations, Title 8, Section 16000, *et seq.*, (Prevailing Wage Laws"), Consultant is required to pay not less than the general prevailing rate per *diem* wages for work of a similar character in the locality in which Consultant's Services pursuant to this Agreement are performed, and not less than the general prevailing rate of per *diem* wages for holiday and overtime work. In that regard, the Director of the Department of Industrial Relations of the State of California is required to and has determined such general prevailing rates of per *diem* wages. Copies of the State prevailing wage rates and the latest revisions thereto are available on the Internet at www.dir.ca.gov.

(b) Covenant to Comply. Consultant covenants that it shall fully comply with all applicable federal and state labor laws (including without limitation, if applicable, the Prevailing Wage Laws). For purposes of this Section 24(a) only, the term "subcontractors" shall not include suppliers, manufacturers, or distributors. Consultant further covenants that it shall take all practicable steps to ensure that its subcontractors comply with Prevailing Wage Laws if applicable to work performed by subcontractors. References to "Covered Services" hereinafter shall designate such Services as are subject to Prevailing Wage Laws.

(c) Payroll Records. Consultant and all subcontractors performing Covered Services shall keep an accurate payroll record, showing the name, address, social security number, job classification, straight time and overtime hours worked each day and week, and the actual per *diem* wages paid to each journeyperson, apprentice, or other employee. All payroll records shall be certified as being true and correct by Consultant or the subcontractors performing Covered Services keeping such records; and the payroll records shall be available for inspection at all reasonable hours at Consultant's principal office.

Section 25. Severability. Invalidation of any provision contained herein or the application thereof to any person or entity by judgment or court order shall in no way affect any of the other covenants, conditions, restrictions, or provisions hereof, or the application thereof to any other person or entity, and the same shall remain in full force and effect.

In witness whereof the Parties have executed this Agreement on the date set forth above.

CITY OF INDIO

_____

MARK SCOTT
City Manager

ATTEST:

_____

CYNTHIA HERNANDEZ, CMC
City Clerk

APPROVED AS TO FORM:

_____

ROXANNE M. DIAZ
City Attorney

Return to Agenda

Open Bookmarks

CONSULTANT:
ALBERT A. WEBB ASSOCIATES

DILESH SHETH, P.E. / T.E.
Vice President

Return to Agenda

Open Bookmarks

EXHIBIT A

SCOPE OF WORK/SERVICES

Consultant shall provide the services set forth in this Exhibit A for Phase 4 of the Sun Gold Community BNP Project Area which is further described in the attachment to this Exhibit.

Section 2. Scope of Wo

Project Understanding and Approach

The City of Indio is seeking a qualified engineering firm to prepare plans, specifications, and estimates (PS&E), and provide bidding assistance and construction management services for Phase 4 of proposed street improvements in the area known as the Sun Gold Neighborhood. The project is funded with a Community Development Block Grant (CDBG) to implement the Better Neighborhood Program (BNP). The project area is bound on the west by Biskra Avenue, on the north by Indio Boulevard, on the east by King Street, and on the south by Miles Avenue. Albert A. Webb Associates (WEBB) provided similar services for the successful completion of Phases 1, 2, and 3. Phase 4 includes:

- Pavement rehabilitation (grind and overlay) along Biskra Street, Leroy Way, Deglet Noor Street, Arabia Street, and King Street
- As-needed improvements with pavement rehabilitation such as repair of cross gutters, American with Disabilities Act (ADA) compliance, pavement legends, striping, etc., and addressing of drainage concerns, as applicable, and as agreed upon by the City
- Preparation and dissemination of construction bid packet, and bidding process assistance and construction management in compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by the Department of Labor regulations (29 CFR part 5)

Better Neighborhood Program Sun Gold Community Street Improvement Project (Phases 1, 2, and 3)

In response to the City's needs, WEBB has assembled an experienced team consisting of professionals who are experienced in pavement reconstruction, grind and overlay, slurry seal, cost estimating, value engineering, construction phasing, traffic control, and community needs. For this contract, WEBB has assigned **Dilesh Sheth, PE, TE,** to serve as Project Manager and who will handle all contractual matters, act as a watchman for the client's satisfaction, and serve as project manager to maintain direct and continued responsibility for all services provided under the duration of this contract. Dilesh will be the City's primary contact for all project related matters and will manage and oversee day-to-day activities throughout project completion.

WEBB's Team has the project experience and local knowledge to support the City in successfully completing the BNP Sun Gold Community Street Improvement Project. Our team is highly experienced with projects of this nature and know how to resolve issues and get projects completed on-time and within budget. **WEBB recently completed Phases 1 through 3 of the Better Neighborhood Project, over 32 miles of a street improvement project for Canyon Lake which included pavement rehabilitation, slurry seal, and grind and overlay.** Our team not only has experience with the specific components of the City's project, but also has previous work experience in the City of Indio for the Madison Street Improvement Project and the Adams Street and Avenue 40 Intersection Improvement Project. WEBB's familiarity with City Standards, requirements, and needs will result in efficient workflow and smooth collaboration for the City.

Better Neighborhood Program Sun Gold Community Street Improvement Project (Phases 1, 2, and 3)

Critical Issues

WEBB will be especially attentive to the City's residents during this project as the City of Indio is a part of our firm's larger community. In preparing this proposal, our team closely reviewed the City's RFP and performed a field review in order to identify the following critical issues:

1. **Identify Appropriate Pavement Rehabilitation and Preservation Methods.**
2. **American with Disabilities (ADA) Compliance.**
3. **Accurate Cost Estimating and Value Engineering.**

1. **Identify Appropriate Pavement Rehabilitation and Preservation Methods**
   The City has undertaken a City-wide pavement rehabilitation project which includes a 2-inch grind and overlay of pavement. The City is happy and satisfied with the grind and overlay pavement treatment and its cost, appearances, and final product. We believe Biskra Street, Leroy Way, Deglet Noor Street, Arabia Street, and King Street should be treated the same.
2. **American with Disabilities (ADA) Compliance**
   WEBB will field survey intersections where pedestrians would cross the street. WEBB will prepare a detail design with the proposed design elevations to meet ADA requirements.
3. **Accurate Cost Estimating and Value Engineering**
   WEBB understands the limits of funds. Because of the limited budget for this project, it is important to keep costs controlled. Our approach to controlling costs is to provide frequent and accurate cost estimates through WEBB's detailed cost estimating database. In addition to using this database, WEBB also utilizes our Construction Management Team to assist in providing constructability reviews and cost estimates based on current information from our on-going construction projects. Finally, with the current economic situation, construction costs vary widely. We will also discuss the project elements with local contractors to assure we have the most current construction cost information available. Where ever possible, WEBB will identify isolated bad or failed areas compared to removing and replacing the entire roadway segment to maximize the funds without impacting the pavement performance. **WEBB will value engineer the project to get the most "bang for their buck."**

Scope of Work

Kick-Off Meeting

Once we receive a Notice-to-Proceed, we will immediately schedule a project Kick-off Meeting at the City of Indio.

Pavement Rehabilitation

- WEBB will thoroughly review the existing pavement conditions for roadway condition upgrade, neighborhood impacts, utility improvement schedule, and cost
- WEBB will review slopes along existing cross gutters and provide recommendations if cross slopes are too steep going in and out of cross gutters
- WEBB will coordinate and obtain all utility company plans and schedules to install or upgrade facilities in the project area. WEBB will recommend phasing in order to minimize the inconvenience to school and residents and also to avoid damaging newly upgraded roadways with heavy equipment used in subsequent phases

Surveying and Topography Mapping

There is no need to perform field topography for the pavement preservation and pavement rehabilitation areas since no change in vertical elevation is required. WEBB will utilize aerial photography, GIS data, and the City's Lidar data to prepare plans. This approach will save the City unnecessary survey costs and the City can then use funds for the actual construction.

- WEBB will field survey weak spots and determine which will require removal and replacement
- WEBB will perform detailed field topography survey for removal and replacement of cross gutter and intersection approaches because of slopes and ADA requirements

Preparation of Plans, Specifications & Estimates (PS&E)

Street Improvement Plans

- WEBB will prepare street improvement plans using aerial photography and GIS data
- WEBB will show removal and replacement of weak or failed spots which will require removal and replacement
- WEBB will prepare plans using CAD and will also collect inventory of the number of utility covers that need to be adjusted
- WEBB will show typical cross sections for the streets
- WEBB will show detail for cross gutter removal and replacement

Signing & Striping Plans

- WEBB will prepare signing & striping plans for reinstallation of crosswalk, stop bars, striping, and other pavement markings per Current Caltrans Standards and MUTCD

Construction Management

WEBB will perform following services:

Pre-Bid Stage

- Perform constructability review of project plans
- Prepare bid documents in compliance with the David-Bacon Act as supplemented by the Department of Labor Regulations
- Obtain client approval of the bid package including final plans, specifications, and cost estimates

Provide Bidding Support

- Coordinate to have bid notices advertised and posted, prepare bid package, conduct pre-bid meeting, prepared responses to bidder's questions, and prepare addenda
- Attend bid opening and evaluate bid per contract law. Evaluate bid results, check reference and licenses of bidders, and prepare Notice of Award

Construction Management

- Prior to commencement of work, WEBB conducts a preconstruction meeting. Attendees should include the contractor, the client, design consultants, inspectors, affected agencies and utility companies, adjacent property owners and/or businesses, and other interested parties as required
- Schedule ongoing weekly meetings. Attendees will include the client, consultants, contractor, inspector(s), applicable utility companies, and the geotechnical/materials testing representative as well as other interested parties. The meeting will consist of a review of contractor problems, scheduling, cost items, etc. Meeting notes shall document all "action items," responsible party to follow up on action items, and a target completion date for the completion of action items. WEBB will prepare and distribute meeting notes to all attendees
- WEBB will prepare Weekly Working Day Statements and send to the contractor
- WEBB will prepare and process construction change orders (CCOs) as outlined in the following procedures:
  - The contracting party and client will be notified of pending change orders
  - Scope of work is defined
  - Reason for change order is defined
  - Backcharge, if applicable, is determined
  - All change orders shall require the signature of the following parties: Contractor, Construction Manager, Project Inspector, and Client
  - At the conclusion of the construction project, a Change Order Summary is provided to the client
- Review the construction schedule prepared by the contractor for compliance with the contract and monitor throughout construction

- Review and verify the contractor's monthly [illegible]es and payments made therein and prepare progress payments
- Coordinate review of contractor's RFIs (request for information)
- Furnish periodic reports of the project's progress as required
- Coordinate the review and approval of shop drawings and other submissions from the Contractor, record data received, maintain a file of the drawings and submissions, and check construction for compliance with approved documents by others
- Coordinate compaction and materials testing
- Review laboratory test reports

Construction close-out procedures shall be documented by WEBB as follows:

- The City inspector prepares a list of incomplete or unsatisfactory items ("punch list") and supplies this list to the contractor. Following corrections and completion of the punch list and the contractor giving notice to the inspectors that the work is ready for inspection, the inspectors inspect the work for final compliance
- The last change order to be prepared is a "balancing change order" that reconciles all quantity adjustments and previous change orders
- Written documentation shall be coordinated indicating the client accepts the improvements into their system
- WEBB prepares and has a Notice of Completion (NOC) recorded
- WEBB provides written notice of project completion to the client
- We make a copy of, and then coordinate transfer of record drawings (as-builts) to the design engineer, who in turn will provide revised Mylars to the client

Davis-Bacon Act Compliance

- WEBB will conduct two field interviews of construction workers
- WEBB will fill out necessary paperwork required for the David-Bacon act

Better Neighborhood Program Sun Gold Community Street Improvement Project (Phases 1, 2, and 3)

WEBB recently completed Phases 1 through 3 of the Better Neighborhood Project, over 32 miles of a street improvement project which included pavement rehabilitation, slurry seal, and grind and overlay.

WEBB will value engineer the project to get the most "bang for their buck."

Return to Agenda

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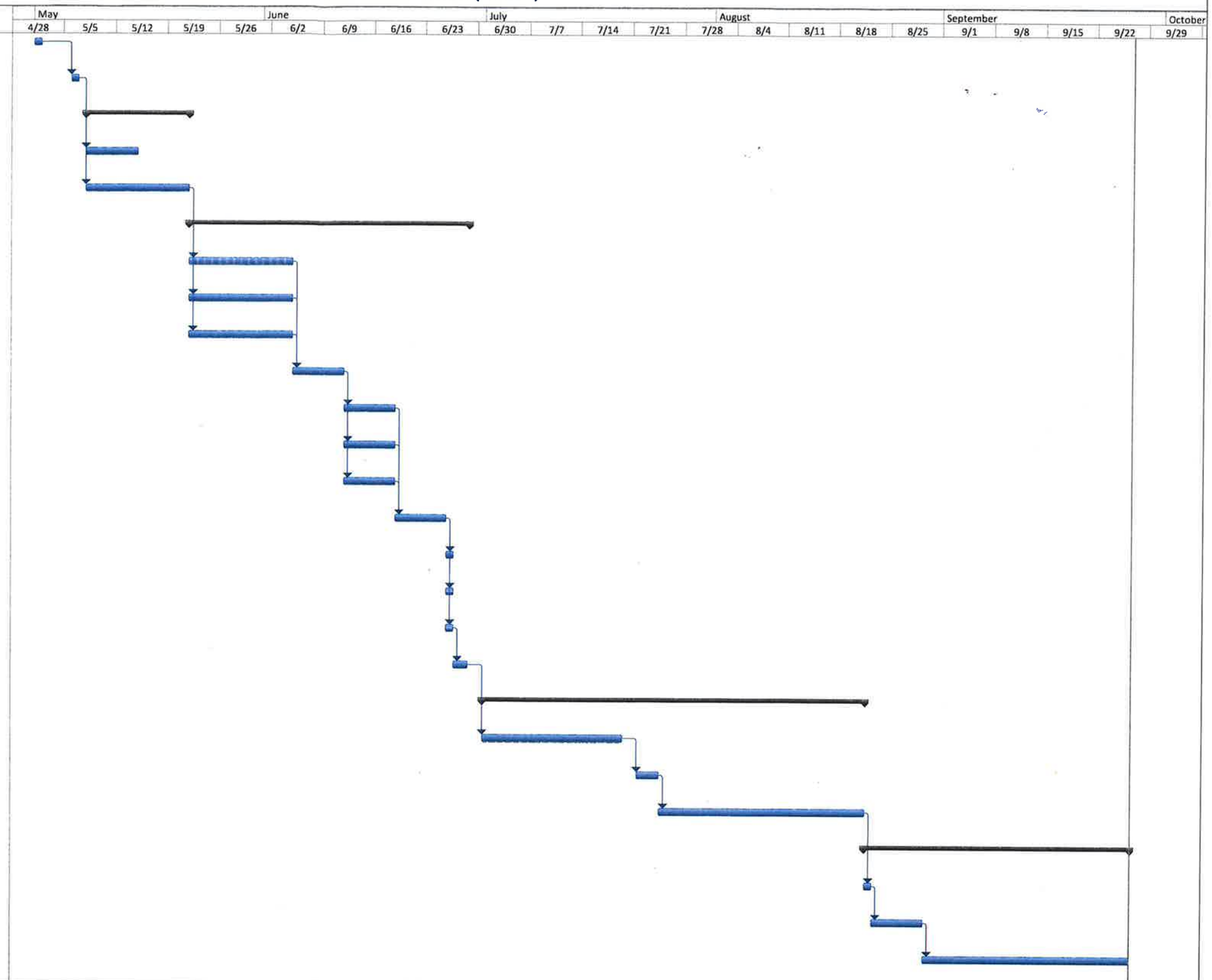
BETTER NEIGHBORHOOD PROGRAM
SUN GOLD COMMUNITY STREET IMPROVEMENT PROJECT (PHASE 4)

ID	Task Name	Duration	Start	Finish	Predecessors
1	Award of the Contract	1 day	Wed 5/1/19	Wed 5/1/19	
2	Project Kick-off Meeting	1 day	Mon 5/6/19	Mon 5/6/19	1
3	**Surveying and Topography Mapping**	**10 days**	**Wed 5/8/19**	**Tue 5/21/19**	
4	Field Topography	5 days	Wed 5/8/19	Tue 5/14/19	2FS+1 day
5	Request Utility Maps	10 days	Wed 5/8/19	Tue 5/21/19	2FS+1 day
6	**Preparation of Plans, Specification, and Estimate (PS&E)**	**28 days**	**Wed 5/22/19**	**Fri 6/28/19**	
7	Street Improvement Plans (60%)	10 days	Wed 5/22/19	Tue 6/4/19	5
8	Signing & Striping Plans (60%)	10 days	Wed 5/22/19	Tue 6/4/19	5
9	Prepare Specifications and Cost Estimate (60%)	10 days	Wed 5/22/19	Tue 6/4/19	5
10	City Review of Plans (60%)	5 days	Wed 6/5/19	Tue 6/11/19	7,8,9
11	Revised Street Improvement Plans (100%)	5 days	Wed 6/12/19	Tue 6/18/19	10
12	Revised Signing & Striping Plans (100%)	5 days	Wed 6/12/19	Tue 6/18/19	10
13	Prepare Specifications and Cost Estimate (100%)	5 days	Wed 6/12/19	Tue 6/18/19	10
14	City Review of Plans (100%)	5 days	Wed 6/19/19	Tue 6/25/19	11,12,13
15	Revised Plans and Plot Mylars of Street Improvement Plans	1 day	Wed 6/26/19	Wed 6/26/19	14
16	Revised Plans and Plot Mylars of Signing & Striping Plans	1 day	Wed 6/26/19	Wed 6/26/19	14
17	Final Bid Document and Cost Estimate	1 day	Wed 6/26/19	Wed 6/26/19	14
18	City Approvals	2 days	Thu 6/27/19	Fri 6/28/19	17
19	**Bidding and Award**	**38 days**	**Mon 7/1/19**	**Wed 8/21/19**	
20	Advertise Project For Construction	15 days	Mon 7/1/19	Fri 7/19/19	18
21	Bid Summary and Select Lowest Responsible Contractor	3 days	Mon 7/22/19	Wed 7/24/19	20
22	Award the Contract	20 days	Thu 7/25/19	Wed 8/21/19	21
23	**Construction**	**26 days**	**Thu 8/22/19**	**Thu 9/26/19**	
24	Notice to Proceed	1 day	Thu 8/22/19	Thu 8/22/19	22
25	Pre-Construction Meeting	5 days	Fri 8/23/19	Thu 8/29/19	24
26	Construction	20 days	Fri 8/30/19	Thu 9/26/19	25



Project: Sun Gold Schedule
Date: Wed 4/17/19

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Return to Agenda

Open Bookmarks

EXHIBIT B

CONSIDERATION

For the Services set forth in this Agreement, City shall pay Consultant on a time and materials basis in accordance with the attached "Fee Schedule" for the tasks in the attached "Cost Proposal." In not event shall the compensation paid to Consultant exceed $36,604.

Return to Agenda

Open Bookmarks

ALBERT A. WEBB ASSOCIATES

FEE SCHEDULE

CLASSIFICATION	RATES $/HOUR
Engineers/Project Managers/Planners/Scientists/ Assessment/Special Tax Consultants/Landscape Architects/Designers	
Principal II	240.00
Principal I	220.00
Senior III	200.00
Senior II	190.00
Senior I	180.00
Associate III	170.00
Associate II	155.00
Associate I	145.00
Assistant V	130.00
Assistant IV	120.00
Assistant III	103.00
Assistant II	88.00
Assistant I	73.00
Survey Services	
2-Person Survey Party	220.00
1-Person Survey Party	160.00
Inspection Services	
Inspector (Non-Prevailing Wage)	110.00
Inspector (Prevailing Wage)	120.00
Administrative Services	
Project Coordinator	90.00
Administrative Assistant III	80.00
Administrative Assistant II	70.00
Administrative Assistant I	55.00
Other Direct Expenses	
Incidental Charges	Cost + 15%
Postage	Cost
Special Consultant	325.00/Hour
Subcontracted Services	Cost + 15%
Survey/Inspection Per Diem	100.00/Day
Survey/Inspection Vehicle	0.81/Mile
Mileage	0.72/Mile

Return to Agenda
Open Bookmarks

ALBERT A. WEBB ASSOCIATES

City of Indio
Sun Gold Community Street Improvement Project

Phase 4

Task Description	Principal II	Associate II	Assistant IV	Construction Manager	Survey Crew	Project Coordinator	Total Hours	Labor	Reimbursable	Total
Kick-Off Meeting	2					2	4	$ 732		$ 732
Utility Research and Coordination			6			6	12	$ 1,416	$ 300	$ 1,716
Survey & Topography Mapping		4	12		8	4	28	$ 4,188		$ 4,188
Street Improvement Plans	4	60				8	72	$ 12,128		$ 12,128
Signing & Striping Plans	2		8			4	14	$ 2,014		$ 2,014
Specification and Cost Estimate	8	8				8	24	$ 4,296		$ 4,296
Construction Management	4			40		10	54	$ 11,030	$ 500	$ 11,530
TOTAL PHASE 4	20	72	26	40	8	42	208	$ 35,804	$ 800	$ 36,604

Return to Agenda

Open Bookmarks

Item 11h

SUBMITTAL TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA May 1, 2019

FROM: INDIO WATER AUTHORITY

SUBJECT: Authorize the full release of the performance bond, and accept the Bill of Sale and a warranty rider bond from Polo Estates Ventures, LLC for Tract No. 33004-2 at Trilogy at the Polo Club.

RECOMMENDED MOTION: Accept the Bill of Sale for the water system facilities, exonerate the performance bond for the water improvements within Tract No. 33004-2 dated October 3, 2013, and accept a warranty rider bond in the amount of $33,662.50 to be released on October 2, 2019 after the one year warranty period.

SUMMARY: Onsite water improvements for Tract No. 33004-2 at Trilogy at the Polo Club are complete. All required submittals to the Indio Water Authority (IWA) have been completed per the approved plans and water agreement. The developer, Polo Estates Ventures, LLC is requesting the formal acceptance of the improvements in accordance with the Water Improvement Agreement and release of the performance bond. On October 2, 2018, a warranty rider bond was submitted by the developer and is to be released after the one year mark on October 2, 2019.

Mario A. Camacho
Mario Camacho, P.E.
Senior Water Engineer

FINANCIAL DATA				
	Cost associated with this action:	$0	In current year budget:	N/A
	Current F.Y. general fund cost:	$0	Budget adjustment:	No
	Future FY. cost:	$0	For fiscal year:	N/A

Source of funds:	NA	Current account balance:	N/A
Account number:	NA	Balance remaining if approved:	N/A

Legal Review:	Department Head Review:	Financial Review:
Roxanne Diaz General Counsel	Gary Lewis Interim General Manager	n/a Brian M. Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S/CITY MANAGER'S RECOMMENDATION:	EXECUTIVE DIRECTOR'S/CITY MANAGER'S SIGNATURE:
ACCEPT AND AUTHORIZE	Mark Scott

BACKGROUND: On October 1, 2018, the Indio Water Authority approved a water improvement bond totaling $168,312.50 for water improvements to be completed within Tract Map No. 33004-2. Now that the improvements are completed, the water improvement warranty bond holder and the developer are requesting the exoneration of the original bond (Bond No. SU04656). The warranty bond rider will still stay in place and will be released after the one year mark on October 2, 2019.

Construction of water improvements have been completed to IWA's satisfaction per the approved plans and recorded water agreements. This bond is to be retained by the IWA as a maintenance/warranty assurance subject to full exoneration one year from the date of completion. The developer, Polo Estates Ventures, LLC is now requesting the exoneration of the original performance bond.

Staff recommends that the Indio Water Authority Board and City Council accept the improvements and exonerate the original performance bond and allow full exoneration of the warranty rider bond upon the completion of the one year mark on October 2, 2019. With the acceptance of the Bill of Sale, the completed water improvements within Tract Map No. 33004-2 will be conveyed to IWA and recorded by the County of Riverside Recorder's Office.

FINANCIAL ANALYSIS: There is no cost or fiscal impact associated with this action.

ALTERNATIVE(S):

1. Not authorize the requests
2. Request additional information

ATTACHMENT(S):

A. Warranty Bond No. SU04656 for Tract 33004-2: $33,662.50
B. Bill of Sale of Water System Facilities

Attachment A

Executed in Duplicate

BOND NO. SU04656

RIDER

To be attached to and form a part of Bond No. SU04656

executed by POLO ESTATES VENTURES, LLC as Principal

and by ASPEN AMERICAN INSURANCE COMPANY as Surety,

in favor of INDIO WATER AUTHORITY,

and effective as of September 16, 2013.

In consideration of the mutual agreements herein contained the Principal and the Surety hereby consent to changing Bond Amount

FROM: $168,312.50 (One Hundred Sixty-Eight Thousand Three Hundred Twelve and 50/100 Dollars)

TO: $33,662.50 (Thirty-Three Thousand Six Hundred Sixty-Two and 50/100 Dollars)

Nothing herein contained shall vary, alter or extend any provision or condition of this bond except as herein expressly stated. This rider is effective on the 1st day of October, 2018.

Signed and sealed this 2nd day of October, 2018.

POLO ESTATES VENTURES, LLC
Principal

BY: _____

ASPEN AMERICAN INSURANCE COMPANY
Surety

BY: _____
KD Conrad
Attorney-In-Fact

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of Los Angeles

On OCT 0 2 2018 before me, Vanessa Fong, Notary Public, personally appeared KD Conrad who proved to me on the basis of satisfactory evidence to be the person~~(s)~~ whose name~~(s)~~ is/~~are~~ subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity~~(ies)~~, and that by ~~his~~/her/~~their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

VANESSA FONG
COMM. # 2213982
LOS ANGELES COUNTY
NOTARY PUBLIC-CALIFORNIA
MY COMMISSION EXPIRES
SEPTEMBER 14, 2021

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

Return to Agenda

Open Bookmarks

ASPEN

Aspen American Insurance Company
175 Capital Boulevard, Rocky Hill, CT 06067

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, THAT Aspen American Insurance Company, a corporation duly organized under the laws of the State of Texas, and having its principal offices in Rocky Hill, Connecticut, (hereinafter the "Company") does hereby make, constitute and appoint: **Edward C Spector; Ashraf (Nick) Elmasry; Tom Branigan; Simone Gerhard; Lisa K. Crall; Paul Rodriguez; Nathan Varnold; Marina Tapia; April Martinez; KD Wapato, B. Aleman, Tracy Aston of AON Risk Services West,Inc.** its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred to sign, execute and acknowledge on behalf of the Company, at any place within the United States, the following instrument(s) by his/her sole signature and act: any and all bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking and any and all consents incident thereto, and to bind the Company thereby as fully and to the same extent as if the same were signed by the duly authorized officers of the Company. All acts of said Attorney(s)-in-Fact done pursuant to the authority herein given are hereby ratified and confirmed.

This appointment is made under and by authority of the following Resolutions of the Board of Directors of said Company effective on April 7, 2011, which Resolutions are now in full force and effect;

VOTED: All Executive Officers of the Company (including the President, any Executive, Senior or Assistant Vice President, any Vice President, any Treasurer, Assistant Treasurer, or Secretary or Assistant Secretary) may appoint Attorneys-in-Fact to act for and on behalf of the Company to sign with the Company's name and seal with the Company's seal, bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said Executive Officers at any time may remove any such appointee and revoke the power given him or her.

VOTED: The foregoing authority for certain classes of officers of the Company to appoint Attorneys-in-Fact by virtue of a Power of Attorney to sign and seal bonds, recognizances, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, as well as to revoke any such Power of Attorney, is hereby granted specifically to the following individual officers of Aspen Specialty Insurance Management, Inc.:

Michael Toppi, Executive Vice President, **Scott Sudowsky**, Senior Vice President, **Kevin W. Gillen**, Senior Vice President, **Mathew Raino**, Senior Vice President, **Ryan Field**, Senior Vice President; **Timothy P. Griffin**, Vice President, **Keith Flannery**, Vice President, **Mary E. Durosko**, Vice President, **Frank Campiglia**, Vice President, **Ray Philippon**, Assistant Vice President and **Lucas Lomax**, Assistant Vice President.

This Power of Attorney may be signed and sealed by facsimile (mechanical or printed) under and by authority of the following Resolution voted by the Boards of Directors of Aspen American Insurance Company, which Resolution is now in full force and effect:

VOTED: That the signature of any of the Officers identified by title or specifically named above may be affixed by facsimile to any Power of Attorney for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any and all consents incident thereto, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company. Any such power so executed and certified by such facsimile signature and/or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking so executed.

IN WITNESS WHEREOF, Aspen American Insurance Company has caused this instrument to be signed and its corporate seal to be hereto affixed this 29th day of August 2018.

Aspen American Insurance Company

STATE OF CONNECTICUT

SS. ROCKY HILL

COUNTY OF HARTFORD

Kevin W. Gillen, Senior Vice President

On this 29th day of August, 2018 before me personally came Kevin W. Gillen to me known, who being by me duly sworn, did depose and say; that he/she is Senior Vice President, of Aspen American Insurance Company, the Company described in and which executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; and that he/she executed the said instrument on behalf of the Company by authority of his/her office under the above Resolutions thereof.

Notary Public

My commission expires: Feb/28/2019

Vanessa Arias
Notary Public
State of Connecticut
My Commission Expires February 28, 2019

CERTIFICATE

I, the undersigned, Kevin W. Gillen of Aspen American Insurance Company, a stock corporation of the State of Texas, do hereby certify that the foregoing Power of Attorney remains in full force and has not been revoked; and furthermore, that the Resolutions of the Boards of Directors, as set forth above, are now and remain in full force and effect.

Given under my hand and seal of said Company, in Rocky Hill, Connecticut, this ___ day of OCT 02 2018

Aspen American Insurance Company TEXAS 1990

By: Name: Kevin W. Gillen, Senior Vice President

* For verification of the authenticity of the Power of Attorney you may call (860) 760-7728 or email:Patricia.Taber@aspen-insurance.com

Return to Agenda

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Attachment B

Indio Water Authority
Your Water. Our Responsibility.

Bill of Sale of Water System Facilities

For good and valuable consideration, receipt of which is hereby acknowledged, the undersigned does hereby transfer and convey to the **INDIO WATER AUTHORITY**, a California Joint Powers Agency organized under the Joint Exercise of Powers Act (commencing with Section 6500 of the California Government Code), and its successors and assigns, all right, title, and interest in and to the water installation, including pipelines, valves, service connections, fire hydrants, meters, and other appurtenances to said water installation, constructed, installed, and located in the property described below and further warrants that the same is free and clear of any encumbrances.

Said property is described as follows:

Tract Map 33004-2 Water System Facilities

(Please attach detailed description of property and water facilities being transferred as Exhibit A)

Executed this 16th day of April, 2019

Name of Developer: Polo Estates Ventures, LLC

By: Andy M
Corporate Officer/Authorized Signatory Signature

Andres Martinez
Authorized Agent

Name & Title Date 4/16/19

Please have a notary complete the next page
If developer is a corporation, a second signature is required:

By: Secretary Signature Name Date

Dave Owens 4/16/19

CERTIFICATE OF ACCEPTANCE

This is to certify that the above Bill of Sale of Water System Facilities is hereby accepted by the order of the Board of Directors of the Indio Water Authority and the Authority hereby consents to the recordation thereof by its duly authorized officer.

Date of Board Action & Acceptance _____

Mark Scott
Executive Director

Date:

Indio Water Authority
Your Water. Our Responsibility.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

A Notary Public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Riverside

On April 16th, 2019 (Date), before me, C. Bueno, Notary Public,

personally appeared Andres Martinez

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of State of California that the foregoing paragraph is true and correct.

C. BUENO
Commission # 2126894
Notary Public - California
Riverside County
My Comm. Expires Sep 17, 2019

PLACE NOTARY SEAL ABOVE

WITNESS my hand and official seal.

SIGNATURE

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of attached document

Title or type of document: Legal Description For Tract Map 33004-2

Document Date: 4/16/2019 Number of Pages: 1

Signer(s) Other than Named Above:

Return to Agenda

Open Bookmarks

EXHIBIT "A"
LEGAL DESCRIPTION

IN THE CITY OF INDIO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, LOCATED IN A PORTION OF THE SOUTHEAST QUARTER OF FRACTIONAL SECTION 2, TOWNSHIP 6 SOUTH, RANGE 7 EAST, SAN BERNARDINO MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

ALL THAT PROPERTY LYING WITHIN THE BOUNDARY OF AMENDED TRACT MAP NO. 33004-2, AS SHOWN BY MAP ON FILE IN BOOK 438 OF MAPS, AT PAGES 85 THROUGH 94, INCLUSIVE, RECORDS OF THE RIVERSIDE COUNTY RECORDER.

CONTAINING 34.59 ACRES, MORE OR LESS.

Charles R. Harris

CHARLES R. HARRIS PLS 4989

DATED: 4/16/2019

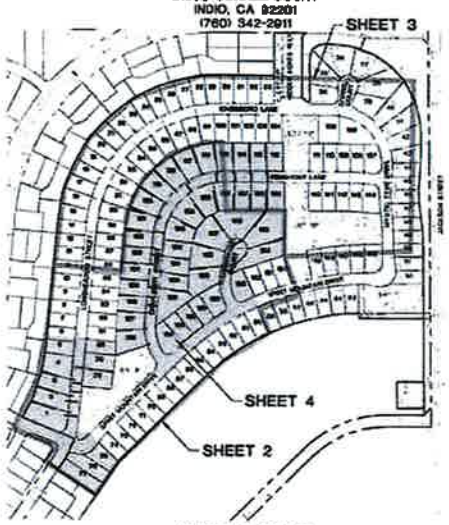
PROFESSIONAL LAND SURVEYOR
CHARLES R. HARRIS
No. 4989
STATE OF CALIFORNIA

IN THE CITY OF INDIO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

THE POLO CLUB
TRACT MAP NO. 33004-2
WATER IMPROVEMENT PLAN

BEING A SUBDIVISION OF A PORTION OF SECTION 2, TOWNSHIP 6 SOUTH,
RANGE 7 EAST, SAN BERNARDINO BASE AND MERIDIAN

PREPARED FOR:
POLO ESTATES VENTURES, LLC
51050 SORREL COURT
INDIO, CA 92201
(760) 342-2911



INDEX OF SHEETS

SHEET	DESCRIPTION
1	TITLE SHEET
2-3	DEMOLITION SHEET
4	PLAN SHEET

NOTE

THE DEMOLITION PLANS (SHEETS 2 AND 3) WERE [illegible] TO THE [illegible] LOT LINES AND LOT NUMBERS SHOWING THE [illegible] PLAN (SHEET 1 AND 4) [illegible] TO THE NEW TRACT MAP 33004-2 [illegible] LOT NUMBERS.

GENERAL WATER NOTES

1. THE WATER SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH INDIO WATER AUTHORITY WATER STANDARDS AND SPECIFICATIONS AND THESE PLANS.
2. FIRE HYDRANTS SHALL BE WET BARREL WITH ONE-FOUR INCH AND TWO-2-1/2" OUTLETS JAMES JONES MODEL J-3765 OR EQUAL WITH [illegible] TO LIST OF APPROVED MATERIALS) [illegible] JOINTS
3. WATER SERVICES SHALL TYPE "K" SOFT DRAWN COPPER
4. SERVICE LINES SHALL HAVE A MINIMUM COVER OF 36"
5. SERVICES SHALL BE RUN IN PAIRS IN A COMMON TRENCH TO COMMON LOT CORNERS EXCEPT WHERE OTHERWISE INDICATED ON THE PLAN
6. WATER METERS SHALL BE 1" X 3/4" OR AS SHOWN ON THE PLANS. METER BOXES SHALL BE [illegible] 3 1/4 POLYMER BOX WITH TRAFFIC COVERS WHERE REQUIRED.
7. ALL WATER MAINS SHALL BE DIP, RESTRAINED JOINT/CLASS 350, LARGER THAN 12" DIAMETER, AND CLASS 350 12" DIAMETER AND SMALLER ENCASED IN POLYETHYLENE PER AWWA AND INDIO WATER AUTHORITY STANDARDS
8. ALL WATER MAINS SHALL HAVE A MINIMUM COVER OF [illegible] (42) INCHES
9. ALL VALVES, ELBOWS, AND TEES SHALL BE RESTRAINED JOINTS AND SUPPORTED BY THRUST BLOCKS PER IWA STD DWG 700A & 700B
10. TRENCH EXCAVATION, PIPE BEDDING AND BACKFILL SHALL CONFORM TO THE INDIO WATER AUTHORITY SPECIFICATIONS
11. THE CONTRACTOR SHALL NOTIFY THE INDIO WATER AUTHORITY FORTY-EIGHT (48) HOURS PRIOR TO STARTING ANY WORK (760-391-4044)
12. THE CONTRACTOR SHALL TEST AND CHLORINATE ALL NEW WATER MAINS. BACTERIOLOGICAL SAMPLES SHALL BE CLEARED BY A CERTIFIED TESTING LAB AND THE CITY SHALL HAVE THE WRITTEN RESULTS IN HAND PRIOR TO TAPPING INTO EXISTING MAINS
13. WATER METER BOXES SHALL BE SET BEHIND THE SIDEWALK (SEE IWA STANDARD DRAWING 700)
14. EXISTING UTILITIES MAY OR MAY NOT BE SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND PROTECT ALL UTILITIES IN THE CONSTRUCTION AREA, WHETHER SHOWN OR NOT SHOWN HEREON AND TO NOTIFY UNDERGROUND SERVICE ALERT AT 1-800-422-4133, FORTY-EIGHT HOURS IN ADVANCE OF DIGGING.
15. PRIOR TO FINAL APPROVAL AND ACCEPTANCE, THE CONTRACTOR SHALL SUBMIT "AS BUILT" DRAWINGS TO INDIO WATER AUTHORITY
16. WITH REGARD TO HOT TAPPING EXISTING CITY MAINS, THE CONTRACTOR SHALL PLACE AND PRESSURE TEST TAPPING TEE AND FLANGED X FLANGED RESILIENT WEDGE GATE VALVES. THE ACTUAL HOT TAP WILL BE MADE BY CONTRACTOR IN THE PRESENCE OF IWA INSPECTOR
17. ALL VALVES SHALL BE RESILIENT WEDGE GATE VALVES (REFER TO LIST OF APPROVED MATERIALS)
18. ALL VALVES SHALL BE ADJUSTED TO FUTURE GRADE PER INDIO WATER AUTHORITY STANDARD DRAWING NO. 713A & 713B
19. THE CONTRACTOR SHALL TAKE EXTRA CARE TO ASSURE THAT THE BACKFILL AROUND METER BOXES IS COMPACTED SUFFICIENTLY TO PREVENT SETTLEMENT. SEE IWA STD DWG 700
20. PROVIDE COMPACTION TEST RESULTS.
21. ANY WATER MAIN SHUTDOWN REQUIRES FOUR WORKING DAYS NOTICE

ADDITIONAL WATER NOTES

1. THE WATER SYSTEM SHOWN ON THESE PLANS SHALL BE CONSTRUCTED BY THE [illegible] DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH CITY OF INDIO WATER STANDARD SPECIFICATIONS AND STANDARD PLANS; AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS AND CROSSWALKS, LATEST EDITION. THE CONTRACTOR SHALL HAVE A COPY OF EACH OF THESE STANDARDS, AS WELL AS A COPY OF THE PROJECT PLANS AND SPECIFICATIONS, ON THE JOB AT ALL TIMES
2. THE DEVELOPER SHALL FURNISH THE CITY WITH RECORDED EASEMENTS FOR ALL PORTIONS OF THE WATER SYSTEM OUTSIDE THE PUBLIC RIGHT-OF-WAY
3. THE IWA SHALL BE FURNISHED WITH SIX COPIES OF APPROVED CONSTRUCTION PLANS PRIOR TO THE START OF CONSTRUCTION
4. THE CONTRACTOR SHALL OBTAIN ALL CITY AND/OR COUNTY PERMITS PRIOR TO THE START OF CONSTRUCTION
5. WATER MAINS SHALL BE STAKED FOR LINE AND GRADE OR SHALL BE INSTALLED SUBSEQUENT TO THE INSTALLATION OF THE CURBS BUT PRIOR TO PAVING OF THE STREETS. THE MINIMUM COVER OVER DOMESTIC WATER MAINS SHALL BE 42 INCHES BELOW PAVEMENT FINISHED GRADE FOR RESIDENTIAL AND 48 INCHES BELOW PAVEMENT FINISHED GRADE FOR NON-RESIDENTIAL
6. NO VALVE SHALL BE LOCATED WITHIN A GUTTER OR OTHER CONCRETE DRAINAGE DEVICE.
7. ALL FIRE HYDRANTS SHALL BE INSTALLED PER IWA STANDARD PLAN NO. 704 AND SHALL HAVE A CONCRETE PAD PLACED AROUND THEM
8. NO FACILITY IS TO BE BACKFILLED UNTIL INSPECTED BY THE IWA.
9. SHUT DOWN OF EXISTING WATER LINES TO FACILITATE CONNECTION TO EXISTING FACILITIES SHALL BE COORDINATED WITH THE IWA INSPECTOR AND CONDUCTED EXCLUSIVELY BY CITY CREWS. NO CONNECTIONS TO THE IWA'S EXISTING WATER SYSTEM SHALL BE MADE UNTIL THE NEW FACILITIES HAVE BEEN SUCCESSFULLY TESTED AND DISINFECTED. ALL CONNECTIONS TO THE IWA'S WATER SYSTEM SHALL BE MADE IN THE PRESENCE OF THE IWA INSPECTOR AND/OR OTHER DESIGNEE.
10. WATER HOUSE CONNECTION LATERALS SHALL BE INSTALLED BEHIND THE CURB PRIOR TO PAVING OF THE STREET. THE SERVICES SHALL BE EXTENDED TO THEIR FINAL LOCATION BY THE DEVELOPER AT A TIME PRIOR TO PRESSURE TESTING OF THE WATER SYSTEM. EACH SERVICE WILL BE INSTALLED A MINIMUM OF 48-INCHES APART CENTERLINE TO CENTERLINE
11. SEPARATION OF WATER MAINS AND SEWERS SHALL BE PER IWA STANDARD PLAN NO. 711 AND 712
12. ALL WATER SERVICES SUPPLIED WITH PRESSURE GREATER THAN 80 PSI SHALL BE PROVIDED WITH APPROVED PRESSURE REGULATORS SET AT LESS THAN 80 PSI.
13. METER BOXES SHALL BE INSTALLED DIRECTLY BEHIND THE CURB WHETHER SIDEWALK IS DIRECTLY BEHIND THE CURB OR NOT. METER BOXES INSTALLED BEHIND ROLLED CURB SHALL HAVE TRAFFIC LIDS. NO METER BOXES SHALL BE PERMITTED WITHIN DRIVEWAYS
14. VALVES SHALL BE INSTALLED PER THE IWA STANDARD PLAN NO. 713. THE DEVELOPER SHALL RAISE ALL VALVE BOXES TO THE FINISHED PAVEMENT GRADE UPON COMPLETION OF THE PAVEMENT. IF THE SURFACE COURSE OF PAVEMENT IS NOT COMPLETED WITHIN A REASONABLE AMOUNT OF TIME AFTER THE BASE COURSE OF PAVEMENT IS COMPLETED, THE DEVELOPER SHALL RAISE THE VALVE BOXES TO THE FINISHED GRADE OF THE BASE COURSE SO THAT THE CITY MAY OPERATE THE VALVES. THE DEVELOPER SHALL THEN RAISE ALL VALVE BOXES TO FINAL FINISHED GRADE OF THE PAVEMENT UPON COMPLETION OF THE SURFACE COURSE OF PAVEMENT.

CONSTRUCTION NOTES

QUANTITY ESTIMATE
(FOR PERMIT PURPOSES ONLY)

①	INSTALL 1" WATER SERVICE, 3/4" METER PER IWA STD DWG 700	35 EA.
②	CONSTRUCT 8" FH ASSEMBLY PER IWA STD. DWG 704A (SEE [illegible])	2 EA.
③	INSTALL 8"x6" [illegible] REDUCER	1 EA.
④	[illegible] TO INSTALL 8"x8" [illegible] AND [illegible] 8" [illegible] VALVE	1 EA.

DEMOLITION NOTES

QUANTITY ESTIMATE
(FOR PERMIT PURPOSES ONLY)

①	EXISTING HYDRANT ASSEMBLY REMOVE AND REPLACE [illegible] FITTINGS AND VALVE AND INSTALL [illegible] FLANGE (COORDINATE WITH INDIO WATER AUTHORITY)	2 EA.
②	EXISTING WATER SERVICE, COMPLETELY REMOVE COPPER SERVICE, METER BOX AND ASSOCIATED FITTINGS, INSTALL CAP/PLUG AT CORPORATION STOP. (COORDINATE WITH INDIO WATER AUTHORITY)	4 EA.
③	EXISTING PAVEMENT TO BE REPAIRED PER IWA STD. T100 FOR REMOVAL AND INSTALLATION TRENCHES	35 EA.
④	PROTECT IN PLACE	
⑤	CONTRACTOR TO REMOVE AND DISPOSE EXISTING CONCRETE METER BOXES AND INSTALL 3/4" METER POLYMER BOX W/SOLID LID	101 EA.

NOTE TO CONTRACTOR: QUANTITY ESTIMATE

MSA CONSULTING, INC. MAKES NO REPRESENTATION CONCERNING THE ESTIMATED QUANTITIES ON THESE PLANS, EXCEPT THAT ALL SUCH FIGURES, INCLUDING ALL EARTHWORK QUANTITIES, ARE PRELIMINARY ESTIMATES AND FOR PERMIT PURPOSES ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PREPARE HIS OWN QUANTITY ESTIMATE FOR CONSTRUCTION OR COST PURPOSES. MSA CONSULTING, INC. SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS BETWEEN ESTIMATED QUANTITIES AND ACTUAL QUANTITIES AT THE TIME OF CONSTRUCTION.

UTILITIES

WATER	INDIO WATER AUTHORITY	(760) 391-4044
SEWER	VALLEY SANITARY DISTRICT	(760) 347-2356
[illegible]	COACHELLA VALLEY WATER DISTRICT	(760) 398-2651
ELECTRIC	IMPERIAL IRRIGATION DISTRICT	(760) 398-5859
GAS	THE GAS COMPANY	(760) 335-7712
TELEPHONE	VERIZON	(760) 881-1765
CABLE TV	TIME WARNER CABLE	(760) 674-5477
USA	UNDERGROUND SERVICE ALERT	(800) 227-2600

NOTE TO CONTRACTOR: EXISTING UTILITIES

THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM A REVIEW OF AVAILABLE RECORD DATA. WHILE DUE CARE WAS TAKEN IN PREPARATION OF THIS INFORMATION, MSA CONSULTING, INC. CANNOT AND DOES NOT GUARANTEE THE ACCURACY AND THE COMPLETENESS OF THE INFORMATION. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.

THE CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH RESULT FROM HIS FAILURE TO LOCATE EXACTLY AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL POTHOLE PROPOSED CROSSINGS OF EXISTING UTILITIES PRIOR TO CONSTRUCTION AND SHALL VERIFY THEIR HORIZONTAL AND VERTICAL LOCATIONS. IN THE EVENT, DURING CONSTRUCTION, THAT UNKNOWN UTILITIES OR UNKNOWN STRUCTURES ARE FOUND AT UNEXPECTED ELEVATIONS OR LOCATIONS, MSA CONSULTING, INC. IS TO BE NOTIFIED OF SUCH CONDITION AT ONCE. MSA CONSULTING, INC. WILL MAKE REQUIRED DESIGN CHANGES AND THE CONTRACTOR AGREES TO COMPLETE ALL WORK, INCLUDING REPAIRS REQUIRED, IN AN EXPEDITIOUS MANNER. THE CONTRACTOR FURTHER AGREES TO PURSUE DILIGENTLY THE COMPLETION OF SAID WORK.

ANY DISCREPANCY BETWEEN THE PLANS AND FIELD SHALL BE BROUGHT TO THE ATTENTION OF MSA CONSULTING, INC. THE CONTRACTOR SHALL ALERT MSA CONSULTING, INC. PRIOR TO POTHOLING IF NECESSARY. MSA CONSULTING, INC. SHALL REVISE THE PLANS. THE CONTRACTOR SHALL BEGIN CONSTRUCTION AFTER REVISIONS ARE APPROVED.

NOTE TO CONTRACTOR: SITE CONDITIONS

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITION DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.

THE CONTRACTOR ALSO AGREES TO DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE MSA CONSULTING, INC., HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR MSA CONSULTING, INC.

RECORD DRAWING

THESE FINAL AS-BUILT DRAWINGS OF RECORD REFLECT MODIFICATIONS MADE DURING CONSTRUCTION BY THE OWNER / DEVELOPER / CONTRACTOR / DISTRICT BASED ON DOCUMENTATION MSA RECEIVED AND VISUAL INSPECTION MADE BY MSA STAFF DURING A SITE VISIT AFTER INSTALLATION OF THE IMPROVEMENTS. IT IS ASSUMED THAT INSPECTION OF THE WORK DURING THE COURSE OF CONSTRUCTION WAS PERFORMED BY THE APPROPRIATE AGENCIES TO INSURE THE MATERIAL MET PROPER SPECIFICATIONS, LINE AND GRADE. MSA CONSULTING, INC. WAS NOT ENGAGED TO PERFORM INSPECTION OR FIELD OBSERVATION AND THEREFORE MAKES NO REPRESENTATIONS CONCERNING THE CONSTRUCTION OF UNDERGROUND FACILITIES.

ABBREVIATIONS

[illegible]

LEGEND

EXISTING RIGHT OF WAY
EXISTING EASEMENT
CENTERLINE
PROPOSED RIGHT OF WAY
PROPOSED EASEMENT
PROPOSED BOUNDARY
PROPOSED STORM DRAIN
PROPOSED SEWER MAIN
PROPOSED WATER MAIN
EXISTING STORM DRAIN LINE
EXISTING WATER MAIN
EXISTING SEWER MAIN
EXISTING UTILITIES: GAS, TELEPHONE, TV, ETC
PROPOSED WATER SERVICE WITH BACKFLOW DEVICE
PROPOSED WATER SERVICE
[illegible]

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE INDIO WATER AUTHORITY IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

JULIAN A. DE LA TORRE — R.C.E. 43880
VICE PRESIDENT — EXP. JUNE 30, 2015

OWNER / DEVELOPER	BENCH MARK: INDIO BM [illegible]	ELEV. 496.71' (NGVD 29 + 600')
NAME: POLO ESTATES VENTURES, LLC	LOCATION: [illegible]	
ADDRESS: 51050 SORREL COURT, INDIO, CA 92201	BASIS OF BEARINGS: THE BASIS OF BEARING FOR THIS MAP IS THE CENTERLINE OF AVENUE 52, ALSO BEING THE SOUTHERLY LINE OF THE SOUTHEAST QUARTER OF SECTION 2, TAKEN AS N 89°51'27" W PER RECORD OF SURVEY SHOWN IN BOOK 115, PAGE 12 [illegible]	
PHONE NO. (760) 342-2911		

DIG ALERT

Dig Safely
DIAL TOLL FREE
811
AT LEAST TWO DAYS
BEFORE YOU DIG

UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA

REVISIONS			
NO.	BY	DATE	REMARKS

APPROVED BY RIVERSIDE COUNTY
DEPARTMENT OF FIRE PROTECTION

NAME — DATE

DESIGNED BY	[illegible]
DRAWN BY	[illegible]
CHECKED BY	MTC
SCALE	[illegible]

PREPARED UNDER THE DIRECT SUPERVISION OF

JULIAN A. DE LA TORRE, P.E. — DATE

MSA CONSULTING, INC.
PLANNING • CIVIL ENGINEERING • LAND SURVEYING
34200 BOB HOPE DRIVE • RANCHO MIRAGE • CA 92270
TELEPHONE (760) 320-9811 • FAX (760) 323-7893

INDIO WATER AUTHORITY APPROVAL

APPROVAL SIGNATURE BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSES AND GENERAL LOCATION OF THE PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER PREPARING THE PLANS.

BRIAN MACY, P.E. — DATE
INTERIM GENERAL MANAGER R.C.E. C29718

Indio Water Authority
Your Water. Our Responsibility.

TELEPHONE (760) 391-4038 — [illegible] — FAX (760) 391-4428

CITY OF INDIO, CALIFORNIA

THE POLO CLUB
TRACT MAP NO. 33004-2
WATER IMPROVEMENT PLAN
COVER SHEET

BEING A PORTION OF SECTION 2, TOWNSHIP 6 SOUTH, RANGE 7 EAST, S.B.B.M.

DRAWING: –
SHEET 1 OF 4
DATE: AUGUST 16, 2013
IWA NO. –

LEGEND

EXISTING WATER FACILITY TO BE REMOVED AND DISPOSED

DEMOLITION NOTES

MATCHLINE - SEE SHEET 3

AVA HIGHGROVE

GRANDEADOR STREET

CHARLBURY STREET

TANNERWALK COURT

SPIRIT MOUNTAIN DRIVE

SHEET INDEX

DEMOLITION NOTES

NOTE TO CONTRACTOR: EXISTING UTILITIES

RECORD DRAWING

DECLARATION OF RESPONSIBLE CHARGE

NORTH

DEMOLITION SHEET

SCALE 1"=40'

OWNER / DEVELOPER	BENCH MARK	ELEV.
POLO ESTATES VENTURES, LLC		

Dig Alert
CALL TOLL FREE
811
AT LEAST TWO DAYS BEFORE YOU DIG

REVISIONS

APPROVED BY RIVERSIDE COUNTY DEPARTMENT OF FIRE PROTECTION

PREPARED UNDER THE DIRECT SUPERVISION OF

MSA CONSULTING, INC

INDIO WATER AUTHORITY APPROVAL

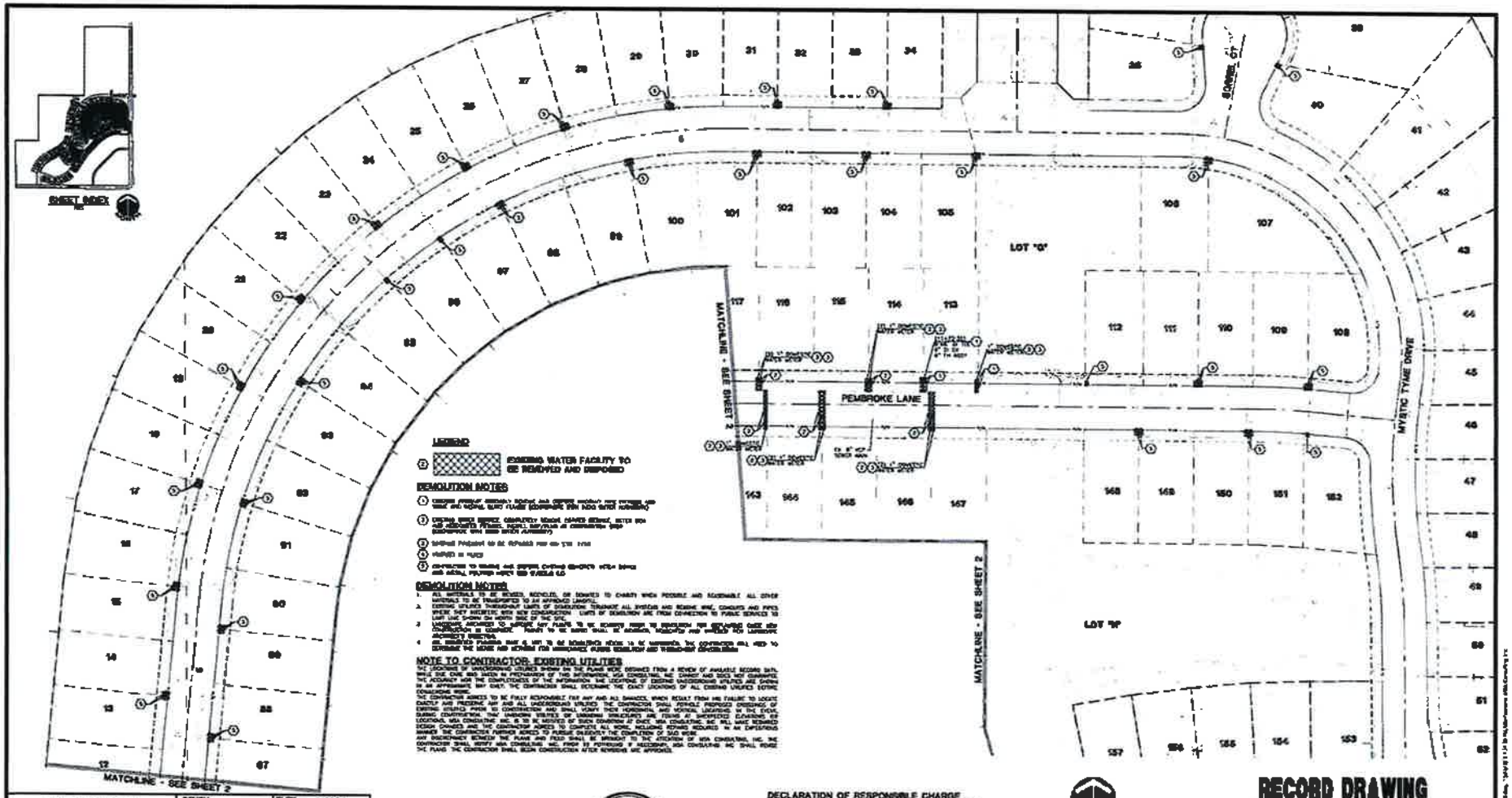
Indio Water Authority
Your Water Our Responsibility

CITY OF INDIO, CALIFORNIA

THE POLO CLUB
TRACT MAP NO. 33604-2
WATER IMPROVEMENT PLAN
DEMOLITION SHEET

SHEET 2 OF 4

DATE: AUGUST 16, 2013



OWNER / DEVELOPER	BENCH MARK	ELEV.
POLO ESTATES VENTURES, LLC		

Dig Alert
DIAL TOLL FREE 811
AT LEAST TWO DAYS BEFORE YOU DIG

REVISIONS

APPROVED BY RIVERSIDE COUNTY DEPARTMENT OF FIRE PROTECTION

PREPARED UNDER THE DIRECT SUPERVISION OF

MSA CONSULTING, INC.

INDIO WATER AUTHORITY APPROVAL

Indio Water Authority
Your Water. Our Responsibility.

CITY OF INDIO, CALIFORNIA

THE POLO CLUB
TRACT MAP NO. 36404-2
WATER IMPROVEMENT PLAN
DEMOLITION SHEET

SHEET 3 OF 4

DATE: AUGUST 15, 2013

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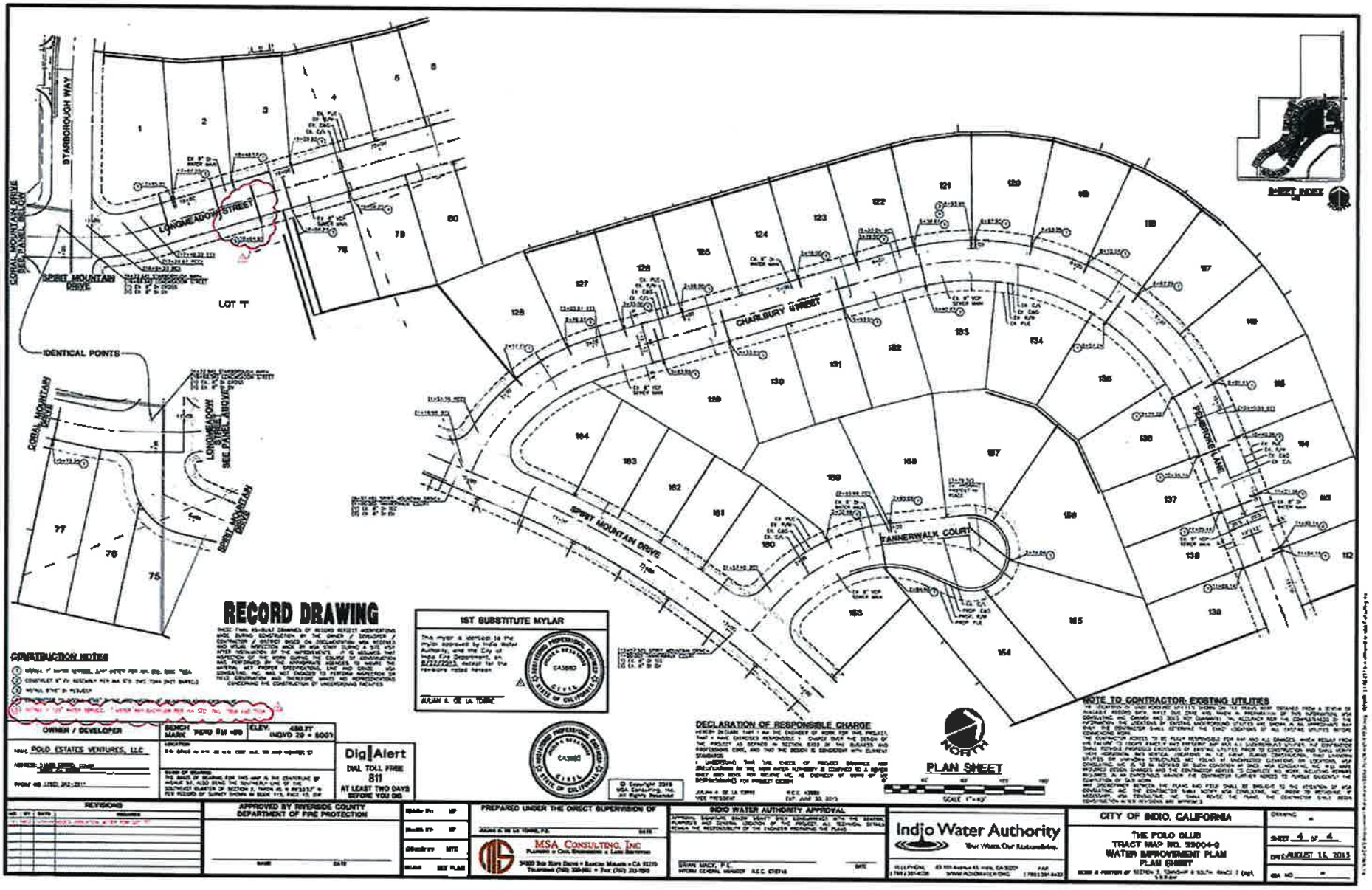

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Item 11i

SUBMITTAL TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA May 1, 2019

Indio Water Authority
Your Water. Our Responsibility

CITY OF INDIO

FROM: INDIO WATER AUTHORITY

SUBJECT: Amendment No. 3 for software integration, in the amount of $11,520, to the existing professional services agreement with Etech-360, Inc.

RECOMMENDED MOTION: Approve Amendment No. 3 to the existing professional services agreement with Etech-360, Inc. and authorize the Executive Director to execute Amendment No. 3.

SUMMARY: This amendment is to the existing professional services agreement with Etech-360, Inc. ("Etech") for the integration of the financial system (Naviline) and the work order and asset management system (Cityworks). The integration will help save time and costs by eliminating data entry duplication and additional paperwork in the current workflow. The integration will also improve staff productivity and process efficiency. The integration cost is significantly lower than the savings to be realized, therefore, this is a value for money project.

Prepared By: Todd Feist
IWA Data & Systems Manager

FINANCIAL DATA	**Cost associated with this action:**	$11,520	**In current year budget:**	Yes
	Current F.Y. general fund cost:	$0	**Budget adjustment:**	No
	Future FY. cost:	$0	**For fiscal year:**	18/19

Source of funds:	IWA Operating Fund	**Current account balance:**	$11,264
Account number:	010-4715-471-21-90	**Balance remaining if approved:**	$ 0

Legal Review:	**Department Head Review:**	**Financial Review:**
Roxanne Diaz General Counsel	Gary Lewis Interim General Manager	Brian Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S/CITY MANAGER'S RECOMMENDATION: APPROVE	**EXECUTIVE DIRECTOR'S/CITY MANAGER'S SIGNATURE:**

BACKGROUND: Indio Water Authority and Etech-360, Inc. entered into a professional services agreement in September 2017. Services under the agreement have included database, middleware and server management services as well as business applications and integration support for the financial system and meter information management system. Services under the agreement were implemented using a staggered approach and most of the work supported IWA's deployment of the web portal and advanced metering infrastructure.

The original agreement was in the amount of $65,000. Services delivered included hardware assessment, database monitoring and clean-up, integration support for the advanced metering infrastructure and the initial web portal developed by Smart Utility Systems, Cognos reporting, and on-site and remote technical support for the AS-400 legacy server, financial information system, and web server.

Amendment No. 1 to the agreement on March 6, 2018 added additional services such as the second iteration and full-scale deployment of the IWA web portal as well as Call Center support; the amendment increased compensation by $120,000 to a not-to-exceed amount of $185,000.

Amendment No. 2 of August 15, 2018 increased the agreement by another $70,000, increasing total compensation under this agreement to a not-to-exceed amount of $255,000. The amendment was to allow Etech to provide additional services related to business technology solutions and technical support, virtual environment upgrades, and Cognos reporting. To date, $247,344.72 has been spent leaving a balance of $7,655.28.

Amendment No. 3 will amend the agreement further specifically for the purpose of integrating the Naviline financial system and the Cityworks work order and asset management system. At the moment, these are standalone systems and a dedicated clerical staff has to enter the data from Cityworks into Naviline; in the first nine (9) months of the current fiscal year, over 12,000 work orders have been created in Cityworks and then entered into Naviline separately. While Naviline is primarily used by Finance and Customer Service Staff, Cityworks is used by both office and field staff to manage service requests, work orders, inventories, and asset mapping just to mention a few applications; Cityworks supports IWA's mobile workforce. The integration will enable an automated data processing and service response since data in Cityworks and in Naviline are easily accessible from either application and guaranteed to be identical.

The benefits of integrating Naviline and Cityworks extends throughout IWA and to its customers. The integration will increase overall efficiency. It will also help lower the cost of asset maintenance and service, and provides better asset inventory management. For these reasons, Staff recommends that the Water Board approve Amendment No. 3 with Etech-360, Inc. to perform the integration.

FINANCIAL ANALYSIS: Funds are available in the IWA Operating Fund in account number 010-4715-471-2190 to pay for the $11,520 in integration cost.

ALTERNATIVES:

1. Not approve Amendment No. 3 to the professional services agreement
2. Request additional information.

ATTACHMENT(S):

1) Amendment No. 3 to the Professional Services Agreement

Return to Agenda

Open Bookmarks

Attachment A

AMENDMENT NO. 3 TO THE PROFESSIONAL SERVICES AGREEMENT BETWEEN INDIO WATER AUTHORITY AND ETECH-360, INC.

This Amendment No. 3 ("Amendment No. 3") is made and entered into on this 1st day of May, 2019, by and between the Indio Water Authority, a joint powers authority, ("Authority") and ETech-360, Inc. ("Consultant") and is to that certain Professional Services Agreement dated September 1, 2017 between the Authority and Consultant.

RECITALS

A. On September 1, 2017, Authority and Consultant entered into as agreement for the provision of information technology services related to database monitoring, GIS database and Cityworks, AS-400 and Neptune, financial information system, web server, and middleware managed services ("Original Agreement").

B. On March 6, 2018, Authority and Consultant amended the Original Agreement to amend the scope of services and increase the compensation to allow Consultant to continue the services in the Agreement and provide additional services related to the development of a web portal ("Amendment No. 1").

C. On August 15, 2018, Authority and Consultant further amended the Original Amendment to increase scope and compensation (Amendment No. 2"). The Original Agreement, Amendment No. 1 and Amendment No. 2 shall be referred to collectively as the "Agreement."

D. Authority and Consultant desire to amend the Agreement to further amend the scope of services and increase the compensation to allow the Consultant to integrate the IWA's financial system (Naviline) and the work order and asset management system (Cityworks).

NOW, THEREFORE, in consideration of the mutual promises contained herein, the parties agree as follows:

Section 1. Consultant shall provide the additional services set forth in Exhibit A to this Amendment No. 3 ("Additional Services"). The provision of the Additional Services shall be subject to and be provided pursuant to the terms and conditions of the Agreement.

Section 2. The compensation amount set forth in Section 4 of the Agreement shall be increased by $11,520 for a total not-to-exceed amount of $266,520. Consultant shall not be paid more than $266,520 for the services set forth in the Agreement and the Additional Services as is more further described in Exhibit A to this Amendment No. 3.

Section 3. Except as specifically amended by this Amendment No. 3, the remaining terms of the Agreement shall remain in full force and effect. In the event of a conflict between the provisions of this Amendment No. 3 and the provisions of the Agreement, the provisions of this Amendment No. 3 shall control.

In witness whereof the parties have executed this Amendment No. 3 on the date set forth above.

Return to Agenda

Open Bookmarks

INDIO WATER AUTHORITY

MARK SCOTT
Executive Director

ATTEST:

SABDI SANCHEZ, CMC
Secretary

APPROVED AS TO FORM

ROXANNE M. DIAZ
Authority General Counsel

Return to Agenda

Open Bookmarks

CONSULTANT: ETECH 360, INC.

_____
Signature

_____
Print Name

_____
Title

_____
Signature

_____
Print Name

_____
Title

Return to Agenda

Open Bookmarks

EXHIBIT A

Additional Service and Compensation

Consultant shall provide the following Additional Services as requested by the Authority as a subset of On-site or On-Line Support:

- Naviline and Cityworks integration

Date	Description	SUS / Web Portal Project	Cognos Query and Report Writing	Database Clean-up	Hardware Assessment	On-Site or On-Line Support	Total
01/06/17	Original Amount	$13,140.00		$1,548.75	$32,197.50	$18,113.75	$65,000.00
03/06/18	Amendment #1	$77,890.00*		$19,151.25		$22,958.75	$120,000.00
08/15/18	Amendment #2	$7,000.00	$35,000.00	$25,000.00		$3,000.00	$70,000.00
05/01/19	Amendment #3					$11,520.00	$11,520.00
	Total Contract	**$7,000.00**	**$35,000.00**	**$45,700.00**	**$87,700.00**	**$55,592.50**	**$266,520.00**

Authority shall pay Consultant for the Additional Work a sum not to exceed $11,520 at the hourly rate set forth in the Original Agreement. The maximum compensation under Original Agreement, Amendment No. 1, Amendment No. 2 and Amendment No. 3 shall not exceed $266,520.

Return to Agenda

Open Bookmarks

EXHIBIT A

Additional Service and Compensation

Consultant shall provide the following Additional Services as requested by the Authority as a subset of On-site or On-Line Support:

- Naviline and Cityworks integration

Date	Description	SUS / Web Portal Project	Cognos Query and Report Writing	Database Clean-up	Hardware Assessment	On-Site or On-Line Support	Total
01/06/17	Original Amount	$13,140.00		$1,548.75	$32,197.50	$18,113.75	$65,000.00
03/06/18	Amendment #1	$77,890.00*		$19,151.25		$22,958.75	$120,000.00
08/15/18	Amendment #2	$7,000.00	$35,000.00	$25,000.00		$3,000.00	$70,000.00
05/01/19	Amendment #3					$11,520.00	$11,520.00
	Total Contract	**$98,030.00**	**$35,000.00**	**$45,700.00**	**$32,197.50**	**$55,592.50**	**$266,520.00**

Authority shall pay Consultant for the Additional Work a sum not to exceed $11,520 at the hourly rate set forth in the Original Agreement. The maximum compensation under Original Agreement, Amendment No. 1, Amendment No. 2 and Amendment No. 3 shall not exceed $266,520.

Return to Agenda

Open Bookmarks

Item 11j

SUBMITTAL TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA May 1, 2019

FROM: INDIO WATER AUTHORITY

SUBJECT: Receive and file a report regarding the City Manager/Executive Director's action to award a contract in the amount of $139,700 for the Avenue 44 Emergency Repair, Project No. WT4419 to Granite Construction Company.

RECOMMENDED MOTION: Receive and file this report.

SUMMARY: On February 14, a major rain event caused significant road damage at the Avenue 44 crossing at the Coachella Valley Storm Water Channel damaging a 24" transmission water main. Because of the pipe separation at the wash, two 24" dead ends developed at the west and east sides of the channel transmission main line, making the system prone to water quality issues at these two locations. In order to prevent any further issues prior to construction of a proposed bridge crossing, the Indio Water Authority designed two connections to the existing 10" distribution water main on the undisturbed portion of Avenue 44 crossing the Coachella Valley Storm Water Channel, which will minimize scheduling conflicts of work associated with the future construction of the new bridge crossing.

Mario Camacho, P.E.
Senior Water Engineer

FINANCIAL DATA	**Cost associated with this action:**	n/a	**In current year budget:**	Yes
	Current F.Y. general fund cost:	$0	**Budget adjustment:**	No
	Future FY. cost:	$0	**For fiscal year:**	18/19

Source of funds: IWA Operating Fund	**Current account balance:** n/a
Account number: Various	**Balance remaining if approved:** n/a

Legal Review:	**Department Head Review:**	**Financial Review:**
Roxanne Diaz General Counsel	Gary Lewis Interim General Manager	Brian Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S/CITY MANAGER'S RECOMMENDATION: RECEIVE & FILE	**EXECUTIVE DIRECTOR'S/CITY MANAGER'S SIGNATURE:** Mark Scott

BACKGROUND: The engineer's estimate for the proposed IWA project to connect the two 24" dead ends at Avenue 44 crossing at the Coachella Valley Storm Water Channel was less than $200,000 and the project went through the City's "Informal Bidding Process for Public Works Contracts" as set forth in Section 33.124 of the Indio Municipal Code. Under California's Uniform Public Construction Cost Accounting Act ("Act"), a public agency may bid public projects of $200,000 or less by certain informal procedures if the agency has elected to be subject to the provisions of the Act.

Following those procedures, the "Notice Inviting Bids" for this project was issued on March 27th to six (6) Plan Rooms. Ten qualified contractors requested bid documents and five (5) proposals were received. Bids were opened on April 11, 2019; Granite Construction Company submitted the lowest responsible bid in the amount of $139,700 (see attached Bid Tabulation).

Section 33.124 authorizes the City Manager to award informal contracts. Accordingly, IWA staff requested the City Manager/Executive Director to award a contract to Granite Construction Company and authorize change orders, if needed, up to 10% of the awarded bid amount for the Avenue 44 Emergency Repair, Project No. WT4419.

Staff is providing this report to the City Council for information only. No action on the contract is required. Accordingly, Staff recommends that the IWA/City Council receive and file this report.

FINANCIAL ANALYSIS: Funds are budgeted in the FY 2018-19 Adopted IWA Operating and Capital Improvement Budget and available for this emergency repair. The project costs, including provision for a 10% change order, if necessary, are broken down as follows:

Contractor (construction) Base Bid.....	$	139,700
Change Order (if necessary) 10%.....	$	13,970
Total Project Cost	**$**	**153,670**

ALTERNATIVES:

1. None. The contract has been awarded.

ATTACHMENT(S):

1) Attachment A – Bid Tabulation

Open Bookmarks

Indio Water Authority
Avenue 44 Emergency Repair Project - IWA No. WT4419
Bid Tabulation
April 16, 2019

Bid Item	Description	Quantity	Units	Engineer's Estimate Unit Price	Engineer's Estimate Total Cost	Granite Construction 36000 Monroe Street, Indio, CA 92203 Unit Price	Granite Construction Total Cost	Borden Excavating, Inc. 1014 2nd Street, Calimesa, CA 92320 Unit Price	Borden Excavating, Inc. Total Cost	T.E. Roberts, Inc 308 W. Katella Ave., Unit B, Orange CA 92867 Unit Price	T.E. Roberts, Inc Total Cost	Cora Constructors, Inc 75140 St. Charles Place Ste. A, Palm Desert, CA 92211 Unit Price	Cora Constructors, Inc Total Cost	Beeker Construction, Inc 49299 Cochran Dr., Indio, CA 92201 Unit Price	Beeker Construction, Inc Total Cost
1	Mobilization & Demobilization, Including Bonds, Insurance, Schedule of Values (Not to Exceed 10% of the Total Bid Price)	1	LS	$ 8,500.00	$8,500.00	$2,800.00	$2,800.00	$1,839.00	$1,839.00	$10,300.00	$10,300.00	$20,000.00	$20,000.00	$25,000.00	$25,000.00
2	Construction Staking	1	LS	$ 2,000.00	$2,000.00	$3,310.00	$3,310.00	$1,500.00	$1,500.00	$2,600.00	$2,600.00	$3,000.00	$3,000.00	$3,300.00	$3,300.00
3	Install 24" DIP Class 250 Blind Flange	5	EA	$ 1,000.00	$5,000.00	$3,400.00	$17,000.00	$3,500.00	$17,500.00	$5,500.00	$27,500.00	$4,700.00	$23,500.00	$6,800.00	$34,000.00
4	Surface Restoration and Trench Repair per City of Indio Std. Plan No. 172	105	LF	$ 110.00	$11,550.00	$140.00	$14,700.00	$165.00	$17,325.00	$254.00	$26,670.00	$325.00	$34,125.00	$290.00	$30,450.00
5	Contractor to Remove and Dispose of Existing 24" Water Main Between Station 21+35.00 and Station 21+75.00 under direct IWA Inspection	40	LF	$ 150.00	$6,000.00	$70.00	$2,800.00	$107.00	$4,280.00	$352.00	$14,080.00	$30.00	$1,200.00	$310.00	$12,400.00
6	Contractor to Furnish and Install 10 inch Class 350 Ductile Iron Pipe with Restrained Joints Encased in Polyethylene	72	LF	$ 160.00	$11,520.00	$400.00	$28,800.00	$330.00	$23,760.00	$183.00	$13,176.00	$250.00	$18,000.00	$229.00	$16,488.00
7	Contractor to Furnish and Install 10"x10" DIP Tee Connection to Existing ACP Pipe Per IWA Std. Plan No. 723	2	EA	$ 5,000.00	$10,000.00	$9,000.00	$18,000.00	$10,500.00	$21,000.00	$2,050.00	$4,100.00	$13,000.00	$26,000.00	$19,500.00	$39,000.00
8	Contractor to Furnish and Install 24"x10" DIP Tee	2	EA	$ 10,000.00	$20,000.00	$9,200.00	$18,400.00	$14,000.00	$28,000.00	$9,900.00	$19,800.00	$18,000.00	$36,000.00	$13,000.00	$26,000.00
9	Contractor to Furnish and Install 10 inch Gate Valve per Std. Plan 713A, 713B, 713C	4	EA	$ 4,000.00	$16,000.00	$3,320.00	$13,280.00	$4,700.00	$18,800.00	$7,000.00	$28,000.00	$5,000.00	$20,000.00	$6,000.00	$24,000.00
10	Contractor to Furnish and Install 24" Butterfly Valve and Valve Box, per Std. Plan 713B, 713D, 713E & 713F	2	EA	$ 15,000.00	$30,000.00	$10,000.00	$20,000.00	$12,250.00	$24,500.00	$13,800.00	$27,600.00	$12,500.00	$25,000.00	$17,000.00	$34,000.00
11	Contractor to Protect in Place Existing 24" DIP Water Main between stations 19+55.99 to 21+35.00 and stations 21+75.00 to 26+50.04 under direct IWA Inspection	610	EA	$ 14.00	$8,540.00	$1.00	$610.00	$1.00	$610.00	$4.00	$2,440.00	$1.00	$610.00	$14.00	$8,540.00
	Bid Total				**$129,110.00**		**$139,700.00**		**$169,114.00**		**$176,269.00**		**$207,435.00**		**$263,178.00**

The Bid Tabulation is correct in that it contains the unit prices as presented on the original bid proposal of each bidder.

Jesus Cervantes, P.E.
IWA Associate Water Engineer
April 16, 2019

Item 11k

SUBMITTAL TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: INDIO WATER AUTHORITY

SUBJECT: Award a contract in the amount of $508,340.00 to DDH Apple Valley Construction, Inc. for 12" Water Main – Hwy. 111, Arabia Street to Oasis Street, Project No. WT1119, establish a 10% contingency in the amount of $50,834.00 for unforeseen site conditions and allocate $10,000.00 for other project-related expenses as detailed in the Financial Analysis.

RECOMMENDED MOTION: Approve the plans and specifications and award a contract in the amount of $508,340.00 to DDH Apple Valley Construction Inc. for 12" Water Main – Hwy. 111, Arabia Street to Oasis Street, Project No. WT1119; authorize the Executive Director to approve change orders, if needed, up to 10% of the awarded bid amount, and allocate $10,000 for other project-related expenses as detailed in the Financial Analysis.

SUMMARY: This project is needed to supplement and enhance the existing water distribution system along Highway 111, from Arabia Street to Oasis Street, to provide improved fire protection and more reliable water service for existing, new, and expanded businesses along this route.

Mario Camacho, P.E.
Senior Water Engineer

FINANCIAL DATA	**Cost associated with this action:**	$569,174.00	**In current year budget:**	Yes
	Current F.Y. general fund cost:	$ 0.00	**Budget adjustment:**	No
	Future FY. cost:	$ 0.00	**For fiscal year:**	18/19

Source of funds: Capital Impact Fund/Improvements – Non. Bldg. **Account number:** 310-0000-400-62-10	**Current balance:** $1,136,330 **Balance remaining if approved:** $ 567,156

Legal Review:	**Department Head Review:**	**Financial Review:**
Roxanne Diaz IWA General Counsel	Gary F. Lewis IWA Interim General Manager	Brian M. Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S RECOMMENDATION:	**EXECUTIVE DIRECTOR'S SIGNATURE:**
APPROVE	Mark Scott

BACKGROUND: This project is to continue the water improvements on Highway 111, from Arabia Street to Oasis Street. Design plans and specifications for the Highway 111 Water Main Improvements, Arabia Street to Oasis Street, Project No. WT1119 have been completed for the construction of a 12-inch water main and appurtenances. Such plans and specifications conform with current professional engineering standards. The IWA's engineer has reviewed the design plans for the project and in his opinion the design is reasonable and meet professional engineering standards. Therefore, the IWA's Engineer recommends that the Board and City Council also approve the plan and specifications, which are on file with the Indio Water Authority.

Staff advertised the Notice Inviting Sealed Proposals in the Desert Sun on March 20, 2019 and March 27, 2019. This project was also advertised with Associated General Contractors of America, BidAmerica, ConstructConnect, Construction Bidboard, Dodge Data & Analytics and Southern California Builders Association. Bids were opened for this project on April 11, 2019.

DDH Apple Valley Construction Inc. submitted the lowest responsible bid in the amount of $508,340.00 (see Attachment A: Bid Tabulation). The Engineer's Estimate for this project was $445,800. Once the bid award is approved, IWA will immediately issue a Notice-to-Proceed (NTP) to the contractor. The project is anticipated to be completed within 45 working days of IWA issuing the NTP. Staff will conduct public outreach to minimize construction impact on neighboring businesses.

A second phase of work, involving sidewalk improvements within the same project area is scheduled to be completed by the Riverside County Economic Development Agency in the Fall of this year.

FINANCIAL ANALYSIS: Funds are budgeted in the FY 2018-19 Adopted IWA Operating and Capital Improvement Budget for this project. The project costs, including contingencies, are estimated as follows:

Contractor (Construction) Base Bid	$	508,340.00
Contingency Change Orders (if necessary) 10% of Base Bid.....	$	50,834.00
Contingency - Soils Testing (if necessary).....	$	10,000.00
Total Project Cost	**$**	**569,174.00**

ALTERNATIVES:
1. Reject all bids.
2. Request additional information

ATTACHMENT(S):
A. Bid Tabulation
B. Vicinity Map

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Attachment A

Indio Water Authority
Arabia to Oasis Water Improvement Project - IWA No. WT1119
Bid Tabulation- Sheet 1
April 16, 2019

				Engineer's Estimate		DDH Apple Valley Construction, Inc. 9312 Deep Creek Road, Apple Valley, CA 92308		T.E. Roberts, Inc. 306 W. Katella Ave, Unit B, Orange, CA 92867		Weka, Inc. 27075 5th Street, Highland, CA 92346		Borden Excavating, Inc. 1014 2nd Street, Colimesa, CA 92320	
Bid Item	Description	Quantity	Units	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost
1	Mobilization and demobilization, including bonds, insurance, schedule of values (not to exceed 7% of the total bid price)	1	LS	$35,000.00	$35,000.00	$37,000.00	$37,000.00	$24,150.00	$24,150.00	$57,276.00	$57,276.00	$17,254.00	$17,254.00
2	Construction Staking	1	LS	$5,000.00	$5,000.00	$7,200.00	$7,200.00	$3,500.00	$3,500.00	$2,000.00	$2,000.00	$2,500.00	$2,500.00
3	Traffic Control/Encroachment Permit	1	LS	$30,000.00	$30,000.00	$43,000.00	$43,000.00	$7,100.00	$7,100.00	$30,000.00	$30,000.00	$65,000.00	$65,000.00
4	Furnish and Install 12 inch Class 350 Ductile Iron Pipe Encased in Polyethylene Tubing	1,350	LF	$50.00	$67,500.00	$106.00	$143,100.00	$100.00	$135,000.00	$148.00	$199,800.00	$120.00	$162,000.00
5	Trenching, Backfilling and Compaction	1,350	LF	$28.00	$37,800.00	$21.00	$28,350.00	$45.00	$60,750.00	$80.00	$108,000.00	$5.00	$6,750.00
6	Asphalt & Concrete Removal & Replacement	1,350	LF	$45.00	$60,750.00	$23.60	$31,860.00	$61.00	$82,350.00	$61.00	$82,350.00	$104.00	$140,400.00
7	Furnish and Install 8 inch Gate Valve per Std. Plan 713A, 713B, 713C	1	EA	$3,000.00	$3,000.00	$2,180.00	$2,180.00	$2,700.00	$2,700.00	$2,500.00	$2,500.00	$3,500.00	$3,500.00
8	Furnish and Install 12 inch Butterfly Valve and Valve Box, per Std. Plan 713B, 713D, 713E & 713F	7	EA	$5,500.00	$38,500.00	$3,000.00	$21,000.00	$3,700.00	$25,900.00	$3,600.00	$25,200.00	$4,500.00	$31,500.00
9	Point of Connection at Station 243+88 +/-, 11.5' Rt.	1	LS	$7,000.00	$7,000.00	$9,200.00	$9,200.00	$11,900.00	$11,900.00	$5,800.00	$5,800.00	$22,000.00	$22,000.00
10	Point of Connection at Station 256+93 +/-, 11.5' Rt. per Detail A	1	EA	$10,000.00	$10,000.00	$13,600.00	$13,600.00	$15,300.00	$15,300.00	$18,000.00	$18,000.00	$22,000.00	$22,000.00
11	Remove and Replace Existing 6 inch Gate Valve and Valve Box per Std. Plan 713A, 713B,713C	1	EA	$6,500.00	$6,500.00	$6,800.00	$6,800.00	$7,100.00	$7,100.00	$5,000.00	$5,000.00	$5,000.00	$5,000.00
12	Remove Existing Hydrant, Valve and Valve Box, Install New Hydrant, Valve and Valve Box and New Hydrant Lead	3	EA	$8,500.00	$25,500.00	$11,200.00	$33,600.00	$13,600.00	$40,800.00	$10,500.00	$31,500.00	$16,000.00	$48,000.00
13	Furnish and Install New Hydrant per Std. Plan 704A	3	EA	$7,500.00	$22,500.00	$10,000.00	$30,000.00	$15,300.00	$45,900.00	$10,500.00	$31,500.00	$12,000.00	$36,000.00
14	Remove Existing Domestic Service and Meter Box. Replace w/1 inch Service per Std. Plan 700A	4	EA	$4,500.00	$18,000.00	$3,160.00	$12,640.00	$3,200.00	$12,800.00	$2,000.00	$8,000.00	$8,500.00	$34,000.00
15	Remove Existing Domestic Service and Meter Box. Replace w/2 inch Service per Std. Plan 700C	2	EA	$5,000.00	$10,000.00	$7,300.00	$14,600.00	$5,000.00	$10,000.00	$3,500.00	$7,000.00	$9,000.00	$18,000.00
16	Furnish and Install Combination Air Vac and Air Release Assembly per Std. Plan 705A & 705B	1	EA	$4,500.00	$4,500.00	$8,200.00	$8,200.00	$12,700.00	$12,700.00	$5,800.00	$5,800.00	$7,000.00	$7,000.00
17	Pipe Testing	1	LS	$3,750.00	$3,750.00	$3,860.00	$3,860.00	$3,500.00	$3,500.00	$2,025.00	$2,025.00	$3,000.00	$3,000.00
18	Pipe Disinfection & Disposal of Water	1	LS	$3,000.00	$3,000.00	$4,600.00	$4,600.00	$3,500.00	$3,500.00	$2,025.00	$2,025.00	$5,000.00	$5,000.00
19	Replace Existing 12" BFV W/New 12" BFV STA 257 + (17) (+/-)	1	EA	$4,000.00	$4,000.00	$4,400.00	$4,400.00	$8,200.00	$8,200.00	$9,000.00	$9,000.00	$6,500.00	$6,500.00
20	Abandon Existing 1" service line	1	EA	$1,000.00	$1,000.00	$3,070.00	$3,070.00	$2,900.00	$2,900.00	$1,300.00	$1,300.00	$1,500.00	$1,500.00
21	NDPES BMPS	1	LS	$4,000.00	$4,000.00	$8,700.00	$8,700.00	$7,100.00	$7,100.00	$3,500.00	$3,500.00	$1,000.00	$1,000.00
22	Provide Surveying Points and Equipment	1	LS	$20,000.00	$20,000.00	$23,000.00	$23,000.00	$3,500.00	$3,500.00	$1,800.00	$1,800.00	$2,500.00	$2,500.00
23	Furnish and Install 1" Reduced Pressure Backflow Assembly Per Std. Plan 702A	2	EA	$5,000.00	$10,000.00	$4,340.00	$8,680.00	$6,600.00	$13,200.00	$1,550.00	$3,100.00	$3,500.00	$7,000.00
24	Furnish and Install 2" Reduced Pressure Backflow Assembly Per Std. Plan 702A	1	EA	$5,500.00	$5,500.00	$5,000.00	$5,000.00	$7,500.00	$7,500.00	$4,200.00	$4,200.00	$4,500.00	$4,500.00
25	Remove and Replace Traffic Loops	13	EA	$13,000.00	$13,000.00	$4,700.00	$4,700.00	$3,500.00	$3,500.00	$3,000.00	$3,000.00	$3,500.00	$3,500.00
	Bid Total				$445,800.00		$508,340.00		$550,650.00		$649,876.00		$655,404.00

The bids tabulated herein were opened and read aloud at 2:00 PM, local time on April 11, 2019, at the Indio City Hall.
The Bid Tabulation is correct in that it contains the unit prices as presented on the original bid proposal of each bidder.

Jesus Servantes, P.E.
IWA Associate Water Engineer
April 16, 2019

Open Bookmarks

Indio Water Authority
Arabia to Oasis Water Improvement Project - IWA No. WT1119
Bid Tabulation- Sheet 2
April 16, 2019

Bid Item	Description	Quantity	Units	Engineer's Estimate		Utah Pacific Construction Company, Inc. 1014 2nd Street, Calimesa, CA 92320		Hemet Manufacturing, Inc. dba Genesis Construction P.O. Box 5368 Hemet, CA 92544		Dominguez General Engineering, Inc. 11096 Pipeline Ave, Pomona , CA 91766		Kirtley Construction, Inc. dba TK Construction P.O. Box 9608, San Bernardino, CA 92427	
				Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost	Sum of Labor & Material	Total Cost
1	Mobilization and demobilization, including bonds, insurance, schedule of values (not to exceed 7% of the total bid price)	1	LS	$35,000.00	$35,000.00	$60,000.00	$60,000.00	$34,500.00	$34,500.00	$50,000.00	$50,000.00	$43,500.00	$43,500.00
2	Construction Staking	1	LS	$5,000.00	$5,000.00	$2,000.00	$2,000.00	$9,642.00	$9,642.00	$20,000.00	$20,000.00	$7,500.00	$7,500.00
3	Traffic Control/Encroachment Permit	1	LS	$30,000.00	$30,000.00	$25,000.00	$25,000.00	$43,585.00	$43,585.00	$50,000.00	$50,000.00	$107,000.00	$107,000.00
4	Furnish and Install 12 inch Class 350 Ductile Iron Pipe Encased in Polyethylene Tubing	1,350	LF	$50.00	$67,500.00	$178.00	$240,300.00	$87.00	$117,450.00	$200.00	$270,000.00	$39.00	$52,650.00
5	Trenching, Backfilling and Compaction	1,350	LF	$28.00	$37,800.00	$56.00	$75,600.00	$34.00	$45,900.00	$20.00	$27,000.00	$168.00	$226,800.00
6	Asphalt & Concrete Removal & Replacement	1,350	LF	$45.00	$60,750.00	$50.00	$67,500.00	$74.00	$99,900.00	$50.00	$67,500.00	$108.00	$145,800.00
7	Furnish and Install 8 inch Gate Valve per Std. Plan 713A, 713B, 713C	1	EA	$3,000.00	$3,000.00	$3,000.00	$3,000.00	$13,125.00	$13,125.00	$4,000.00	$4,000.00	$2,700.00	$2,700.00
8	Furnish and Install 12 inch Butterfly Valve and Valve Box, per Std. Plan 713B, 713D, 713E & 713F	7	EA	$5,500.00	$38,500.00	$3,000.00	$21,000.00	$5,831.00	$40,817.00	$5,000.00	$35,000.00	$3,400.00	$23,800.00
9	Point of Connection at Station 243+88 +/-, 11.5' Rt.	1	LS	$7,000.00	$7,000.00	$7,300.00	$7,300.00	$15,925.00	$15,925.00	$10,000.00	$10,000.00	$2,800.00	$2,800.00
10	Point of Connection at Station 256+93 +/-, 11.5' Rt. per Detail A	1	EA	$10,000.00	$10,000.00	$9,000.00	$9,000.00	$18,734.00	$18,734.00	$20,000.00	$20,000.00	$30,500.00	$30,500.00
11	Remove and Replace Existing 6 inch Gate Valve and Valve Box per Std. Plan 713A, 713B,713C	1	EA	$6,500.00	$6,500.00	$10,000.00	$10,000.00	$13,376.00	$13,376.00	$5,000.00	$5,000.00	$3,000.00	$3,000.00
12	Remove Existing Hydrant, Valve and Valve Box, Install New Hydrant, Valve and Valve Box and New Hydrant Lead	3	EA	$8,500.00	$25,500.00	$10,000.00	$30,000.00	$13,843.00	$41,529.00	$10,000.00	$30,000.00	$8,000.00	$24,000.00
13	Furnish and Install New Hydrant per Std. Plan 704A	3	EA	$7,500.00	$22,500.00	$10,000.00	$30,000.00	$12,989.00	$38,967.00	$15,000.00	$45,000.00	$10,300.00	$30,900.00
14	Remove Existing Domestic Service and Meter Box. Replace w/1 inch Service per Std. Plan 700A	4	EA	$4,500.00	$18,000.00	$2,000.00	$8,000.00	$5,670.00	$22,680.00	$5,000.00	$20,000.00	$3,500.00	$14,000.00
15	Remove Existing Domestic Service and Meter Box. Replace w/2 inch Service per Std. Plan 700C	2	EA	$5,000.00	$10,000.00	$3,000.00	$6,000.00	$9,339.00	$18,678.00	$10,000.00	$20,000.00	$4,500.00	$9,000.00
16	Furnish and Install Combination Air Vac and Air Release Assembly per Std. Plan 705A & 705B	1	EA	$4,500.00	$4,500.00	$4,000.00	$4,000.00	$17,271.00	$17,271.00	$8,000.00	$8,000.00	$5,200.00	$5,200.00
17	Pipe Testing	1	LS	$3,750.00	$3,750.00	$6,000.00	$6,000.00	$11,482.00	$11,482.00	$10,000.00	$10,000.00	$3,500.00	$3,500.00
18	Pipe Disinfection & Disposal of Water	1	LS	$3,000.00	$3,000.00	$9,000.00	$9,000.00	$14,357.00	$14,357.00	$10,000.00	$10,000.00	$12,000.00	$12,000.00
19	Replace Existing 12" BFV W/New 12" BFV STA 257 + (17) (+/-)	1	EA	$4,000.00	$4,000.00	$10,000.00	$10,000.00	$17,954.00	$17,954.00	$6,000.00	$6,000.00	$11,200.00	$11,200.00
20	Abandon Existing 1" service line	1	EA	$1,000.00	$1,000.00	$500.00	$500.00	$10,111.00	$10,111.00	$2,000.00	$2,000.00	$950.00	$950.00
21	NOPES BMPS	1	LS	$4,000.00	$4,000.00	$10,000.00	$10,000.00	$11,436.00	$11,436.00	$10,000.00	$10,000.00	$2,500.00	$2,500.00
22	Provide Surveying Points and Equipment	1	LS	$20,000.00	$20,000.00	$20,000.00	$20,000.00	$11,376.00	$11,376.00	$3,000.00	$3,000.00	$5,800.00	$5,800.00
23	Furnish and Install 1" Reduced Pressure Backflow Assembly Per Std. Plan 702A	2	EA	$5,000.00	$10,000.00	$1,400.00	$2,800.00	$5,590.00	$11,180.00	$3,000.00	$6,000.00	$1,600.00	$3,200.00
24	Furnish and Install 2" Reduced Pressure Backflow Assembly Per Std. Plan 702A	1	EA	$5,500.00	$5,500.00	$2,000.00	$2,000.00	$11,198.00	$11,198.00	$5,000.00	$5,000.00	$5,000.00	$5,000.00
25	Remove and Replace Traffic Loops	13	EA	$13,000.00	$13,000.00	$5,000.00	$5,000.00	$10,111.00	$10,111.00	$5,000.00	$5,000.00	$9,000.00	$9,000.00
	Bid Total				**$445,800.00**		**$684,000.00**		**$701,284.00**		**$738,500.00**		**$782,300.00**

The bids tabulated herein were opened and read aloud at 2:00 PM, local time on April 11, 2019, at the Indio City Hall.
The Bid Tabulation is correct in that it contains the unit prices as presented on the original bid proposal of each bidder.

Jesus Cervantes, P.E.
IWA Associate Water Engineer
April 16, 2019

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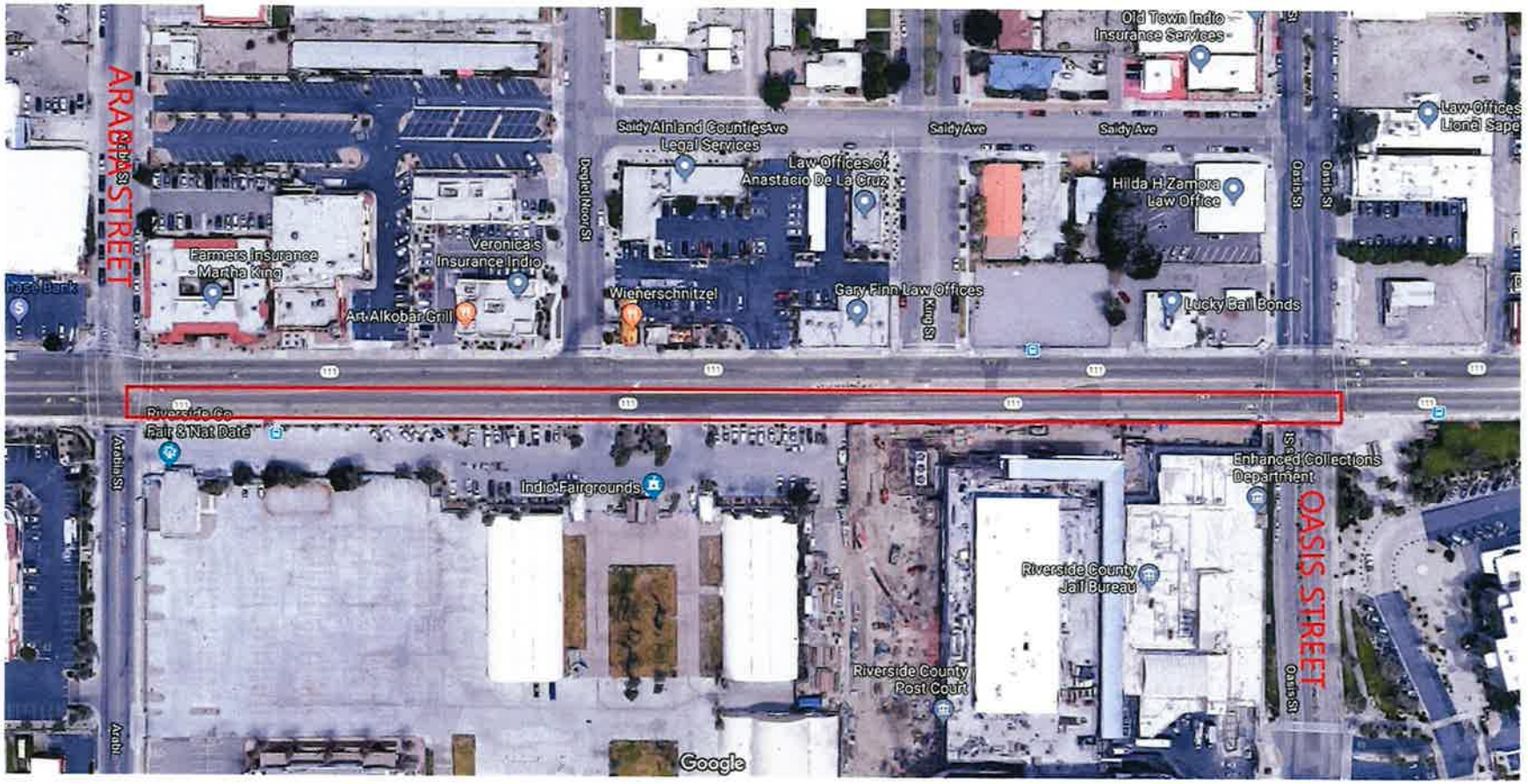
Attachment B: Vicinity Map

Description: On Highway 111, between Arabia Street and Oasis Street



Project Site

SUBMITTED TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA May 1, 2019

Indio Water Authority
Your Water. Our Responsibility.

CITY OF INDIO

FROM: INDIO WATER AUTHORITY

SUBJECT: Indio Subbasin Annual Report for Water Year 2017-2018 in accordance with the Sustainable Groundwater Management Act (SGMA) of 2014.

RECOMMENDED MOTION: That the City Council/IWA Board receive and file the Indio Subbasin Annual Report for Water Year 2017-2018.

SUMMARY: This is an informational item providing an update on the conditions of the groundwater supply in the Indio (Whitewater River) Subbasin for Water Year 2017-2018 (October 1, 2017 – September 30, 2018). In accordance with the Sustainable Groundwater Management Act (SGMA) of 2014, the Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA) became groundwater sustainability agencies (GSA) over portions of the Indio Subbasin within their service areas. The four agencies signed a Memorandum of Understanding in 2016 for cooperative governance of the subbasin and submitted a single Alternative Groundwater Sustainability Plan (GSP) to the California Department of Water Resources (DWR) in December 2016. Annual reports are due to DWR on April 1 of each year. The first annual report was submitted to DWR on March 31, 2018. The four agencies finalized and submitted the second annual report to DWR on March 26, 2019; the report is hereby attached for the City Council/IWA Board to receive and file.

Prepared By: Adekunle Ojo
Principal Management Analyst

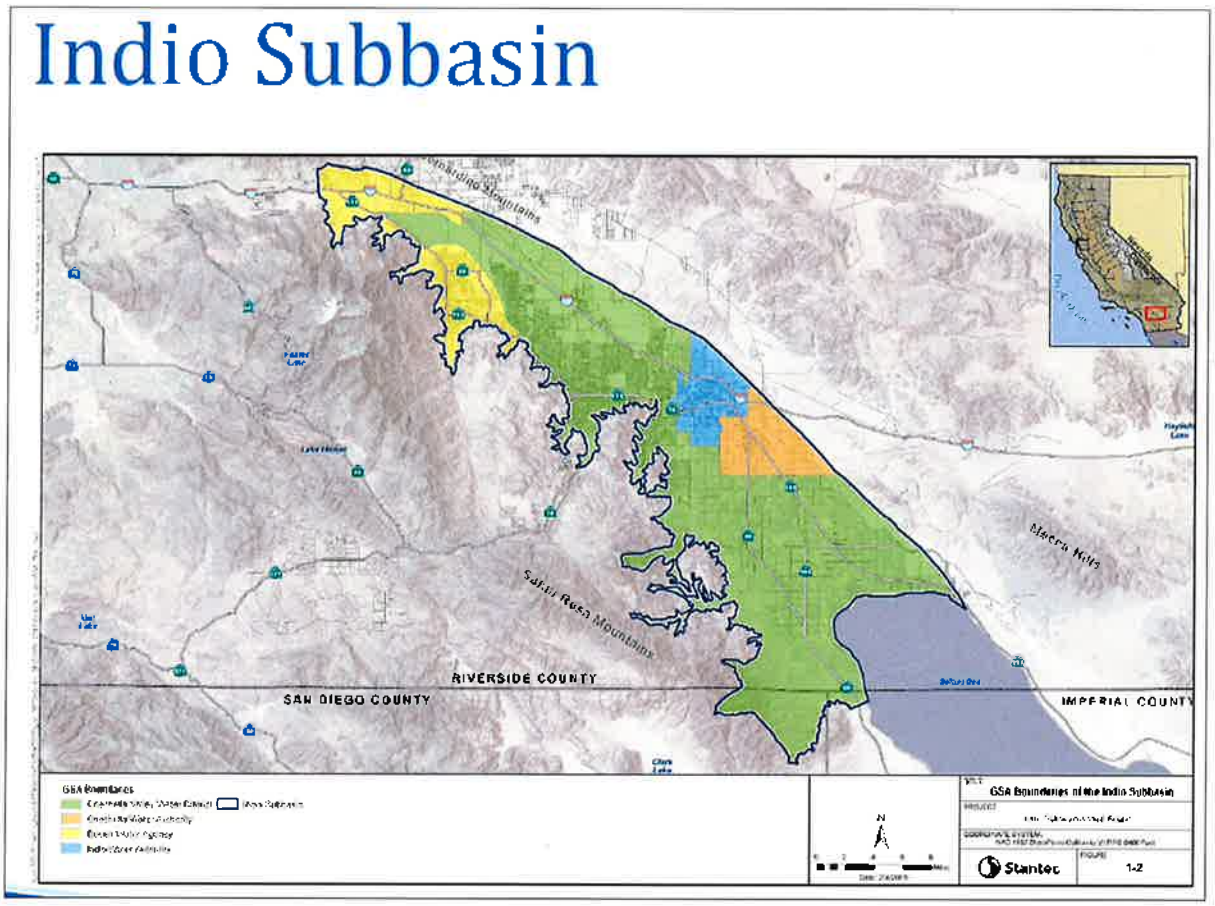
FINANCIAL DATA				
	Cost associated with this action:	$ 0	In current year budget:	N/A
	Current F.Y. general fund cost:	$ 0	Budget adjustment:	N/A
	Future FY. cost:	$ 0	For fiscal year:	N/A

Source of funds:	N/A	Current account balance:	N/A
Account number:	N/A	Balance remaining if approved:	N/A

Legal Review:	Department Head Review:	Financial Review:
N/A		N/A
Roxanne Diaz General Counsel	Gary F. Lewis Interim General Manager	Brian M. Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S/CITY MANAGER'S RECOMMENDATION:	EXECUTIVE DIRECTOR'S/CITY MANAGER'S SIGNATURE:
RECEIVE & FILE	Mark Scott

BACKGROUND: The Sustainable Groundwater Management Act (SGMA) of 2014 established a process for local agencies to develop an Alternative in lieu of a Groundwater Sustainability Plan (GSP) for evaluation by the California Department of Water Resources. An Alternative is required to be submitted to DWR for review no later than January 1, 2017 and every 5 years thereafter; the Indio Subbasin Alternative GSP was submitted to DWR in December 2016. Starting in 2018, annual reports are due to DWR on April 1 of each year; the four groundwater sustainability agencies (GSA's) have prepared and submitted the two annual reports to DWR accordingly.



The Indio Subbasin Annual Report describes groundwater extraction and use, levels, change in groundwater storage, surface water supply available for groundwater recharge in the basin for Water Year ("WY") 2017-2018 (October 1, 2017 to September 30, 2018). The summary of the required information is provided below:

- **Groundwater elevation data:** The groundwater replenishment program, combined with other water management elements, including source substitution and water conservation measures, are helping to control groundwater overdraft, restore water levels, and return artesian conditions within the eastern portion of the subbasin. This helps reduce land subsidence and saline water intrusion from the Salton Sea.
- **Surface Water Use:** For Water Year 2017-2018, measured precipitation from 12 stations in the Coachella Valley shows an average yearly total of 2.89 inches, or about 60% of normal precipitation. In comparison, the annual average precipitation for these stations for Water Year 2016-2017 was 9.81 inches.

- **Groundwater extraction and total water use:** During Water Year 2017-2018, 288,308 acre-feet ("AF") of groundwater was extracted, an increase of 8.3 percent compared to Water Year 2016-2017. Of this total amount, groundwater production of 284,508 AF was reported from 563 wells and 3,800 AF was estimated for minimal pumpers and tribal use that do not report production to CVWD and DWA. In total, 594,339 AF of water was delivered for direct use within the subbasin and 278,654 AF was delivered for aquifer storage, for a total of 872,993 acre-feet.
- **Change in groundwater storage:** The annual change in groundwater storage represents the annual difference between inflows and outflows in the Indio Subbasin. During wet years or periods of high artificial recharge, the change in storage is positive (water in storage increases). In dry years or periods of high pumping, the change in storage is often negative (storage decreases). Because of the large amount of recharge, the change in storage for the Indio Subbasin is a positive 151,659 AF for Water Year 2017-2018.
- **Progress toward implementing the GSP:** The Indio Subbasin groundwater sustainability agencies continue to implement the goals and programs of the 2010 Coachella Valley Water Management Plan. Groundwater production remained more than 25 percent less than the historical highs in the early 2000s. The results of the on-going basin monitoring program demonstrate the significant progress being made toward the goal of eliminating groundwater overdraft. Since 2009, the Indio Subbasin has gained over 650,000 AF of groundwater in storage.

Data for the annual report is sourced from 311 monitoring wells throughout the subbasin. The completion of the Mid-Valley Replenishment Facility in Palm Desert will help increase groundwater levels in the mid-valley in coming years. Water recycling is essential to the sustainability of the subbasin and all GSA's will continue to work on developing or expanding the use of non-potable water. Likewise, conservation pricing and rebates help in reducing demand and protecting water quality. The Indio Subbasin GSA's are on track to meet SGMA's sustainable management criteria and significant progress is being made towards achieving a positive 20-year average.

The Indio Subbasin groundwater sustainability agencies (GSA's) successfully worked with DWR during Water Year 2017-2018 to revise the 2018 Basin Prioritization; the draft high-priority designation for the Indio Subbasin was revised to a final medium-priority designation. The decision on the Alternative Plan submitted is expected by June 2019 and is expected to trigger either:

- An assessment and update of the Alternative Plan by 2022, or
- Development of a new Groundwater Sustainability Plan by 2022

The Alternative Groundwater Sustainability Plan, annual reports, and other documents related to the governance and management of the Indio Subbasin are available for public review through the DWR SGMA portal at https://sgma.water.ca.gov/portal/alternative/print/23

FINANCIAL ANALYSIS: Not Applicable

ALTERNATIVES: Not Applicable

ATTACHMENTS:

- A – Indio Subbasin Annual Report for Water Year 2017-2018
- B – Comments from the Bureau of Indian Affairs and Agua Caliente Band of Cahuilla Indians, and Responses

Attachment A

Return to Agenda

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PREPARED FOR

COACHELLA VALLEY WATER DISTRICT
COACHELLA WATER AUTHORITY
DESERT WATER AGENCY
INDIO WATER AUTHORITY

INDIO SUBBASIN ANNUAL REPORT FOR WATER YEAR 2017-2018

March 2019

Report

Stantec

Return to Agenda

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Alternative Annual Report Elements Guide - Indio Subbasin Annual Report for Water Year 2017-2018

California Code of Regulations - GSP Regulation Sections	*Alternative Elements*	Document which *attachment(s) contains the applicable alternative element.*	*Document which section(s), page number(s), or briefly describe why that Alternative element does not apply to the entity.*
Article 7	**Annual Reports and Periodic Evaluations by the Agency**		
§ 356.2	**Annual Reports**		
	Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan. The annual report shall include the following components for the preceding water year:		
	(a) General information, including an executive summary and a location map depicting the basin covered by the report.	Annual Report	An executive summary is provided as the first section of the Annual Report. Maps depicting the basin are shown in Figures 1-1 and 1-2.
	(b) A detailed description and graphical representation of the following conditions of the basin managed in the Plan:		
	(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:		
	(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.	Annual Report	A groundwater contour map is provided in Figure 3-2 for water year 2017 - 2018. Seasonal changes are generally not significant in this large basin, as shown in hydrographs provided in Figures 3-3, 3-4, and Appendix A.
	(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.	Annual Report	Representative hydrographs are provided in Figures 3-3, 3-4, and Appendix A. Water year type is not provided because the basin is not directly affected by runoff conditions in Sacramento and San Joaquin River, but instead receives water from the Colorado River.
	(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.	Annual Report	Groundwater extraction by water use section is described in Section 4 of the annual report. Extractions, methods of measurement, and accuracy of measurement are summarized in Table 4-1. A map of groundwater extractions is provided in Figure 4-1.
	(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.	Annual Report	Surface water supply and use is described in Section 5. Direct use of surface water is summarized in Table 5-3.
	(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.	Annual Report	Total water use is described in Section 6. Table 6-1 lists water sources for each water use sector, and provides the method of measurement and the accuracy of the measurement.
	(5) Change in groundwater in storage shall include the following:		
	(A) Change in groundwater in storage maps for each principal aquifer in the basin.	Annual Report	There is one principal aquifer for the Indio Subbasin. Change in storage is described in Section 7, and summarized in Figure 7-1.
	(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.	Annual Report	Historical annual change in groundwater storage since 1970 is depicted in graphical form in Figure 7-2.
	(c) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.	Annual Report	A description of progress toward implementing the plan is provided in Section 8. A detailed status for WY 2017-2018 is provided in Table 8-2.

Stantec

March 18, 2019

Prepared for:

Coachella Valley Water District
Coachella Water Authority
Desert Water Agency
Indio Water Authority

Prepared by:

Stantec Consulting Services, Inc.
In association with Krieger & Stewart, Inc.
David J. Ringel, Consulting Engineer

PROFESSIONAL GEOLOGIST
Expires
5-31-19
VICTOR E. HARRIS
No. 348
CERTIFIED
HYDROGEOLOGIST
STATE OF CALIFORNIA

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Acronyms and Abbreviations

Acronym	Definition
AF	Acre-Feet
AFY	Acre-Feet per Year
AOB	Area of Benefit
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CDPH	California Department of Public Health
CIB	Capital Improvement Budget
COTD	College of the Desert
CRA	Colorado River Aqueduct
CVCC	Coachella Valley Conservation Commission
CVSC	Coachella Valley Stormwater Channel
CVWD	Coachella Valley Water District
CVWMP	Coachella Valley Water Management Plan
CWA	Coachella Water Authority
CWC	California Water Code
DWA	Desert Water Agency
DWR	California Department of Water Resources
ET	Evapotranspiration
ETAF	Evapotranspiration Adjustment Factor
˚F	Degrees Fahrenheit
ft	Feet
GIPSY	GNSS-Inferred Positioning System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GRF	Groundwater Replenishment Facility
GRP	Groundwater Replenishment Program
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan

Acronym	Definition
ID	Improvement District
IID	Imperial Irrigation District
InSar	Interferometric Synthetic Aperture Radar
IRWM	Integrated Regional Water Management
IWA	Indio Water Authority
mm	Millimeters
MSWD	Mission Springs Water District
MVP	Mid-Valley Pipeline
MWD	Metropolitan Water District of Southern California
MWH	MWH Americas, Inc.
OASIS	Orbit Analysis Simulation Software
PSAP	Palm Springs Airport
PVID	Palo Verde Irrigation District
QSA	Quantification Settlement Agreement
RWQCB	Regional Water Quality Control Board
SGMA	Sustainable Groundwater Management Act
SS/TS	Source of Supply & Treatment Study
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TEL GRF	Thomas E. Levy Groundwater Replenishment Facility
TMAP	Thermal Airport
USBR	United States Bureau of Reclamation
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VSD	Valley Sanitary District
WMP	Water Management Plan
WRP	Water Reclamation Plant

Acronym	Definition
WSA	Water Supply Assessments
WSV	Water Supply Verification
WY	Water Year

EXECUTIVE SUMMARY

The California Legislature enacted the Sustainable Groundwater Management Act (SGMA) which was intended to provide a framework for the sustainable management of groundwater resources throughout California, primarily by local authorities. The SGMA required local authorities to form local Groundwater Sustainability Agencies (GSAs) by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based Groundwater Sustainability Plans (GSPs) tailored to their regional economic and environmental needs.

The California Department of Water Resources (DWR) developed emergency regulations that defined the content of GSPs and Alternatives to a GSP (Alternative Plans), as well as the annual reporting requirements by each GSA. The Indio Subbasin Annual Report for Water 2017-2018 (Annual Report) is prepared in response to Section 356.2 of GSP Emergency Regulations, which requires the submission of an annual report to the DWR. This is the second SGMA Annual Report for the Indio Subbasin, designated the Basin No. 7-21.01 in DWR Bulletin No. 118 (2003).

ES.1 BACKGROUND

Presently, four water agencies have been designated as “Exclusive” GSAs to manage the Indio Subbasin of the Coachella Valley Groundwater Basin within their respective service areas as shown on **Figure 1-2**:

- Coachella Valley Water District (CVWD)
- Coachella Water Authority (CWA)
- Desert Water Agency (DWA)
- Indio Water Authority (IWA)

SGMA recognizes the efforts many agencies have made in developing and implementing groundwater management by allowing existing groundwater management plans to be submitted as an Alternative to preparing a GSP. The original planning document for the Coachella Valley Groundwater Basin is the 2002 Coachella Valley Water Management Plan (CVWMP). The 2002 CVWMP was updated in 2010 and adopted in 2012. The Final Subsequent Program Environmental Impact Report Coachella Valley Water Management Plan Update (January 2012) provides important information on the Coachella Valley environment, the impacts of the original 2002 CVWMP and the 2010 CVWMP Update, and mitigation measures.

In December 2016, CVWD, DWA, CWA, and IWA collaboratively submitted the 2010 CVWMP Update as an Alternative Plan with an associated Bridge Document for the Indio Subbasin to DWR for review and evaluation. In accordance with SGMA GSP Emergency Regulations, annual reports are required to be submitted to DWR on April 1 of each year, following adoption of a GSP or submission of an Alternative Plan. DWR required GSAs that submitted Alternative Plans to submit their first annual reports by April 1, 2018 and every year thereafter. The GSAs submitted their first annual report on March 31, 2018. This Annual Report has been prepared in accordance with the SGMA GSP Emergency Regulations using information from Water Year (WY) 2017-2018 (October 1, 2017 through September 30, 2018).

The annual report is required to present the following information:

- Groundwater elevation data
- Aggregated data identifying groundwater extraction
- Surface water supply used for or available for groundwater recharge or in-lieu use
- Total water use
- Change in groundwater storage
- Progress toward implementing the GSP or Alternative Plan

This Annual Report contains a discussion of the Coachella Valley Groundwater Basin followed by sections describing each of the SGMA required annual report elements.

ES.2 COACHELLA VALLEY GROUNDWATER BASIN AND SUBBASINS

The Coachella Valley is a desert valley in Riverside County, California that extends approximately 50 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea. The Coachella Valley Groundwater Basin underlies the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley Groundwater Basin is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains.

Although there is groundwater flow throughout the groundwater basin, fault barriers, constrictions in the groundwater basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by the DWR in Bulletin 108 (1964) and Bulletin 118 (2003), and also by the United States Geological Survey (USGS) in 1971.

The subbasins of the Coachella Valley Groundwater Basin are the Indio[1], Mission Creek, Desert Hot Springs and San Gorgonio Pass Subbasins. The subbasins delineate areas underlain by formations which readily yield stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies as shown in **Figure 1-1.**

The boundaries between the subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following characteristics: type of water-bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides, and surface drainage divides.

1 The Indio Subbasin is also identified as the Whitewater River Subbasin by the USGS. However, the subbasin is identified as the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subbasin as the Indio Subbasin.

ES.3 GROUNDWATER ELEVATION AND MONITORING WELLS

In response to 2010 legislation, DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. Monitoring wells are selected so they can provide a good representation of groundwater elevations within each agency's service areas. As shown in **Table ES-1**, the four GSAs and Mission Springs Water District monitored a total of 53 CASGEM monitoring wells in the Indio Subbasin. The GSAs also monitored water levels in 258 additional wells, for a total of 311 wells monitored in the Indio Subbasin. **Figure 3-1** shows the monitoring well locations in the Indio Subbasin.

Table ES-1 WY 2017-2018 Wells Measured for Water Levels in the Indio Subbasin

Monitoring Agency	CASGEM Wells Monitored	Additional Wells Monitored	Total Wells Monitored
Coachella Valley Water District[1]	39	226	265
Coachella Water Authority[2]	1	0	1
Desert Water Agency[3]	4	31	35
Indio Water Authority[4]	6	1	7
Mission Springs Water District[5]	3	0	3
Total Wells Monitored	**53**	**258**	**311**

Notes:

1 CVWD monitors one CASGEM well (06S06E17K01S) that is considered to be in the Indio Subbasin but is just outside the Subbasin's boundary as defined in DWR Bulletin 118.
2 CVWD and CWA both recorded measurements from the CWA CASGEM well during WY 2017-2018.
3 DWA has three additional CASGEM wells that were not measured during WY 2017-2018.
4 IWA provided a single reading for one non-CASGEM well during WY 2017-2018.
5 MSWD CASGEM well (03S03E08M01S) is physically located in the Indio Subbasin and is also part of the San Gorgonio Pass Subbasin monitoring program.

Historical water level change in the Indio Subbasin, and conditions producing those changes, have been extensively described by the USGS and DWR. The groundwater elevations presented in this Annual Report represent groundwater conditions in the principal groundwater-producing aquifer of the Indio Subbasin. Average groundwater levels are presented because the Indio Subbasin generally does not exhibit strong seasonal trends.

Figure 3-2 presents the average groundwater elevations in the Indio Subbasin based on WY 2017-2018 monitoring data. **Figure 3-3** and **Figure 3-4** present hydrographs for a selection of eleven (11) representative wells separated by the western and eastern portions of the Indio Subbasin, to provide some context regarding the long-term changes in the water levels of the aquifer. The hydrographs are also shown individually in larger format in **Appendix A**.

Figure 7-4 and **Figure 7-5** present 1-year and 10-year change in groundwater elevation, respectively, in the Indio Subbasin. **Figure 7-4** shows significant increases in groundwater elevations near the Whitewater River Groundwater Replenishment Facility (Whitewater River GRF) in response to the large

replenishment deliveries that occurred during WY 2017-2018, and slight decreases in groundwater elevations in the area around the Thomas E. Levy Groundwater Replenishment Facility (TEL GRF) due to a decrease in the annual replenishment quantity there. The decrease in replenishment deliveries at the TEL GRF facility is also reflected in the difference between the 1-year change for WY 2017-2018 and that for WY 2016-2017, which showed more stable water level elevations throughout the eastern portion of the Indio Subbasin. **Figure 7-5** shows significant increases in groundwater elevations across the Indio Subbasin, with the exception of portions of the middle zone of the Indio Subbasin, over the past ten years due to significant replenishment deliveries and decreased pumping.

ES.4 GROUNDWATER EXTRACTION

Total groundwater production during WY 2017-2018 was 288,308 acre-feet (AF) as shown in **Table ES-2**, an increase of 8.3 percent compared to WY 2016-2017. Of this total amount, groundwater production of 284,508 AF was reported from 563 wells. Groundwater production of 3,800 AF was estimated for minimal pumpers and tribal use that do not report production to CVWD and DWA. Because CVWD and DWA are authorized to collect replenishment assessments from groundwater producers, their respective enabling legislations mandate the installation of water meters on all wells producing more than 25 acre-feet per year (AFY) for CVWD and 10 AFY for DWA. As a result, CVWD and DWA groundwater extraction monitoring data is the most comprehensive and accurate for the Indio Subbasin. Groundwater is the principal source of water for urban water use, representing more than 80 percent of groundwater production from the Indio Subbasin.

Table ES-2 WY 2017-2018 Groundwater Extractions by Water Use Sector in the Indio Subbasin

Water Use Sector	Groundwater Extractions (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	51,012	100% metered	±2%
Industrial[2]	1,522	27% metered 73% estimated	±2% ±50%
Urban[3]	234,274	99% metered 1% estimated	±2% ±50%
Environmental	0	Not applicable	--
Undetermined[4]	1,500	100% estimated	±50%
Total Production	**288,308**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes unreported groundwater production for industrial use on tribal land that is estimated to be 1,100 AFY.
3 Includes municipal and recreational uses. Total includes 1,211 AF of metered production to supply windbreaks along the railroad and unreported groundwater production for recreational use on tribal land estimated to be 1,200 AFY.
4 Estimated production by minimal pumpers and tribal use who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).

ES.5 SURFACE WATER USE

Historically, average annual precipitation in the Coachella Valley varies from 3 to 6 inches on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR 1964; NWS 2019). The locations of the precipitation and streamflow monitoring stations in the Indio Subbasin area are presented on the map in **Figure 2-1**. In WY 2017-2018, measured precipitation from 12 stations in the Coachella Valley shows an average yearly total of 2.89 inches, or about 60 percent of normal precipitation. In comparison, the annual average precipitation for these stations during WY 2016-2017 was 9.81 inches. Precipitation falling as rain and snow on the local mountain watersheds generates runoff that can be captured for direct uses or for groundwater replenishment. A portion of the runoff is diverted for agricultural and municipal use and the balance naturally replenishes the groundwater basin.

Imported water deliveries from the State Water Project (SWP) exchange and Coachella Canal to the Indio Subbasin during WY 2017-2018 total 573,507 AF for agricultural, urban, and aquifer recharge uses. Agricultural and aquifer recharge accounted for approximately 45% and 49% of the imported water use, respectively. The remaining 6% of imported water was for urban use.

ES.5.1 Direct Use of Local Surface Water

DWA operates stream diversion facilities on several creeks and captures subsurface flow from Whitewater River Canyon. Of the 1,797 AF of surface water diversion, approximately 66% is for urban (including municipal and recreational) use and the remainder for agricultural use.

ES.5.2 Colorado River Water

Colorado River water has been a major source of supply for the Coachella Valley with the completion of the Coachella Canal in 1949. The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. During WY 2017-2018, CVWD took delivery of 341,567 AF of Colorado River water at Imperial Dam and delivered 325,695 AF for uses in the Coachella Valley. Approximately 80 percent of the delivered Colorado River water was for agricultural use, about 11 percent was delivered for urban uses, and about 9 percent for groundwater replenishment at the TEL GRF.

ES.5.3 State Water Project Water

CVWD and DWA have contracts with DWR for SWP water with a combined Table A Amount of 194,100 AFY. There are no physical facilities to deliver SWP water to the Coachella Valley. CVWD's and DWA's Table A water is exchanged with the Metropolitan Water District of Southern California (MWD) for a like amount of Colorado River water from MWD's Colorado River Aqueduct (CRA). SWP Exchange water has been used to recharge the Indio Subbasin at the Whitewater River GRF since 1973 and the Mission Creek Subbasin since 2002. MWD may also make advance deliveries of SWP Exchange water to CVWD and DWA.

In WY 2017-2018, CVWD and DWA received 255,707 AF of SWP Exchange water from MWD. Of this amount, 247,812 AF was delivered to the Whitewater River GRF, with the remaining 7,895 AF delivered

to the Mission Creek GRF. Of the total amount recharged, MWD added 43,738 AF to its Advanced Delivery account which had a positive balance of 302,959 AF as of September 30, 2018.

ES.5.4 Recycled Water

There are three Water Reclamation Plants (WRPs) that produce recycled water for non-potable reuse in the Indio Subbasin, primarily for golf course and greenbelt irrigation. Recycled water use during WY 2017-2018 for the Indio Subbasin totaled 14,188 AF.

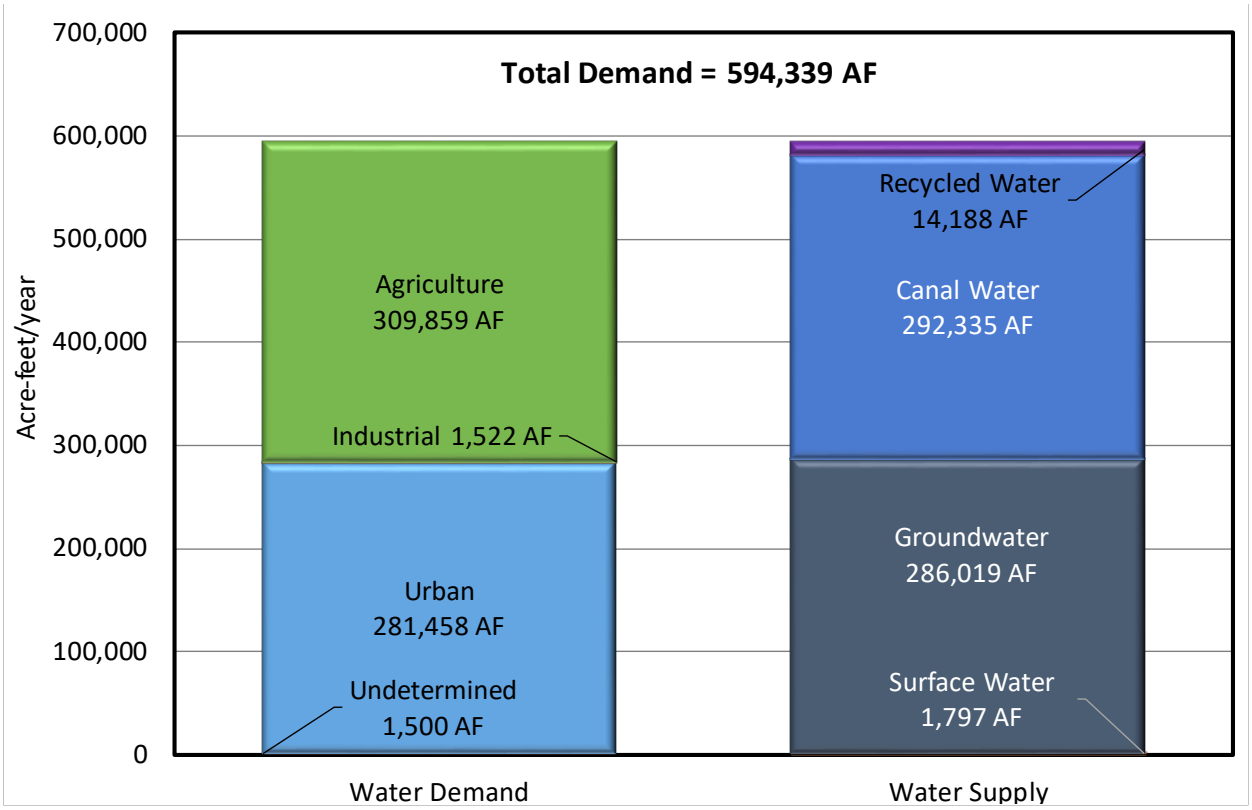
In addition to direct recycled water use, a portion of the municipal wastewater treated in the Indio Subbasin is discharged through percolation/evaporation ponds or is discharged to the Coachella Valley Stormwater Channel (CVSC). The percolated portion of the discharged wastewater contributes to the groundwater supply, while the discharge to the CVSC flows to the Salton Sea. In WY 2017-2018, a total of 41,442 AF of wastewater was treated of which 14,188 AF was recycled and reused (including WRP use), 6,078 AF was discharged through percolation/evaporation, and 21,176 AF was discharged to the CVSC.

ES.6 TOTAL WATER USE

In total, 594,339 AF of water was delivered for direct use within the Indio Subbasin and 278,654 AF was delivered for aquifer recharge which becomes a portion of the groundwater supply. Total direct use is calculated by totaling the groundwater production, local surface water diversions, Coachella Canal water, and recycled water for agricultural, industrial, urban, and other undetermined uses, and subtracting the water that is exported for use outside the Indio Subbasin.

A portion of the groundwater produced from the Indio Subbasin and imported water delivered to the Indio Subbasin is exported for use outside the subbasin, totaling 4,807 AF. Some of this water (2,517 AF) is Coachella Canal water delivered to agricultural and urban users in the adjacent Desert Hot Springs Subbasin that are located within the CVWD Improvement District No. 1 (ID-1) service area. The remaining (2,290 AF) is groundwater pumped from the Indio Subbasin and delivered to CVWD customers in Imperial and Riverside County on the east and west sides of the Salton Sea, or delivered to Mission Springs Water District (MSWD) customers in the Mission Creek Subbasin (**Figure ES-1**).

Figure ES-1. Comparison of Supply and Demand for Direct Use in the Indio Subbasin – Water Year 2017-2018



Note: These data exclude water exported for use outside of the basin.

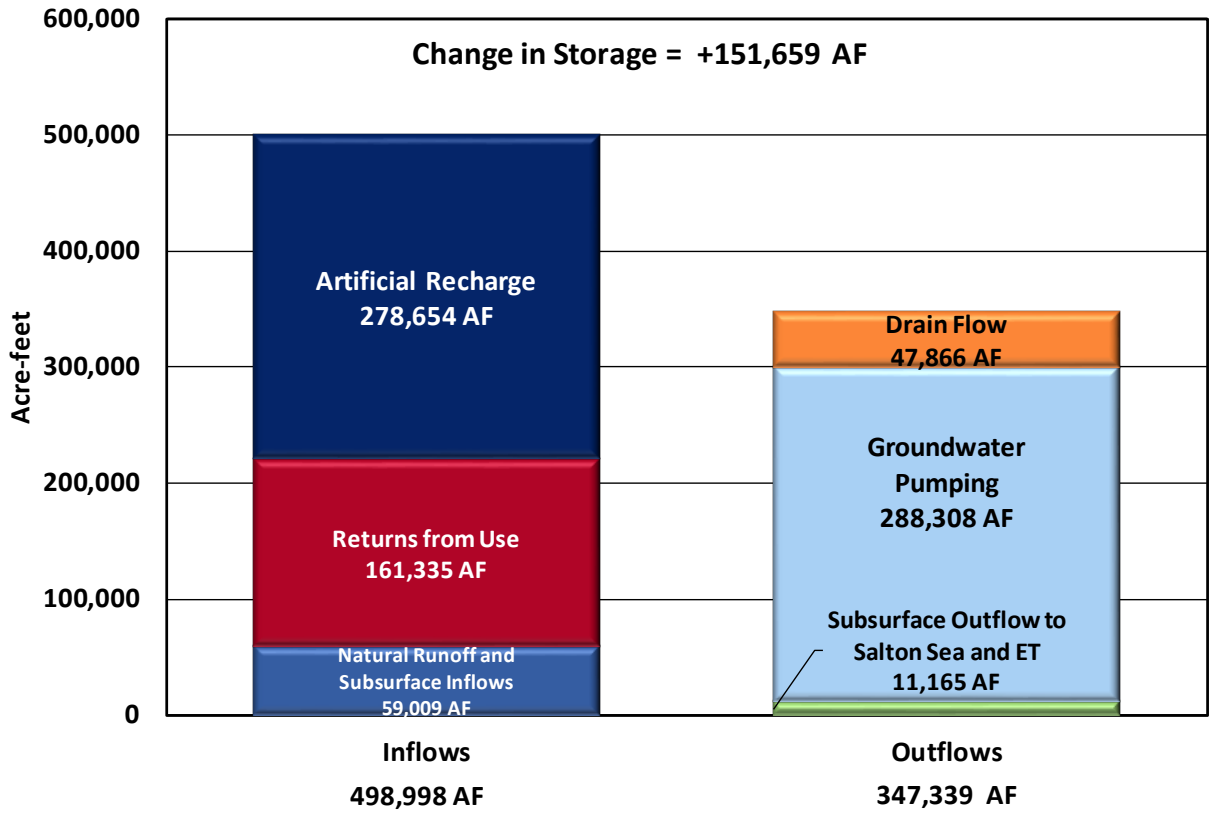
ES.7 GROUNDWATER BALANCE AND CHANGE IN GROUNDWATER STORAGE

A groundwater balance is helpful in assessing the condition of the groundwater of the Indio Subbasin. The groundwater balance compares the inflows and outflows to the Indio Subbasin for a specific period of time. The difference between inflows and outflows at a given time is defined as the change in storage for that time period. The Indio Subbasin groundwater balance for WY 2017-2018, including estimated inflow and outflow quantities, is summarized in **Figure ES-2**.

Groundwater inflows to the Indio Subbasin consist of infiltration of natural inflows, return flows from urban and agricultural uses, artificial recharge, and Salton Sea intrusion. Inflows from outside the Indio Subbasin consist of underflow from the San Gorgonio Pass area and flows across the Banning fault. Groundwater outflows from the Indio Subbasin consist of groundwater pumping, flow from the semi-perched aquifer through the agricultural drains into the Salton Sea, evapotranspiration from the shallow unconfined aquifer, evaporation losses, and subsurface flow out of the Indio Subbasin into the aquifers beneath the Salton Sea.

The annual change in groundwater storage represents the annual difference between inflows and outflows in the Indio Subbasin. During wet years or periods of high artificial recharge, the change in storage is positive (water in storage increases). In dry years or periods of high pumping, the change in storage is often negative (storage decreases). Because of the large amount of recharge relative to discharges, the change in storage for the Indio Subbasin is a positive 151,659 AF for WY 2017-2018.

Figure ES-2. Groundwater Balance for the Indio Subbasin – Water Year 2017-2018



The one-year change in groundwater elevation (**Figure 7-4**) demonstrates a significant increase in groundwater storage near the Whitewater River GRF in response to the high recharge deliveries in WY 2016-2017 and WY 2017-2018. Water levels near the Whitewater River GRF increased by as much as 150 ft. Small decreases in levels were observed near Rancho Mirage, Indio and Mecca. Water levels near the TEL GRF decreased about 6 ft in response to a 20 percent reduction in replenishment deliveries due to a Coachella Canal project from December 2017 to January 2018.

During the past ten years, there have been significant increases in groundwater elevations throughout the Indio Subbasin (**Figure 7-5**) in response to the high recharge deliveries in calendar years 2010-2012, WY 2016-2017, and WY 2017-2018 in the western portion of the Indio Subbasin. Essentially, all of the eastern portion of the Indio Subbasin showed increased groundwater elevations in response to decreased pumping and replenishment operations at the TEL GRF. One notable exception was the

Thousand Palms area where water levels decreased by 2 to 6 ft. This area is somewhat isolated from the beneficial effects of replenishment deliveries.

ES.8 SUMMARY OF PROGRESS AND PROJECTS

The sustainability goals described in the Alternative Plan for the Indio Subbasin identified the following water management elements for implementation:

- Water conservation measures
- Acquisition of additional water supplies
- Conjunctive use programs to maximize supply reliability
- Source substitution programs
- Groundwater recharge programs
- Water quality protection measures
- Other management activities

The Indio Subbasin GSAs continue to implement the goals and programs of the 2010 CVWMP Update. Groundwater production remains more than 25 percent less than the historical highs in the early 2000s. The results of the on-going basin monitoring program demonstrate the significant progress being made toward the goal of eliminating long-term groundwater overdraft. Since 2009, the Indio Subbasin has gained over 650,000 AF of groundwater in storage.

Groundwater level monitoring demonstrates that most of the Indio Subbasin exhibited a water level gain in the past year except for portions of the Indio Subbasin between Palm Springs and Rancho Mirage, and the Desert Palms (Sun City) community. The water level decline in the Palm Springs and Rancho Mirage areas is the residual effect of low imported replenishment water deliveries to the Whitewater River GRF relative to pumping in previous years due to drought conditions.

Over the past ten years, much of the Indio Subbasin experienced water level gains in the range of 2 to over 50 feet as a result of continued recharge at the Whitewater River GRF, implementation of the TEL GRF, conversion of golf courses from groundwater to Coachella Canal water, and water conservation. The portion of the Indio Subbasin between Palm Springs and Palm Desert experienced water level declines in the range of 2 to 8 feet in this period. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF. Operation of the first phase of the new Palm Desert GRF is expected to commence in 2019 at an expected rate of 10,000 AFY.

CVWD continues to work with the golf courses in its service area to extend the Mid-Valley Pipeline distribution system to serve additional courses with Coachella Canal and recycled water and reduce their groundwater pumping. One additional golf course was connected during the past year. CVWD's increased allocation of Colorado River water through the Quantification Settlement Agreement (QSA) added 18,000 AF of supply in 2018. CVWD expects to receive an additional 5,000 AFY of Colorado River water in 2019.

Continued implementation of CVWMP programs is critical to meeting the goals of the plan. In the coming year, the GSAs will continue to pursue their successful water conservation efforts, continue to evaluate the effectiveness of their groundwater monitoring program, and add additional wells to the program as the need arises.

1.0 INTRODUCTION

The Indio Subbasin is located within the Coachella Valley Groundwater Basin underlying the Coachella Valley in Southern California as shown in **Figure 1-1**. The Indio Subbasin is sustainably managed in accordance with the Sustainable Groundwater Management Act (SGMA) and reported on annually. This annual report for Water Year 2017-2018 (October 1, 2017 through September 30, 2018) complies with SGMA reporting requirements (California Water Code Section 10728). SGMA is defined by Sections 10720 - 10737.8 of the California Water Code.

Coachella Valley Water District (CVWD), Coachella Water Authority (CWA), Desert Water Agency (DWA), and the Indio Water Authority (IWA) collectively comprise the Groundwater Sustainability Agencies (GSAs) providing coverage for the entire Indio Subbasin as required by SGMA. The California Department of Water Resources (DWR) has indicated that an annual report is required to be submitted annually to the DWR in support of the Alternative to a Groundwater Sustainability Plan (Alternative Plan) previously submitted to the DWR by the GSAs for the Indio Subbasin.

1.1 BACKGROUND

1.1.1 Implementation of the Sustainable Groundwater Management Act

In 2014, faced with declining groundwater levels (most notably in California's Central Valley), the California Legislature enacted the SGMA which was intended to provide a framework for the sustainable management of groundwater resources throughout California, primarily by local authorities. The SGMA consisted of three bills, Assembly Bill (AB) 1739 (Dickinson), Senate Bill (SB) 1168 (Pavley), and SB 1319 (Pavley), and was signed into law by Governor Brown on September 16, 2014.

The SGMA required local authorities to form local GSAs by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based Groundwater Sustainability Plans (GSPs) or Alternative Plans tailored to their regional economic and environmental needs. The SGMA allows a 20-year time frame for GSAs to implement their GSPs or Alternative Plans and achieve long-term groundwater sustainability. It protects existing water rights and does not affect current drought response measures. SGMA provides local GSAs with tools and authority to:

- Monitor and manage groundwater levels and quality
- Monitor and manage land subsidence and changes in surface water flow and quality affecting groundwater levels or quality or caused by groundwater extraction
- Require registration of groundwater wells
- Require reporting of annual extractions
- Require reporting of surface water diversions to underground storage
- Impose limits on extractions from individual wells

Return to Agenda

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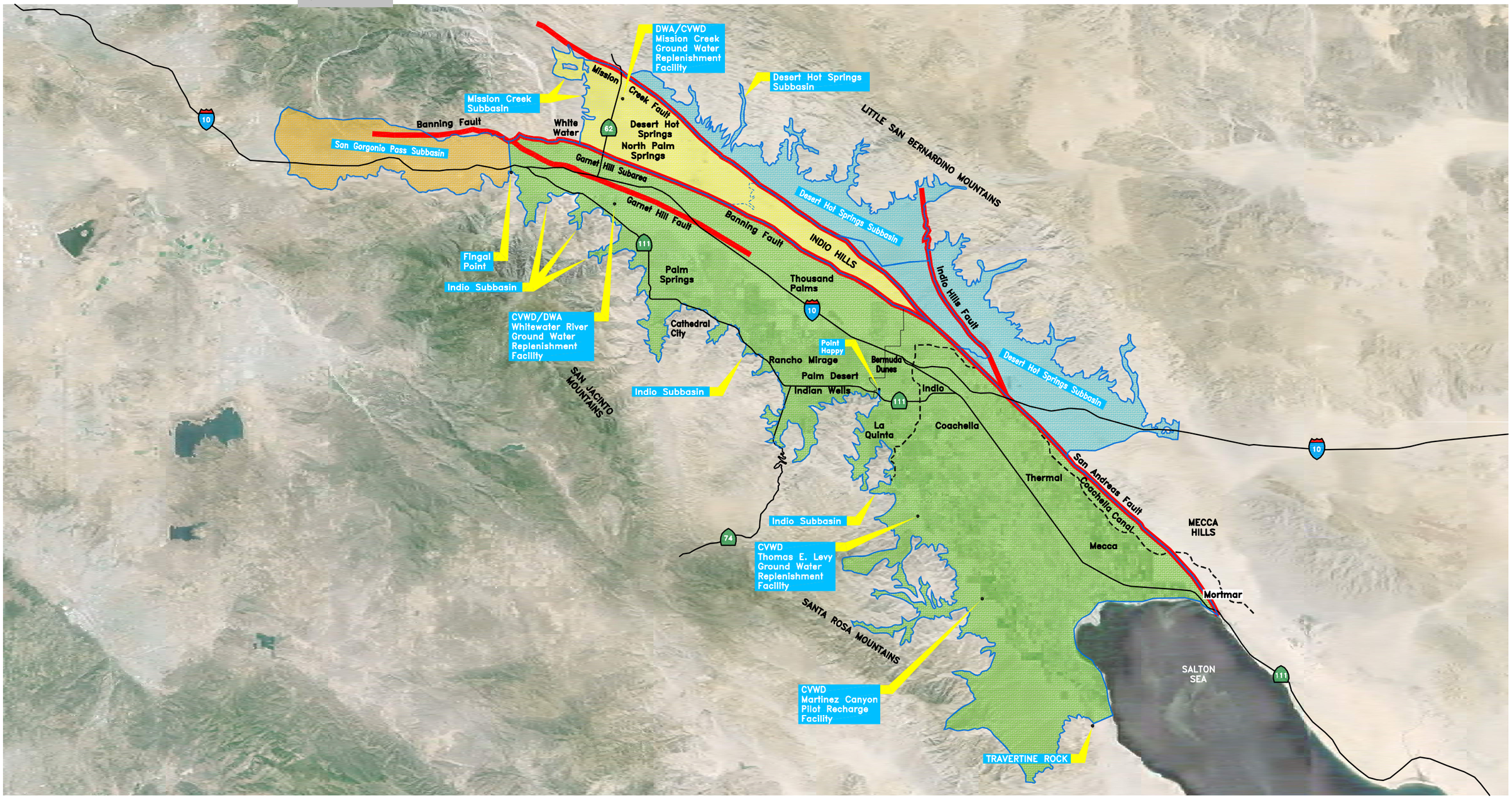

LEGEND

- INDIO SUBBASIN
- MISSION CREEK SUBBASIN
- DESERT HOT SPRINGS SUBBASIN
- SAN GORGONIO PASS SUBBASIN
- FAULTS
- SUBBASIN BOUNDARIES
- INDIO HILLS BOUNDARY

MAP SOURCE:

2016 GOOGLE EARTH PRO (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

N

0 16,000 32,000 64,000 Feet

Date: 3/18/2019

TITLE: Coachella Valley Groundwater Basin and Subbasins

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE 1-1

1022-4p5f2.dwg

- Assess fees to implement local GSPs and Alternative Plans
- Request revisions of basin boundaries, including establishing new subbasins

The DWR developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. Through its CASGEM program, DWR ranked the priority of all 515 groundwater basins and subbasins in California as either very low, low, medium, or high priority. In addition, DWR, as required by SGMA, identified the basins and subbasins that are in conditions of critical overdraft. Several basins and subbasins in California were identified as critically-overdrafted basins. None of the subbasins in the Coachella Valley Groundwater Basin have been listed as critically-overdrafted.

The Coachella Valley Groundwater Basin has been divided into four (4) subbasins by DWR in California Bulletin 108 (1964) and Bulletin 118 (2003): they are the Indio[1], Mission Creek, San Gorgonio Pass, and Desert Hot Springs Subbasins as shown in **Figure 1-1**. The Indio, Mission Creek, and San Gorgonio Pass Subbasins have been designated medium-priority basins, and the Desert Hot Springs Subbasin has been designated a very low-priority subbasin under SGMA.

GSAs responsible for the high-priority and medium-priority groundwater basins and subbasins must prepare and adopt GSPs by January 31, 2020 for critically overdrafted basins, and by January 31, 2022 for those not currently in critical overdraft, with updates every five years thereafter. GSAs may adopt a single GSP covering an entire basin or combine a number of GSPs created by multiple GSAs. Sustainability must be achieved within 20 years after adoption of the GSP for all high-priority and medium-priority basins. GSAs who elect to submit an Alternative Plan, rather than prepare a GSP in accordance with California Water Code (CWC) §10727 et seq., must have done so by January 1, 2017, with updates every five years thereafter. The State Water Resources Control Board (SWRCB) is empowered to intervene if local agencies fail to form GSAs or fail to adopt their GSPs or Alternative Plans on schedule.

1.1.2 Formation of GSAs by Local Agencies in the Indio Subbasin

The SGMA required local authorities to form local GSAs by June 30, 2017 to evaluate conditions in their local groundwater basins and adopt locally-based GSPs or Alternative Plans tailored to their regional economic and environmental needs. Presently, four separate entities have been designated as "Exclusive" GSAs to manage the Indio Subbasin of the Coachella Valley Groundwater Basin within their respective service areas as shown in **Figure 1-2**. They are:

- Coachella Valley Water District (CVWD)

[1] The Indio Subbasin is also identified as the Whitewater River Subbasin by the USGS. However, the subbasin is identified as the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subbasin as the Indio Subbasin.

- Coachella Water Authority (CWA)
- Desert Water Agency (DWA)
- Indio Water Authority (IWA)

1.1.3 Submission of an Alternative to a Groundwater Sustainability Plan for the Indio Subbasin to the DWR

SGMA recognizes the efforts many areas, such as the Coachella Valley, have made in developing and implementing groundwater management by allowing existing groundwater management plans to be submitted as an Alternative to a GSP (Alternative Plan).

Twenty years before the adoption of SGMA, CVWD began development of the initial Water Management Plan in 1994 after recognizing the need to sustainably manage the Coachella Valley Groundwater Basin. The original planning document is the 2002 Coachella Valley Water Management Plan (CVWMP). The 2002 CVWMP was updated in 2010 and adopted in 2012. The environmental documents associated with these management plans provide important information on the Coachella Valley environment, the impacts of the original 2002 CVWMP and the 2010 CVWMP Update, and mitigation measures. The 2014 and 2016 CVWMP Status Reports were periodic reviews of the planning assumptions and implementation status for the 2010 CVWMP Update. Annual Engineer's Reports on Water Supply and Replenishment Assessment are prepared by CVWD under authority of CWC §31631 and by DWA under authority of Chapter 100 of the CWC Appendix. These documents provide the basis for compliance with the SGMA requirements for Alternative Plans.

On December 29, 2016, CVWD, CWA, DWA, and IWA collaboratively submitted the 2010 CVWMP Update as an Alternative Plan for the Indio Subbasin, with an associated Bridge Document to DWR for review and evaluation. On February 1, 2018, DWR notified all GSAs who submitted Alternative Plans that they would be required to submit annual reports pursuant to SGMA by April 1, 2018 and every year thereafter.

Return to Agenda

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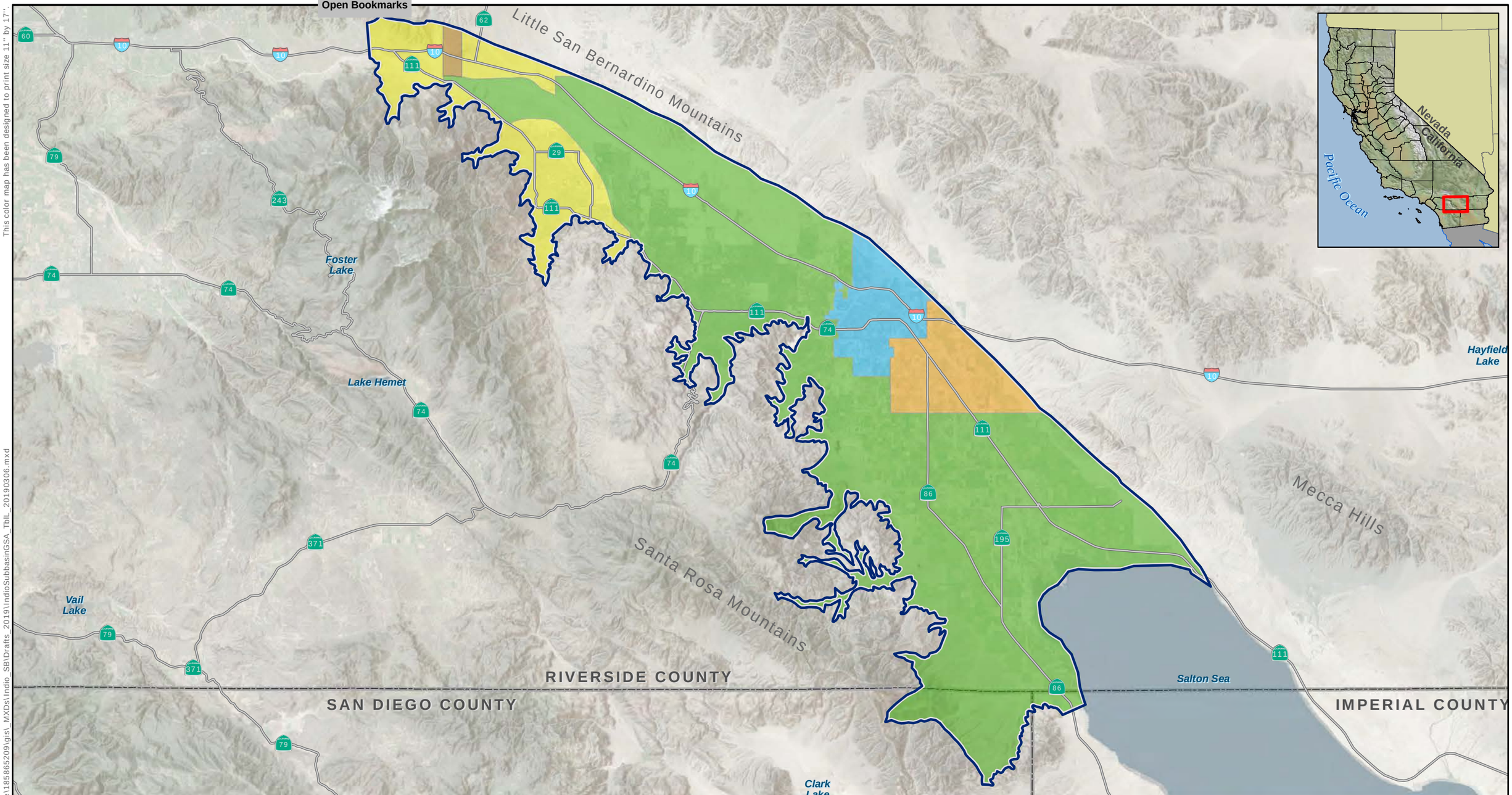

GSA Boundaries

- Coachella Valley Water District
- Coachella Water Authority
- Desert Water Agency
- Indio Water Authority
- Overlap Area *

Indio Subbasin

*Overlap area of GSA Notices by Desert Water Agency and Mission Springs Water District.

N

0 2 4 6 8 Miles

Date: 3/6/2019

TITLE:
GSA Boundaries of the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
1-2

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1.1.4 Annual Reporting

Annual reports of the Indio Subbasin conditions have been prepared since 1978 by both CVWD and DWA. CVWD has published an annual Engineer's Report on Water Supply and Replenishment Assessment for its West Whitewater River Subbasin Area of Benefit (AOB) since 1978, and the East Whitewater River Subbasin AOB since 2004, in the Indio Subbasin. DWA has published an annual Engineer's Report on the Groundwater Replenishment and Assessment Program for its Whitewater River Subbasin AOB since 1978, and its Garnet Hill Subbasin AOB since 2015, in the Indio Subbasin. The Engineer's Reports provide detailed groundwater levels, annual water balance, artificial and natural recharge, and groundwater pumping, as well as establishing the replenishment assessment charged for production within each designated AOB for the following fiscal year.

In accordance with SGMA (Water Code Section 10728), on April 1 following the adoption of a GSP or submission of an Alternative Plan and annually thereafter, a GSA shall submit a report to DWR containing the following information about the basin managed in the GSP or Alternative Plan:

- Groundwater elevation data
- Aggregated data identifying groundwater extraction
- Surface water supply used for or available for groundwater recharge or in-lieu use
- Total water use
- Change in groundwater storage
- Progress toward implementing the GSP or Alternative Plan

The Indio Subbasin Annual Report for Water Year 2016-2017 was the first annual report prepared for the Indio Subbasin in response to the SGMA requirements, and this Indio Subbasin Annual Report for Water Year 2017-2018 represents the second annual report prepared for the Indio Subbasin. This Annual Report contains a discussion of the Coachella Valley Groundwater Basin followed by sections describing each of the SGMA required annual report elements.

2.0 COACHELLA VALLEY GROUNDWATER BASIN SETTING

The Coachella Valley Groundwater Basin extends approximately 50 miles southeast from the San Bernardino Mountains to the northern shore of the Salton Sea as shown in **Figure 1-1**. The Coachella Valley Groundwater Basin underlies the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage, and the unincorporated communities of Thousand Palms, Thermal, Bermuda Dunes, Oasis, and Mecca. The Coachella Valley is bordered on the north by Mount San Gorgonio in the San Bernardino Mountains, on the west by the San Jacinto and Santa Rosa Mountains, on the east by the Little San Bernardino Mountains, and on the south by the Salton Sea. The Coachella Valley lies within the northwesterly portion of California's Colorado Desert, an extension of the Sonoran Desert. The San Bernardino, San Jacinto, and Santa Rosa Mountains provide an effective barrier against coastal storms, and greatly reduce the contribution of direct precipitation to replenish the Coachella Valley's groundwater, resulting in an arid climate.

2.1 CLIMATE

The bulk of natural groundwater replenishment comes from runoff from the adjacent mountains. Climate in the Coachella Valley is characterized by low humidity, high summer temperatures, and mild dry winters. **Figure 2-1** presents a regional map of the Indio Subbasin with locations of precipitation, streamflow, and subsidence monitoring stations. Average annual precipitation in the Coachella Valley varies from 3 to 6 inches of rain on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR, 1964; NWS, 2019). Most of the precipitation occurs during December through February, except for summer thundershowers. Historic monthly average precipitation with mean, maximum, and minimum corresponding monthly temperature at the Thousand Palms station (CW2285) in Coachella Valley is shown on **Figure 2-2**. Prevailing winds in the area are usually gentle, but occasionally increase to velocities as high as 30 miles per hour or more. Mid-summer temperatures commonly exceed 100 degrees Fahrenheit (°F), frequently reach 110°F, and periodically reach 120°F. The average winter temperature is approximately 60°F (**Figure 2-2**).

Return to Agenda

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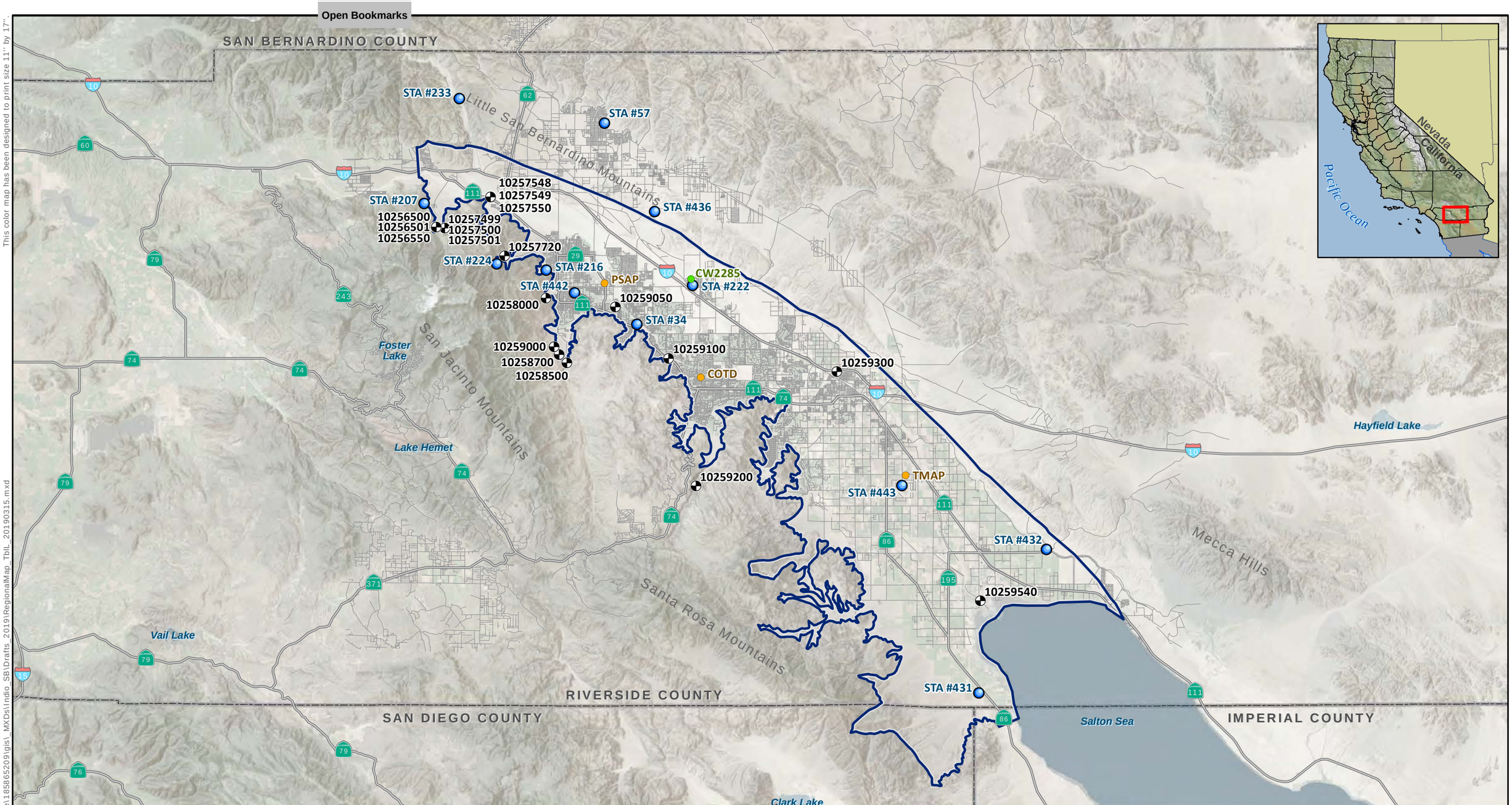

- Temperature Station
- Subsidence Monitoring Station
- Precipitation Station
- Streamflow Gauging Station
- Indio Subbasin

N

0 2.5 5 7.5 10 Miles

Date: 3/15/2019

TITLE:
Regional Map of the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
2-1

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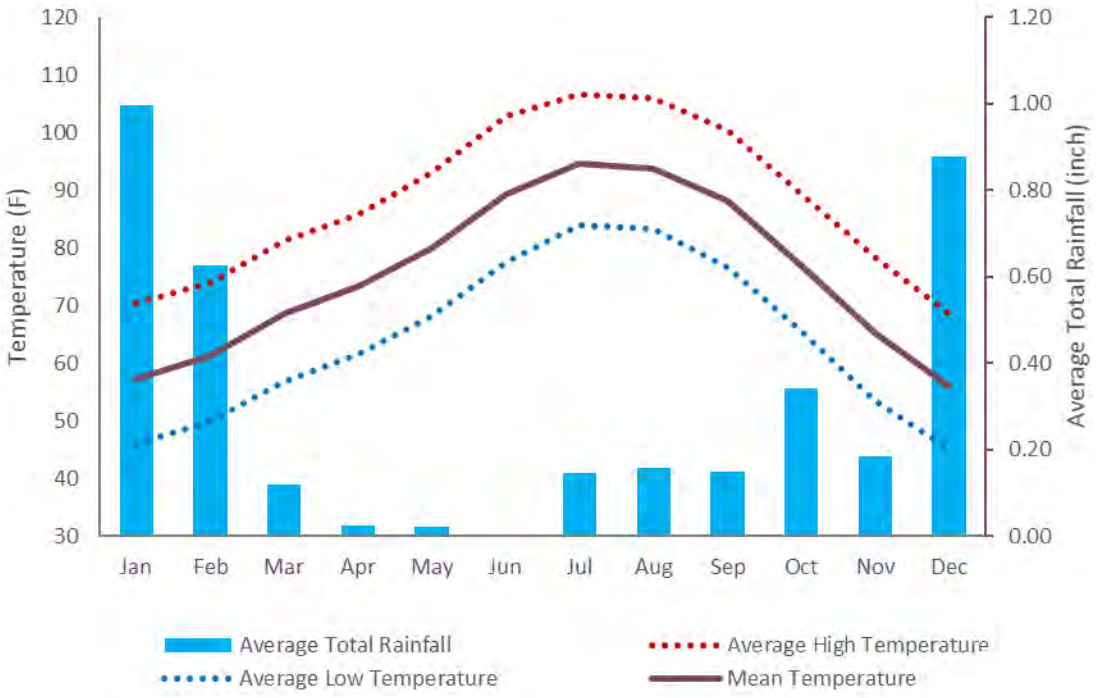
Figure 2-2. Monthly Average Climate Data for Coachella Valley (Thousand Palms Station CW2285– 2004 to 2018)



2.2 COACHELLA VALLEY GROUNDWATER BASIN

The Coachella Valley Groundwater Basin is bounded on the north and east by non-water-bearing crystalline rocks of the San Bernardino and Little San Bernardino Mountains and on the south and west by the crystalline rocks of the Santa Rosa and San Jacinto Mountains. At the west end of the San Gorgonio Pass, between Beaumont and Banning, the basin boundary is defined by a surface drainage divide separating the Coachella Valley Groundwater Basin from the Beaumont Groundwater Basin of the Upper Santa Ana Drainage Area.

The southern boundary is formed primarily by the watershed of the Mecca Hills and by the northwest shoreline of the Salton Sea running between the Santa Rosa Mountains and Mortmar. Between the Salton Sea and Travertine Rock, at the base of the Santa Rosa Mountains, the southern boundary crosses the Riverside County Line into Imperial and San Diego Counties.

Southerly of the southern boundary, at Mortmar and at Travertine Rock, the subsurface materials are predominantly fine grained and low in permeability; although groundwater is present, it is not readily extractable. A zone of transition exists at these boundaries; to the north the subsurface materials are coarser and more readily yield groundwater.

Although there is interflow of groundwater throughout the groundwater basin, fault barriers, constrictions in the groundwater basin profile, and areas of low permeability limit and control movement of groundwater. Based on these factors, the groundwater basin has been divided into subbasins and subareas as described by California Department of Water Resources (DWR) in Bulletin 108 (1964) and Bulletin 118 (2003), and also by the United States Geological Survey (USGS) in 1971.

2.2.1 Subbasins and Subareas

The subbasins of the Coachella Valley Groundwater Basin are the Mission Creek, Desert Hot Springs, San Gorgonio Pass, and Indio[2] Subbasins as shown in **Figure 1-1**. The subbasins delineate areas underlain by formations which readily yield stored groundwater through water wells and offer natural reservoirs for the regulation of water supplies.

The boundaries between subbasins within the groundwater basin are generally defined by faults that serve as effective barriers to the lateral movement of groundwater. Minor subareas have also been delineated, based on one or more of the following geologic or hydrologic characteristics: type of water-bearing formations, water quality, areas of confined groundwater, forebay areas, groundwater divides, and surface drainage divides.

[2]The Garnet Hill Subarea of the Indio Subbasin is also identified as a separate Garnet Hill Subbasin by the USGS. However, it is identified as the Garnet Hill Subarea of the Indio Subbasin in DWR Bulletin 108 (1964) and Bulletin 118 (2003). For continuity, this annual report will identify the subarea as the Garnet Hill Subarea of the Indio Subbasin.

The following is a list of the subbasins and associated subareas in the Coachella Valley Groundwater Basin as designated by DWR in Bulletin 108 (1964) and in Bulletin 118 (2003).

- Indio Subbasin (Subbasin 7-21.01)
    - Palm Springs Subarea
    - Thermal Subarea
    - Thousand Palms Subarea
    - Oasis Subarea
    - Garnet Hill Subarea
- Mission Creek Subbasin (Subbasin 7-21.02)
- Desert Hot Springs Subbasin (Subbasin 7-21.03)
    - Miracle Hill Subarea
    - Sky Valley Subarea
    - Fargo Canyon Subarea
- San Gorgonio Pass Subbasin (Subbasin 7-21.04)

The boundaries (based on faults, barriers, constrictions in basin profile, and changes in permeability of water-bearing units), geology, hydrogeology, water supply, and groundwater storage of the Indio Subbasin and Indio Subareas are further described in the following sections.

2.2.2 Geology

The Coachella Valley Groundwater Basin encompasses much of the floor area of Coachella Valley. The Coachella Valley itself trends northwest–southeast; its surface slopes generally to the southeast, and is bounded on its northern, northwestern, southwestern, and southern margins by uplifted mountains of bedrock. Coachella Valley sedimentary fill consists of thick sand and gravel sedimentary sequences eroded from the surrounding mountains. Sedimentary infill within the Coachella Valley thickens from north to south, and depending on location within the basin, is at least several thousand and as much as 12,000 feet (ft) in thickness. The upper approximately 2,000 ft constitute the aquifer system that is the primary source of groundwater supply (DWR, 1979). A geologic map of the Coachella Valley Groundwater Basin is shown in **Figure 2-3**.

Return to Agenda

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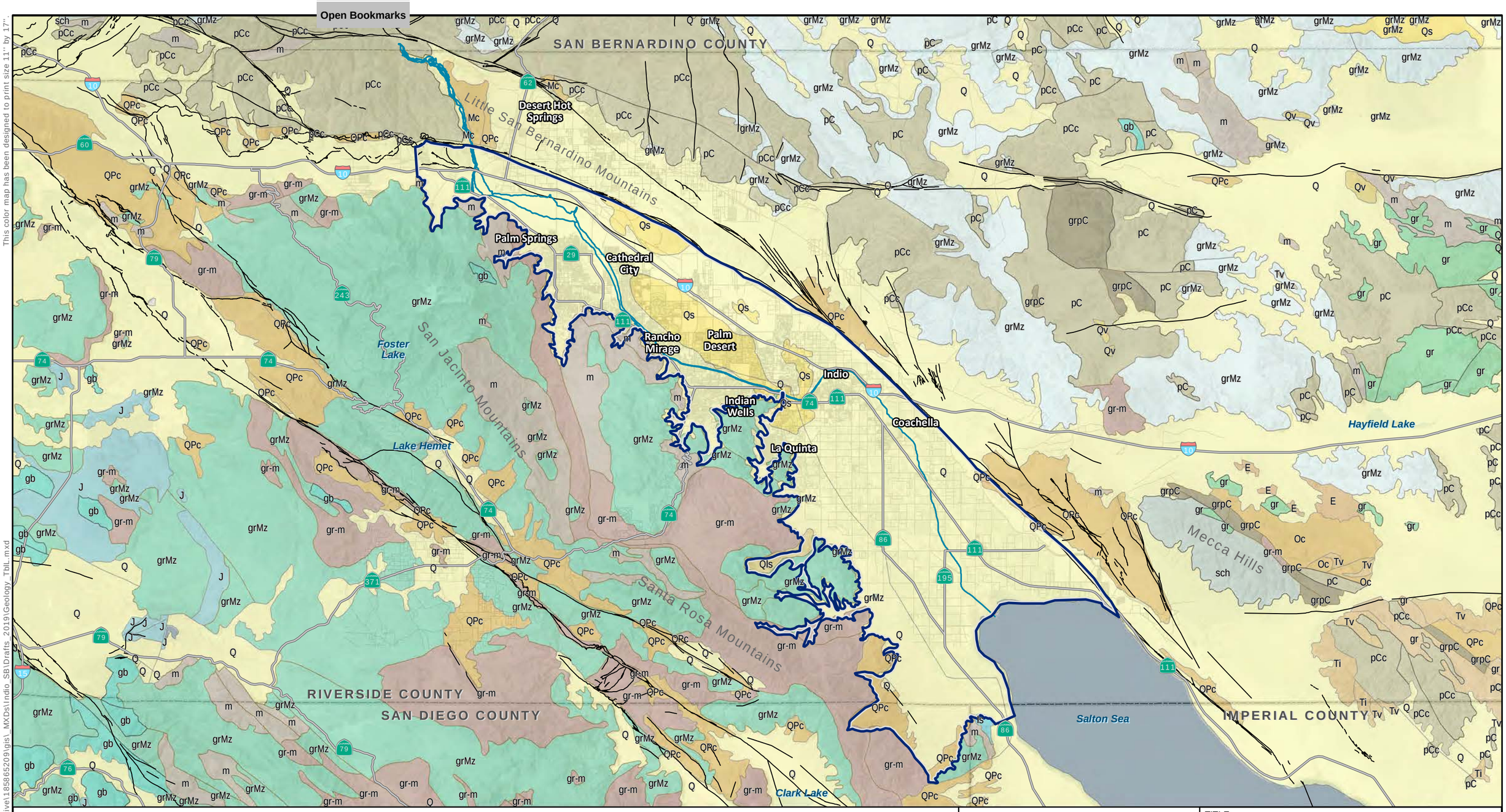

Geology Type (USGS OFR 2005-1305, Updated 2007)

Quaternary
- Qv Basalt
- Qs Dune Sand
- Qls Landslide

Tertiary
- Q Alluvium
- Ti Basalt
- E Mudstone
- Tv Rhyolite
- QPc/Qc/Qc/Mc Sandstone

Cretaceous
- sch Schist

Jurassic
- gr Plutonic rock
- grMz Tonalite

Triassic
- gb Gabbro

Permian
- grMz Diorite

Paleozoic
- J Argillite
- ls Limestone

Paleozoic
- pC/pCc Gneiss
- grpC Granite
- gr-m Plutonic rock
- m Schist

Source: DWR, CVWD, Caltrans, CalAtlas

N

0 5 10 Miles

Date: 2/11/2019

TITLE: **Coachella Valley Groundwater Basin Geologic Map**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE **2-3**

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2.2.3 Basin Storage Capacity

In 1964, DWR estimated that the subbasins in the Coachella Valley Groundwater Basin contained approximately 39,200,000 acre-feet (AF) of water in the first 1,000 ft below the ground surface. The capacities of the subbasins are shown in **Table 2-1**.

Table 2-1
Coachella Valley Groundwater Basin Groundwater Storage Capacity

Subbasin/Subarea	Groundwater Storage (AF)[1]
Indio Subbasin	
Palm Springs Subarea	4,600,000
Thousand Palms Subarea	1,800,000
Oasis Subarea	3,000,000
Thermal Subarea	19,400,000
Garnet Hill Subarea	1,000,000
Subtotal – Indio Subbasin:	**29,800,000**
San Gorgonio Pass Subbasin	2,700,000
Mission Creek Subbasin	2,600,000
Desert Hot Springs Subbasin	4,100,000
Total – All Subbasins:	**39,200,000**

Note: Storage volume of the first 1,000 feet below ground surface (DWR, 1964). Excludes semi-waterbearing portions of the groundwater basins such as the Indio Hills which have essentially no recoverable groundwater,

2.3 INDIO SUBBASIN DESCRIPTION

The Indio Subbasin, designated the Basin No. 7-21.01 in DWR Bulletin No. 118 (2003), underlies the major portion of the Coachella Valley floor and encompasses approximately 400 square miles. Beginning approximately one mile west of the junction of State Highway 111 and Interstate 10, the Indio Subbasin extends southeast approximately 50 miles to the Salton Sea.

The Indio Subbasin is bordered on the southwest by the Santa Rosa and San Jacinto Mountains and is separated from the Mission Creek and Desert Hot Springs Subbasins, and Garnet Hill Subarea, to the north and east by the Garnet Hill and San Andreas Faults (DWR 1964). The Garnet Hill Fault, which extends southeasterly from the north side of the San Gorgonio Pass to the Indio Hills, is a relatively effective barrier to lateral groundwater movement from the Garnet Hill Subarea into the Indio Subbasin, with some portions in the shallower zones more permeable. The San Andreas Fault, extending southeasterly from the junction of the Mission Creek and Banning Faults in the Indio Hills and continuing out of the basin on the east flank of the Salton Sea, is also an effective barrier to lateral groundwater movement from the northeast (DWR 1964).

The Indio Subbasin underlies the Cities of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, La Quinta, Indio, and Coachella, and the unincorporated communities of Thousand Palms,

Thermal, Bermuda Dunes, Oasis, and Mecca. From about the City of Indio southeasterly to the Salton Sea, the Indio Subbasin contains increasingly thick layers of silt and clay, especially in the shallower portions of the Indio Subbasin. These silt and clay layers, which are remnants of ancient lake bed deposits, impede the percolation of water applied for irrigation and limit groundwater replenishment opportunities to the westerly fringe of the Indio Subbasin (DWR 1964).

Hydrologically, the Indio Subbasin is divided into five subareas: the Palm Springs, Thermal, Thousand Palms, Oasis, and Garnet Hill Subareas as shown in **Figure 2-4**. The Palm Springs Subarea is the forebay or main area of replenishment to the Indio Subbasin, and the Thermal Subarea is the pressure, or confined area, within the Indio Subbasin. The other three subareas are peripheral areas having unconfined groundwater conditions.

2.3.1 Palm Springs Subarea

The triangular area between the Garnet Hill Fault and the east slope of the San Jacinto Mountains southeast to the City of Cathedral City is designated the Palm Springs Subarea. Groundwater is unconfined in this area. The Coachella Valley fill materials within the Palm Springs Subarea are essentially heterogeneous alluvial fan deposits with little sorting and little fine-grained material. The thickness of these water-bearing materials is not known; however, it exceeds 1,000 ft. Although no lithologic distinction is apparent from well drillers' logs, the probable thickness of recent deposits suggests that Ocotillo conglomerate underlies recent fanglomerate in the subarea at depths ranging from 300 ft to 400 ft.

Natural replenishment to the aquifer in the Indio Subbasin occurs primarily in the Palm Springs Subarea. The major natural sources include infiltration of stream runoff from the San Jacinto Mountains and the Whitewater River, and subsurface inflow from the San Gorgonio Pass Subbasin and Garnet Hill Subarea. Deep percolation of direct precipitation on the Palm Springs Subarea is considered negligible as it is consumed by evapotranspiration (DWR 1964).

2.3.2 Thermal Subarea

Groundwater of the Palm Springs Subarea moves southeastward into the Thermal Subarea, consisting of interbedded sands, silts, and clays underlying the central portion of the Coachella Valley. The division between the Palm Springs Subarea and the Thermal Subarea is near the City of Cathedral City. The hydraulic conductivity parallel to the bedding of the deposits in the Thermal Subarea are several times the hydraulic conductivity perpendicular to the bedding and, therefore, movement of groundwater parallel to the bedding predominates. Confined or semi-confined groundwater conditions are present in the major portion of the Thermal Subarea. Movement of groundwater under these conditions is present in the major portion of the Thermal Subarea and is caused by differences in piezometric (pressure) level or head. Unconfined conditions are present in the alluvial fans at the base of the Santa Rosa Mountains, such as the fans at the mouth of Deep Canyon and in the City of La Quinta area.

Return to Agenda

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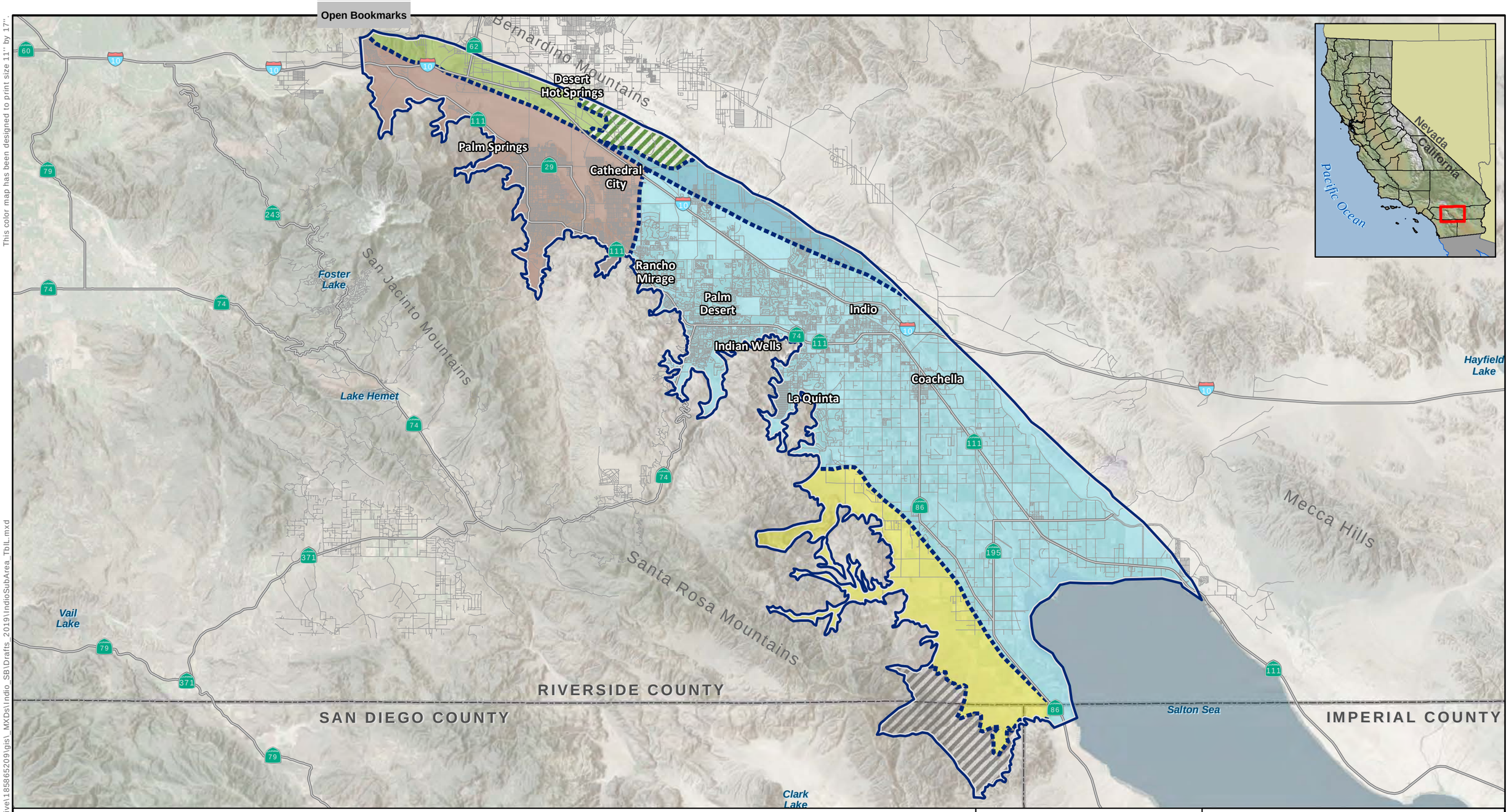

Groundwater Subareas

- Garnet Hill
- Oasis
- Palm Springs
- Thermal
- Thousand Palms
- Barton Canyon (semi-waterbearing per Bulletin 108)
- Indio Hills (semi-waterbearing per Bulletin 108)
- Indio Subbasin

Source: DWR Bulletin 108

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0 5 10 Miles

Date: 2/11/2019

TITLE:
Groundwater Subareas of the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
2-4

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Sand and gravel lenses underlying this subarea are discontinuous, and clay beds are not extensive. However, two aquifer zones separated by a zone of finer-grained materials were identified from well logs. The fine-grained materials within the intervening horizontal plane are not persistent enough to completely restrict the vertical interflow of water, or to warrant the use of the term "aquiclude." Therefore, the term "aquitard" is used for this zone of less permeable material that separates the upper and lower aquifer zones in the southeastern part of the Coachella Valley.

The lower aquifer zone, composed of part of the Ocotillo conglomerate, consists of silty sands and gravels with interbeds of silt and clay. It contains the greatest quantity of stored groundwater in the Coachella Valley Groundwater Basin. The top of the lower aquifer zone is present at a depth ranging from 300 ft to 600 ft below the surface. The thickness of the zone is undetermined, as the deepest wells present in the Coachella Valley have not penetrated it in its entirety. The available data indicate that the zone is at least 500 ft thick and may be in excess of 1,000 ft thick.

The aquitard overlying the lower aquifer zone is generally 100 ft to 200 ft thick, although in small areas on the periphery of the Salton Sea it is more than 500 ft thick. North and west of the City of Indio, in a curved zone approximately one mile wide, the aquitard is apparently lacking and no distinction is made between the upper and lower aquifer zones.

Capping the upper aquifer zone in the Thermal Subarea is a shallow fine-grained zone in which semi-perched groundwater is present (see **Figure 2-5**). This zone consists of recent silts, clays, and fine sands and is relatively persistent southeast of the City of Indio. It ranges from zero to 100 ft thick and is generally an effective barrier to deep percolation. However, north and west of the City of Indio, the zone is composed mainly of clayey sands and silts, and its effect in retarding deep percolation is limited. The low permeability of the materials southeast of the City of Indio has contributed to irrigation drainage problems in the area. Semi-perched groundwater has been maintained by irrigation water applied to agricultural lands, necessitating the construction of an extensive subsurface tile drain system (DWR 1964).

A generalized stratigraphic diagram of the geologic units and groundwater zones of the Thermal Subarea (DWR 1964) is presented in **Figure 2-6**.

Figure 2-5. Approximate Extent of Shallow, Semi-Perched Aquifer in the Thermal Subarea of the Indio Subbasin

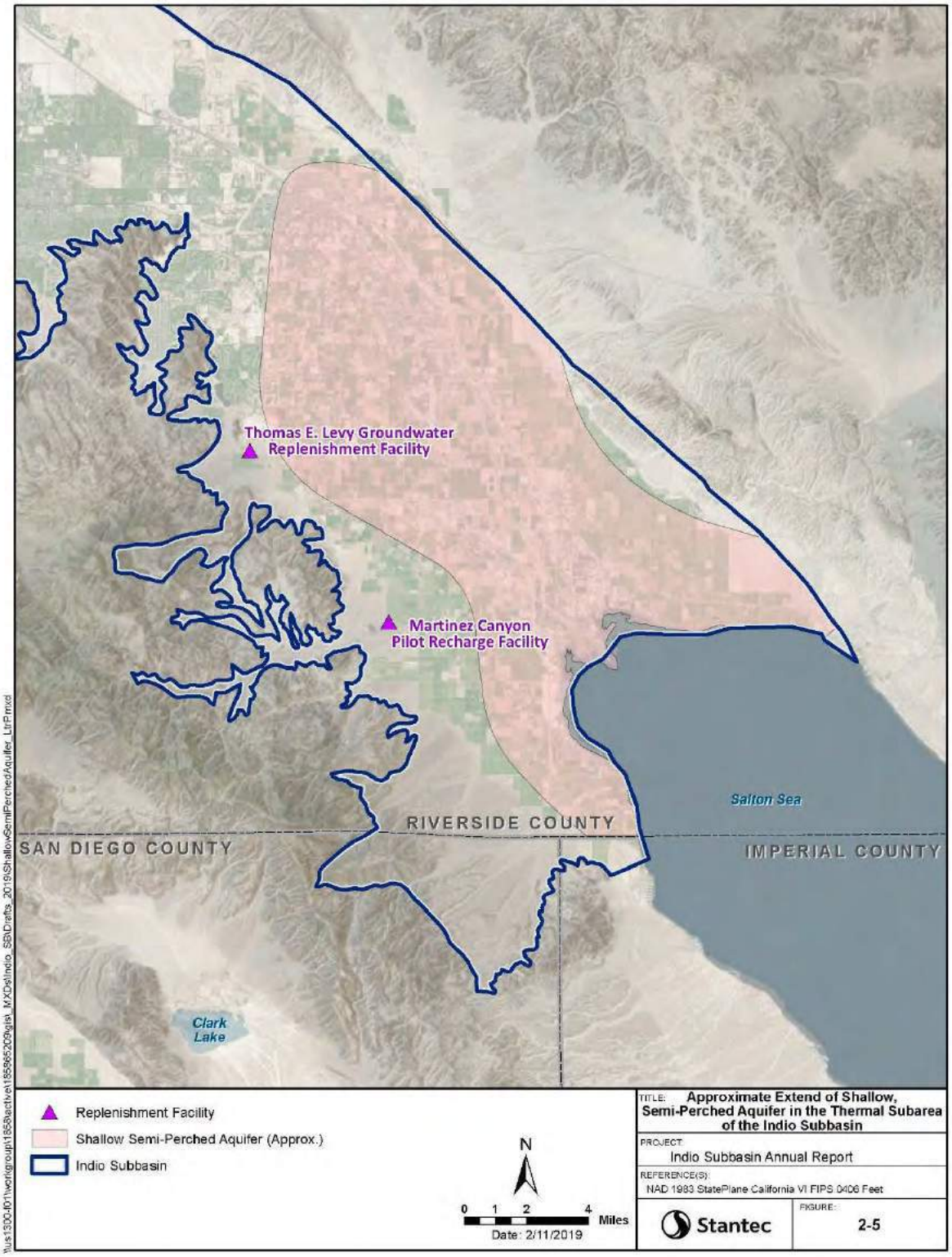
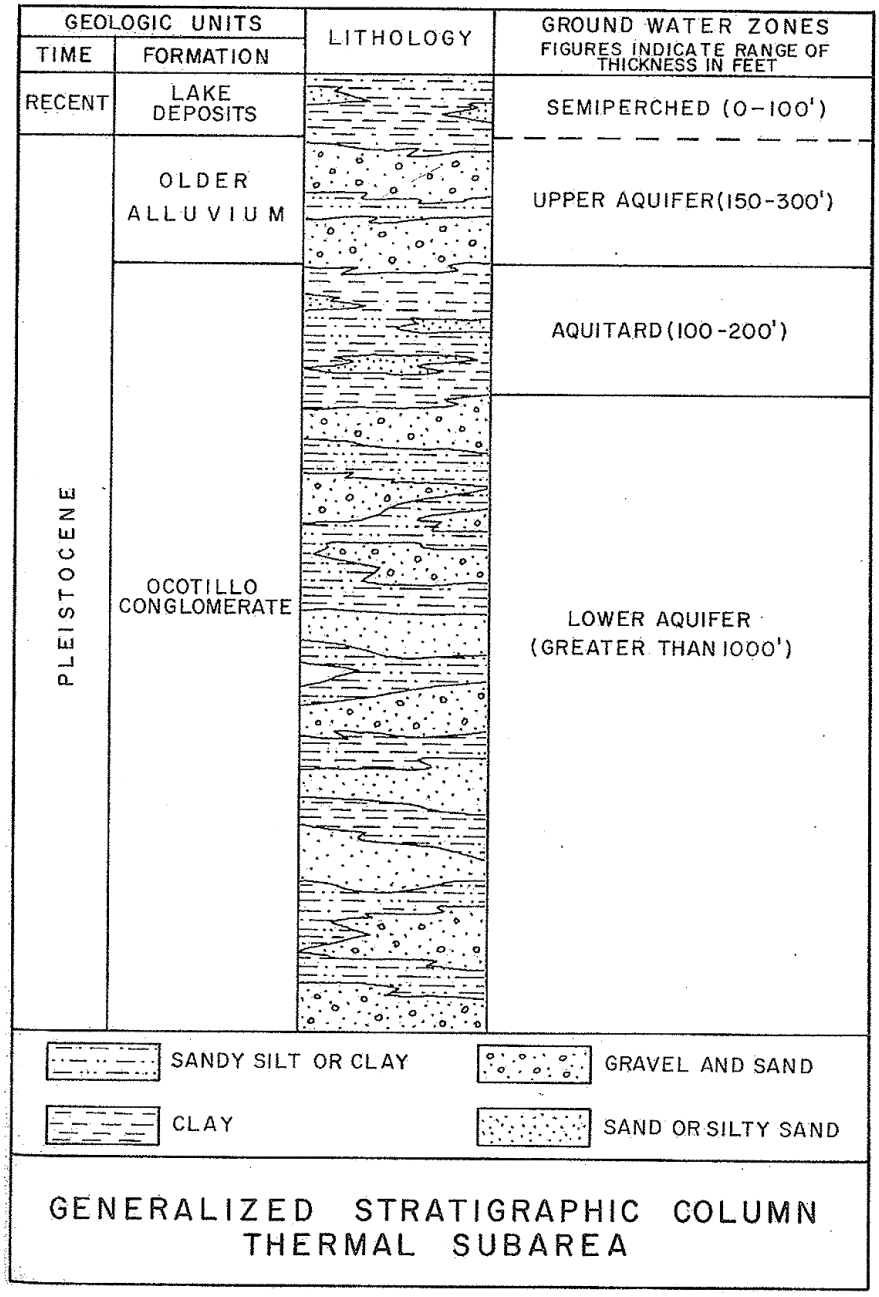


Figure 2-6. Generalized Stratigraphic Column of the Thermal Subarea of the Indio Subbasin



Source: CDWR Bulletin No. 108 (CDWR 1964)

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2.3.3 Thousand Palms Subarea

The small area along the southwest flank of the Indio Hills is named the Thousand Palms Subarea. The southwest boundary of the subarea was determined by tracing the limits of distinctive groundwater chemical characteristics. The major aquifers of the Indio Subbasin are characterized by calcium bicarbonate; but water in the Thousand Palms Subarea is characterized by sodium sulfate (DWR 1964).

The differences in water quality suggest that replenishment to the Thousand Palms Subarea comes primarily from the Indio Hills and is limited in supply. The relatively sharp boundary between chemical characteristics of water derived from the Indio Hills and groundwater in the Thermal Subarea suggests there is little intermixing of the two waters.

The configuration of the water table north of the community of Thousand Palms is such that the generally uniform, southeasterly gradient in the Palm Springs Subarea diverges and steepens to the east along the base of Edom Hill. This steepened gradient suggests a barrier to the movement of groundwater: possibly a reduction in permeability of the water-bearing materials, or possibly a southeast extension of the Garnet Hill Fault. However, such an extension of the Garnet Hill Fault is unlikely. There is no surface expression of such a fault, and the gravity measurements taken during the 1964 DWR investigation do not suggest a subsurface fault. The residual gravity profile across this area supports these observations. The sharp increase in gradient is therefore attributed to lower permeability of the materials to the east.

Most of the Thousand Palms Subarea is located within the western portion of the Indio Subbasin. Groundwater levels in this area show similar patterns to those of the adjacent Thermal Subarea, suggesting a hydraulic connectivity (DWR 1964).

2.3.4 Oasis Subarea

Another peripheral zone of unconfined groundwater that is different in chemical characteristics from water in the major aquifers of the Indio Subbasin is found underlying the Oasis Piedmont slope. This zone, named the Oasis Subarea, extends along the base of the Santa Rosa Mountains. Water-bearing materials underlying the subarea consist of highly permeable fan deposits. Although groundwater data suggest that the boundary between the Oasis and Thermal Subareas may be a buried fault extending from Travertine Rock to the community of Oasis, the remainder of the boundary is a lithologic change from the coarse fan deposits of the Oasis Subarea to the interbedded sands, gravel, and silts of the Thermal Subarea. Little information is available as to the thickness of the water-bearing materials, but it is estimated to be in excess of 1,000 ft.

2.3.5 Garnet Hill Subarea

This subarea is considered part of the Indio Subbasin in DWR's Bulletin 118 (2003). The area between the Garnet Hill Fault and the Banning Fault, named the Garnet Hill Subarea of the Indio Subbasin by DWR (1964), was considered a distinct subbasin by the USGS because of the partially effective Banning and Garnet Hill Faults as barriers to lateral groundwater movement. This is demonstrated by a difference of 170 feet (ft) in groundwater level elevation in a horizontal distance of 3,200 ft across the Garnet Hill

Fault, as measured in the spring of 1961. The Garnet Hill Fault does not reach the surface and is probably effective as a barrier to lateral groundwater movement only below a depth of about 100 ft (MWH 2013).

The 2013 Mission Creek/Garnet Hill Subbasins Water Management Plan (MWH 2013) states that groundwater production is low in the Garnet Hill Subarea and is not expected to increase significantly in the future due to relatively low well yields compared to those in the Mission Creek Subbasin. Water levels in the western and central portions of the subarea show response to large replenishment quantities from the Whitewater River Groundwater Replenishment Facility (Whitewater River GRF), while levels are relatively flat in the eastern portion of the subarea. The lack of wells in the subarea limits the geologic understanding of how this subarea operates relative to the Mission Creek Subbasin and Indio Subbasin.

Although some natural replenishment to this subarea may come from Mission Creek and other streams that pass through during periods of high flood flows, the chemical character of the groundwater, and its direction of movement, indicate that the main source of replenishment to the subarea comes from the Whitewater River through the permeable deposits which underlie Whitewater Hill (MWH 2013).

3.0 GROUNDWATER ELEVATIONS

Section 356.2(b) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan:*
>
> *(1) Groundwater elevation data from monitoring wells identified in the monitoring network shall be analyzed and displayed as follows:*
>
> *(A) Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.*
>
> *(B) Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.*

This section presents the groundwater level monitoring program results for the Indio Subbasin for Water Year (WY) 2017-2018.

3.1 MONITORING WELLS

In response to 2010 legislation, California Department of Water Resources (DWR) developed the California Statewide Groundwater Elevation Monitoring (CASGEM) program to track seasonal and long-term trends in groundwater elevations in California's groundwater basins. The hydrologic system of the Coachella Valley has been extensively monitored by a number of agencies for many years. Monitoring data in the Indio Subbasin is available for selected wells since the 1920s.

Monitoring wells, as shown in **Figure 3-1**, are selected so they can provide a good representation of groundwater elevations within each agency's service areas. The five monitoring agencies maintain a total of 56 CASGEM monitoring wells in the Indio Subbasin. During WY 2017-2018, there were 53 CASGEM wells with measured water levels as shown in **Table 3-1.** In addition to the CASGEM wells, the Coachella Valley Water District (CVWD), Desert Water Agency (DWA), and Indio Water Authority (IWA) monitor water levels in additional wells in the Indio Subbasin. During WY 2017-2018, CVWD monitored water levels three times per year in a total of 265 wells, including 39 CASGEM wells. DWA monitored water levels in 35 wells, including four CASGEM wells during WY 2017-2018. Indio Water Authority (IWA) monitored water levels in seven wells, including six CASGEM wells. Coachella Water Authority (CWA) monitored one CASGEM well and Mission Springs Water District monitored three CASGEM wells. In total, 311 wells were monitored in the Indio Subbasin during WY 2017-2018, as shown in **Table 3-1**, and in greater detail in **Appendix B**. The five monitoring agencies also maintain their own data management systems in compliance with CASGEM.

Table 3-1
WY 2017-2018 Wells Measured for Water Levels in the Indio Subbasin

Monitoring Agency	CASGEM Wells Monitored	Additional Wells Monitored	Total Wells Monitored
Coachella Valley Water District[1]	39	226	265
Coachella Water Authority[2]	1	0	1
Desert Water Agency[3]	4	31	35
Indio Water Authority[4]	6	1	7
Mission Springs Water District[5]	3	0	3
Total Wells Monitored	**53**	**258**	**311**

Notes:

1 CVWD monitors one CASGEM well (06S06E17K01S) that is considered to be in the Indio Subbasin but is just outside the Subbasin's boundary as defined in DWR Bulletin 118.
2 CVWD and CWA both recorded measurements from the CWA CASGEM well during WY 2017-2018.
3 DWA has three additional CASGEM wells that were not measured during WY 2017-2018.
4 IWA provided a single reading for one non-CASGEM well during WY 2017-2018. This well is located next to one of the CASGEM wells.
5 MSWD CASGEM well (03S03E08M01S) is physically located in the Indio Subbasin and is also part of the San Gorgonio Pass Subbasin monitoring program.

Return to Agenda

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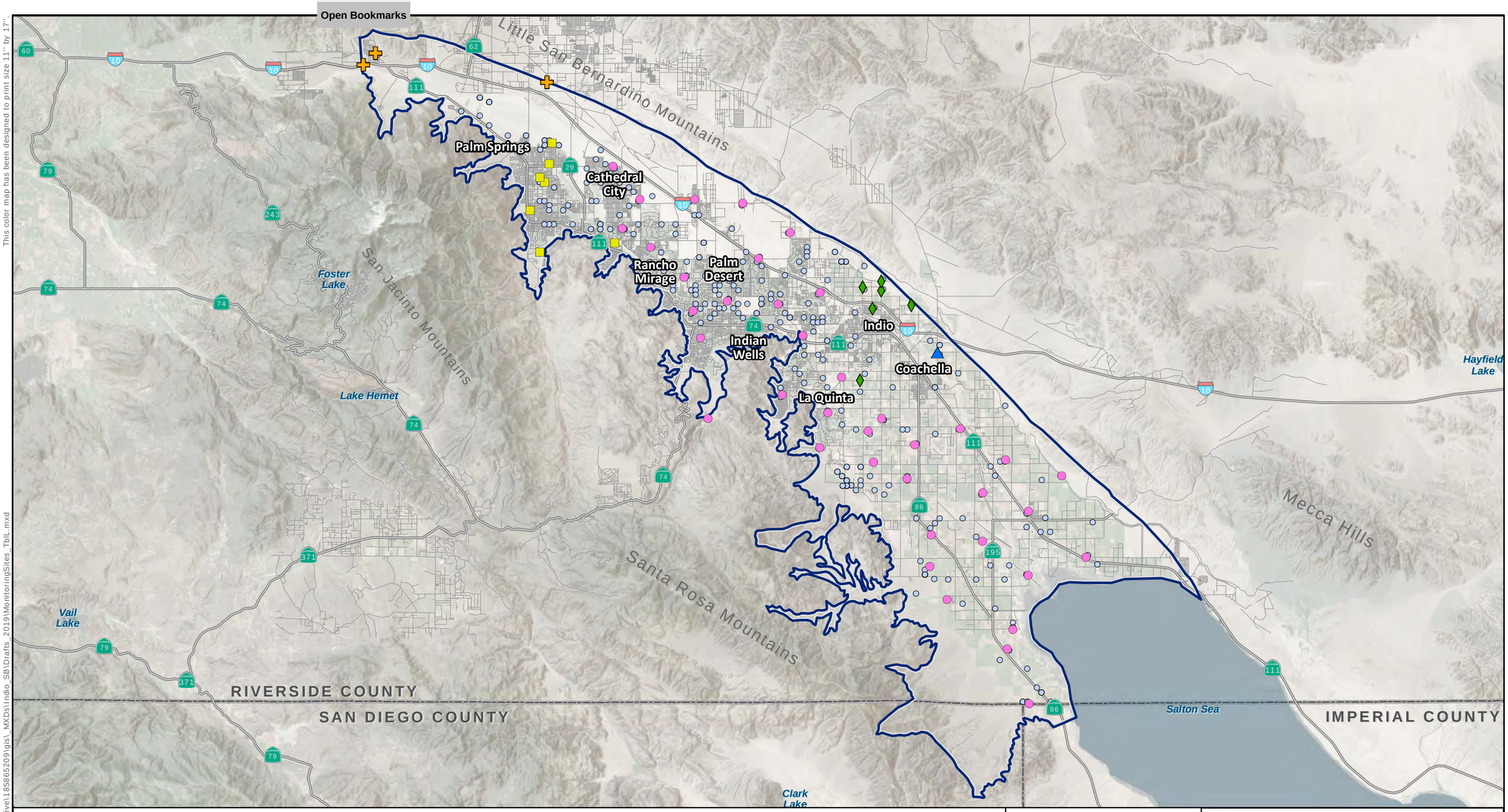

CASGEM Wells

- Coachella Water Authority
- Coachella Valley Water District
- Desert Water Agency
- Indio Water Authority (IWA)
- Mission Springs Water District
- Non-CASGEM Well
- Indio Subbasin

Source: DWR, CVWD, Caltrans, CalAtlas

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Date: 2/13/2019

TITLE:
Monitoring Well Locations in the Indio Subbasin

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

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FIGURE
3-1

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3.2 GROUNDWATER ELEVATIONS

Historical groundwater level changes in the Indio Subbasin, and conditions producing those changes, have been extensively described by the United States Geological Survey (USGS) and DWR, and are documented in the 2010 Coachella Valley Water Management Plan (CVWMP) Update, and 2014 and 2016 CVWMP Status Reports.

Figure 3-2 presents average groundwater elevation contours in the Indio Subbasin based on WY 2017-2018. The groundwater elevations represent groundwater conditions in the principal groundwater producing aquifer of the Indio Subbasin. Average groundwater levels for WY 2017-2018 are presented because the Indio Subbasin generally does not exhibit strong seasonal trends. Water levels near recharge areas respond directly to the timing of replenishment water deliveries and can vary from 10 feet (ft) to more than 200 ft within one year during periods of high replenishment. Water levels outside recharge areas of the Indio Subbasin typically experience annual variations of approximately 7 ft or less.

Groundwater generally flows from the northwest near the Whitewater River GRF toward the southeast at the Salton Sea. The groundwater gradient is typically steeper in the western portion of the Indio Subbasin, flattening to the southeast.

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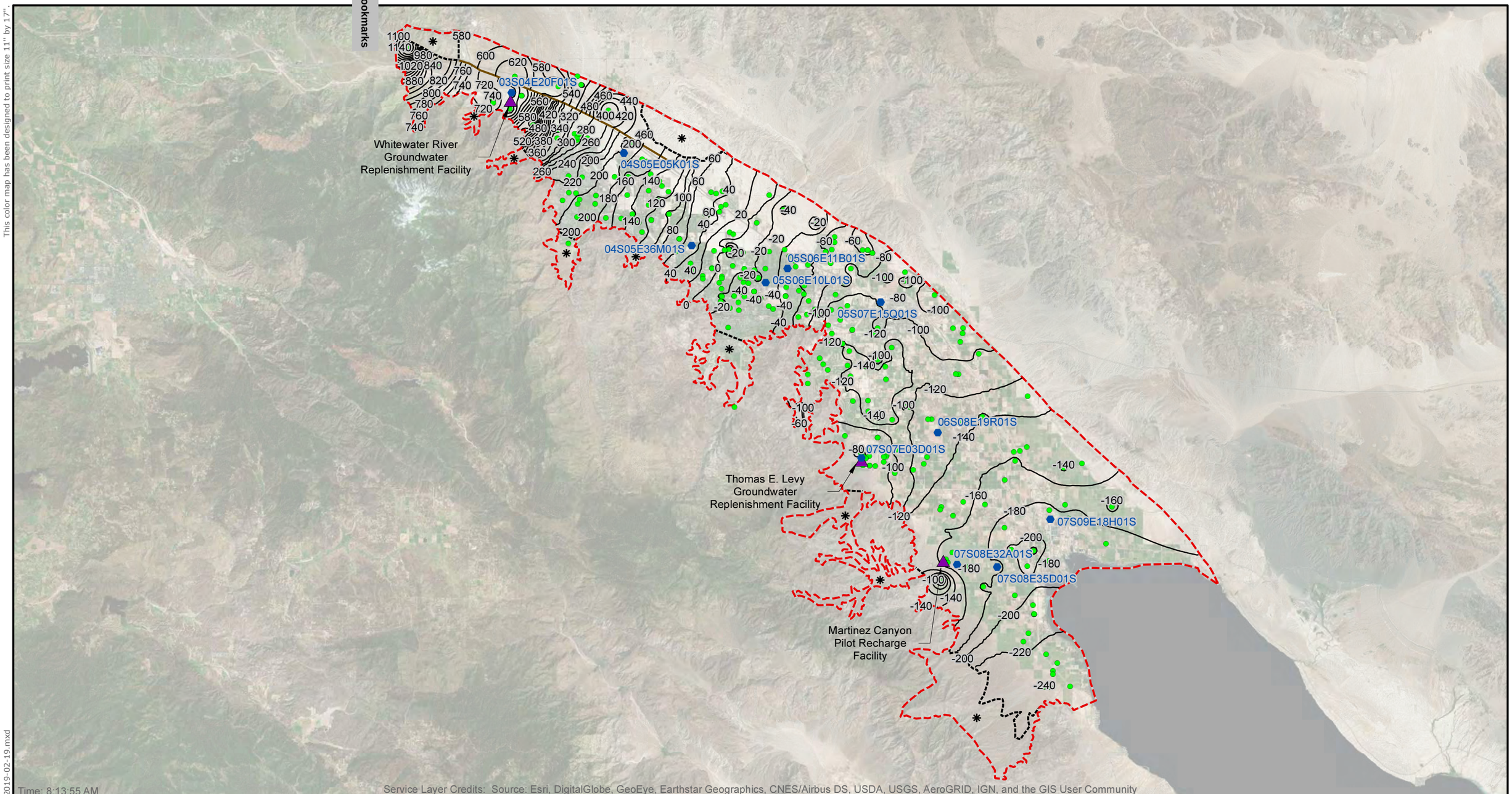

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- Monitored Water Wells with Hydrographs
- 20-Foot Contour
- Indio Subbasin
- Water Level Data Boundary
- Garnet Hill Fault Trace

Note:

Elevations Relative to Mean Sea Level

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **Indio Subbasin Groundwater Elevation Contours - WY 2017-2018**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **3-2**

H:\10224\5\INDIO_WSE_WY17-18_2019-02-19.mxd

3.3 HYDROGRAPHS

Figure 3-3 and **Figure 3-4** present hydrographs for a selection of eleven (11) representative wells separated by the western and eastern portions of the Indio Subbasin, to provide some context regarding the long-term changes in the water levels of the aquifer. The hydrographs are shown in larger format in **Appendix A**. These eleven (11) wells were selected on the basis of having been consistently monitored over a relatively long time period and on their location in different regions within the Indio Subbasin. The locations of the wells are shown on the map in **Figure 3-2**. The hydrographs indicate that water levels in the westerly portion of the Indio Subbasin have been very responsive to replenishment water deliveries at the Whitewater River GRF, water levels in the Palm Springs/Cathedral City area have remained relatively stable with moderate fluctuations in response to recharge events, and water levels in the Mid-Coachella Valley area near the City of Palm Desert generally stabilized around 2005. Water levels throughout the easterly portion of the Indio Subbasin have either increased or stabilized since commencement of replenishment activities at the Thomas E. Levy GRF (TEL GRF) and other elements of the CVWMP in 2009. The analysis of the water levels observed at the monitoring wells emphasizes the benefit and effectiveness of the replenishment program in improving groundwater storage conditions even during a drought; without replenishment, greater declines in water levels would have been observed during this period.

Figure 3-3. Representative Groundwater Elevation Hydrographs Western Indio Subbasin

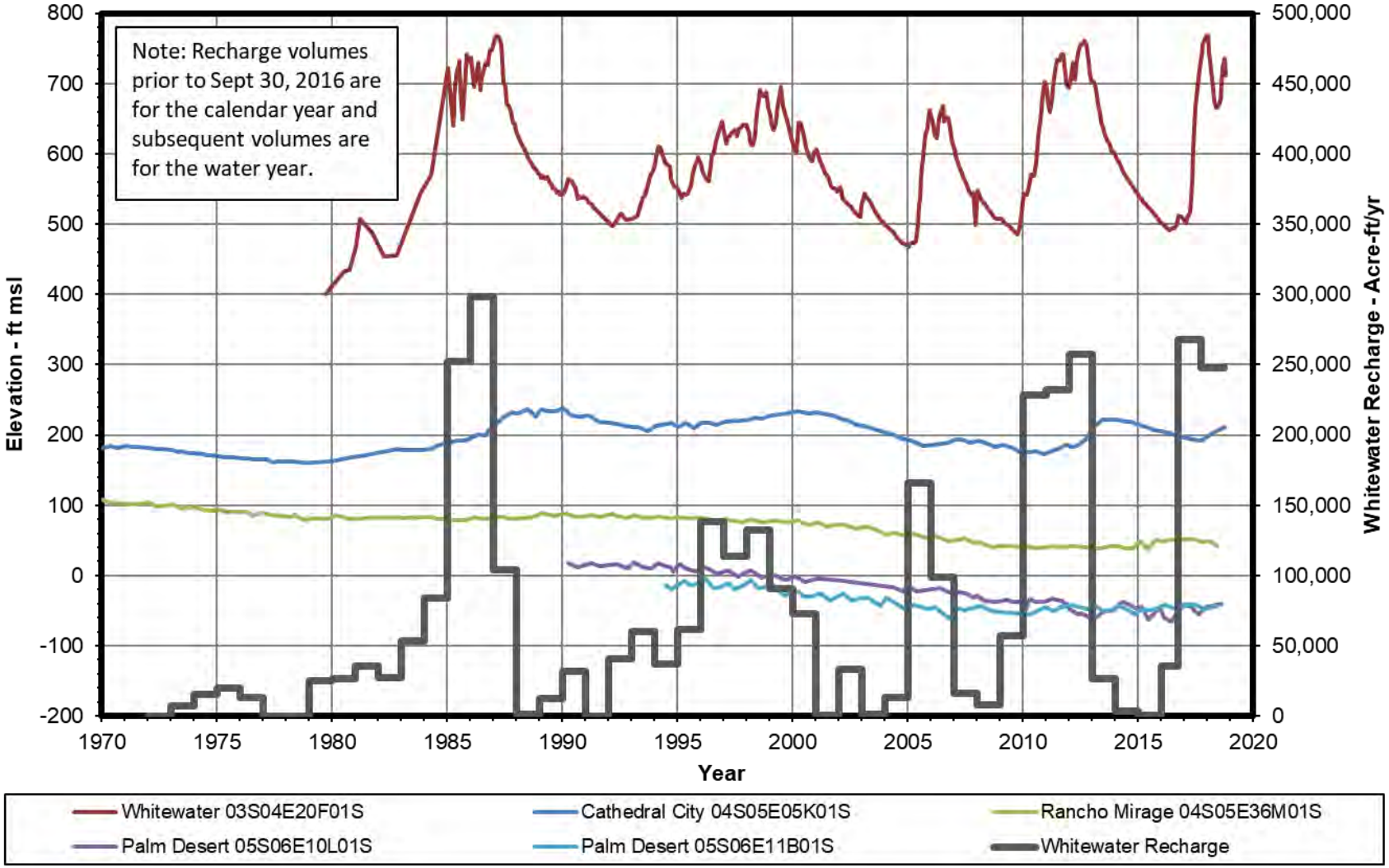
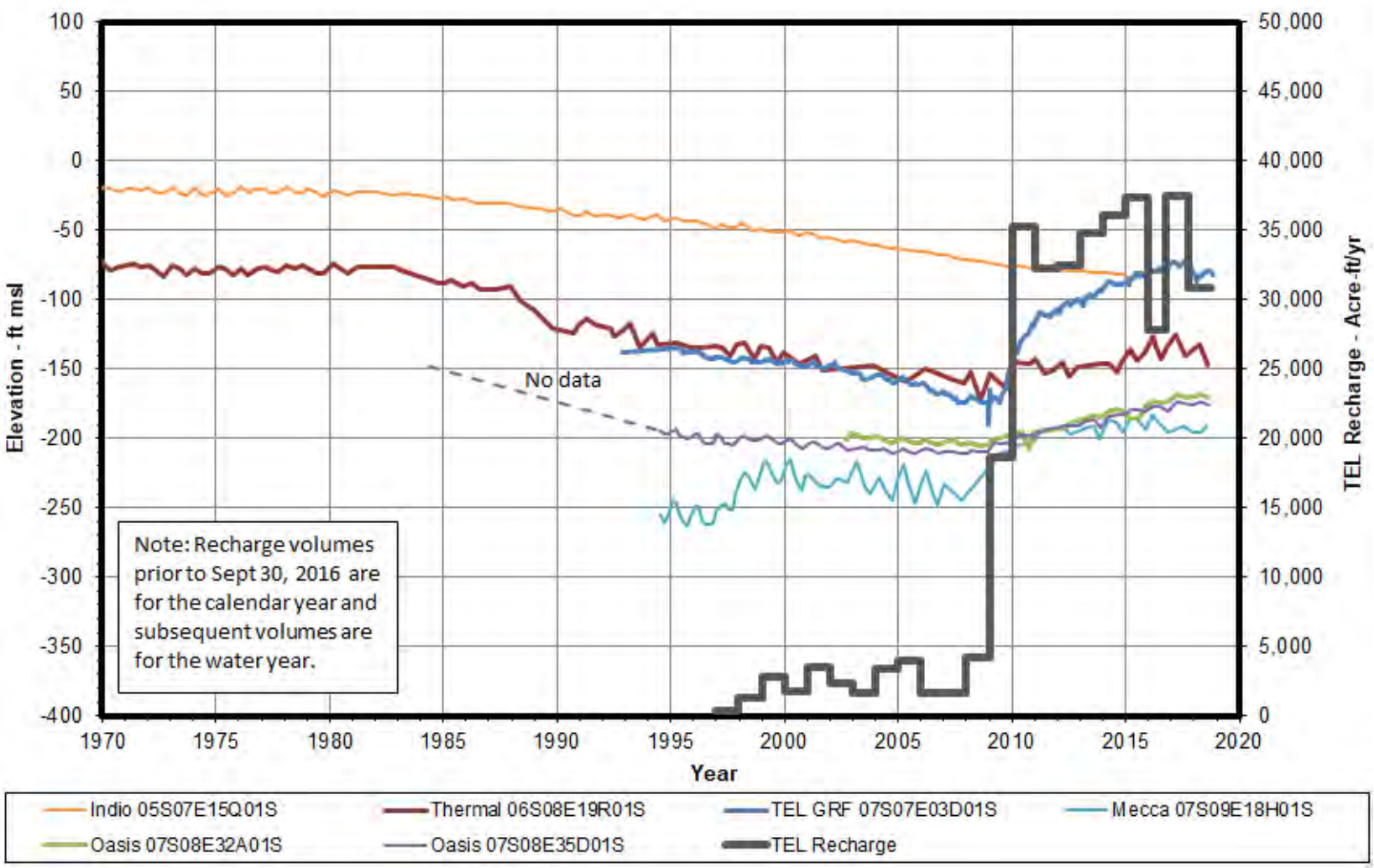


Figure 3-4. Representative Groundwater Elevation Hydrographs Eastern Indio Subbasin



3.4 ARTESIAN CONDITIONS

Historically, the eastern portion of the Indio Subbasin experienced confined aquifer artesian conditions with sufficient pressure to cause groundwater levels in wells to rise above the ground surface. Artesian flowing wells attracted early settlers to farm in this area. Artesian conditions declined in the late 1930s when increased groundwater pumping caused declining groundwater elevations. The completion of the Coachella Canal by the United States Bureau of Reclamation (USBR) in 1949 brought Colorado River water to the eastern Coachella Valley for agricultural irrigation purposes. Artesian conditions returned in the early 1960s through the 1980s as imported Colorado River water was substituted for groundwater production. Beginning in the late 1980s, groundwater uses again increased, resulting in declining water levels and a loss of artesian conditions.

The East Whitewater River Subbasin Groundwater Replenishment Program (GRP), combined with other water management elements, including source substitution and water conservation, are helping to control groundwater overdraft, restore water levels, and return artesian conditions within the eastern portion of the Indio Subbasin. This results in reduced groundwater pumping costs and water quality protection of the confined aquifer.

Figure 3-5 depicts the current annual average artesian conditions within the easterly Indio Subbasin; specifically, the water pressure equivalent elevation above ground surface during WY 2017-2018. The water level contours in **Figure 3-5** are derived from water levels in all the monitored wells in the deep aquifer of the Indio Subbasin that were used in the analysis, with only the above-ground water level contours shown. Contouring factors have been adjusted to increase local resolution of the artesian area.

Twelve (12) wells experienced artesian conditions as averaged over WY 2017-2018, although the pressure in one (08S09E07M01S) cannot be accurately measured. In **Figure 3-5**, the artesian wells are depicted as blue dots, the non-artesian wells are depicted as green dots (note that two pairs of wells occurring in the same location are depicted with a single dot). Due to the influence on the contours of water levels in nearby non-artesian wells, two of the artesian wells do not appear within the above-ground contours (07S07E02G02S and 08S09E07M01S).

Several wells changed with respect to artesian conditions since WY 2016-2017. Two wells that were non-artesian in WY 2016-2017 became artesian in WY 2017-2018 (08S09E07N03S and 08S09E07N04S), one well that was artesian in WY 2016-2017 (07S08E02L03S) lost its artesian character in WY 2017-2018, and one well that was artesian in WY 2016-2017 (07S09E17K01S) had no pressure readings in WY 2017-2018. The average water level of the wells experiencing artesian conditions during both WY 2016-2017 and WY 2017-2018 increased from WY 2016-2017 by approximately 0.1 ft.

Open Bookmarks

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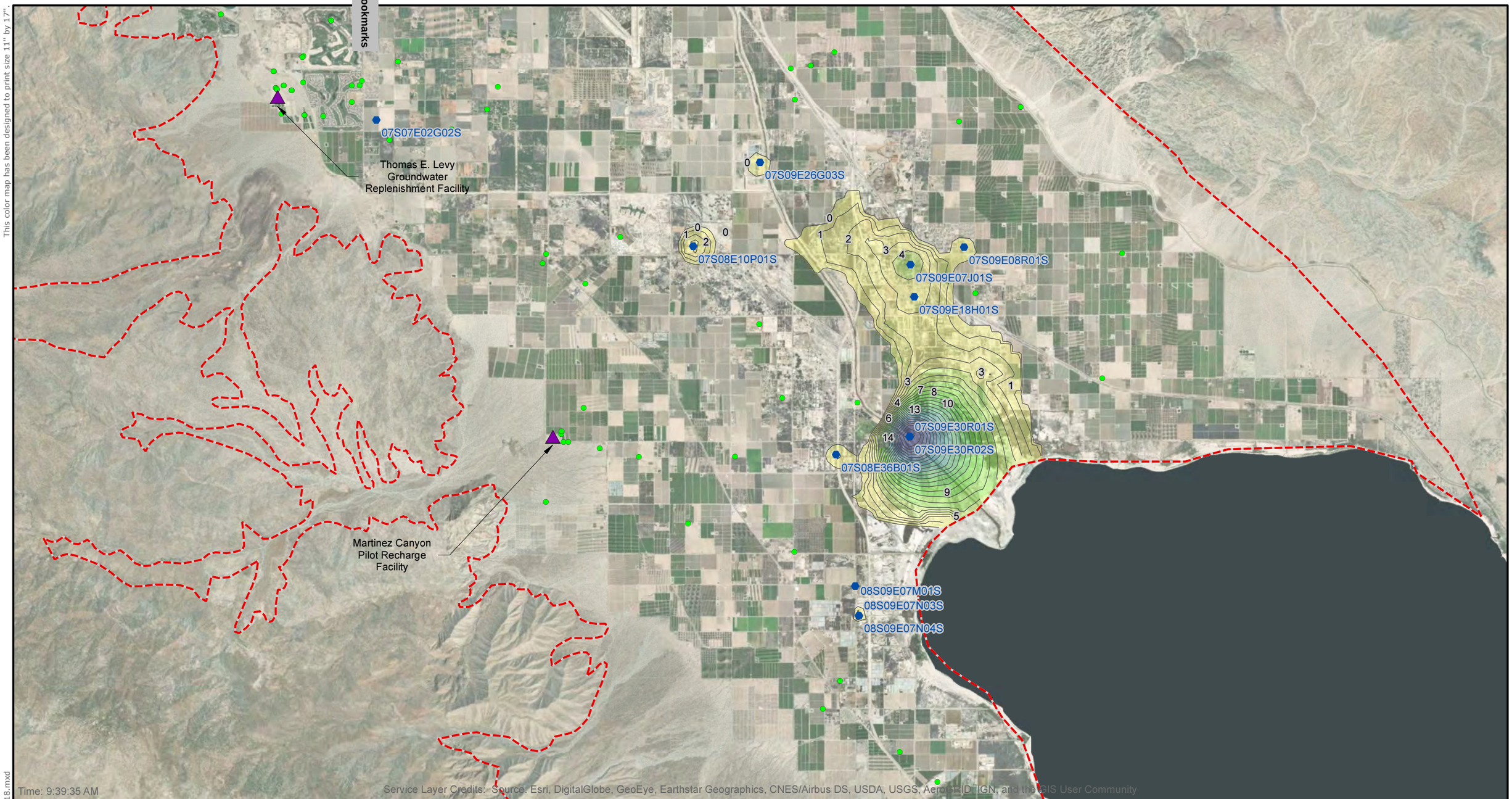


Legend

- Replenishment Facilities
- Monitored Water Wells
- Artesian Wells
- 1-Foot Contour Above Ground Surface
- Indio Subbasin Boundary

Water Year 2017-2018 Artesian Conditions

Value

- 24 Feet
- 12 Feet
- 0 Feet

N

0 3 Miles

Date: 2/20/2019

TITLE: **WY 2017-2018 Average Artesian Conditions in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **3-5**

H:\1022\4.5\EW_ARTESIAN_WY17-18.mxd

3.5 LAND SUBSIDENCE

Land subsidence in the Coachella Valley has been investigated since 1996 through an on-going cooperative program between CVWD and the USGS. Global Positioning System (GPS) surveying, using GNSS-Inferred Positioning System and Orbit Analysis Simulation Software (GIPSY-OASIS), and interferometric synthetic aperture radar (InSAR) methods have been used to determine the location, extent, and magnitude of the vertical land-surface changes in the Coachella Valley.

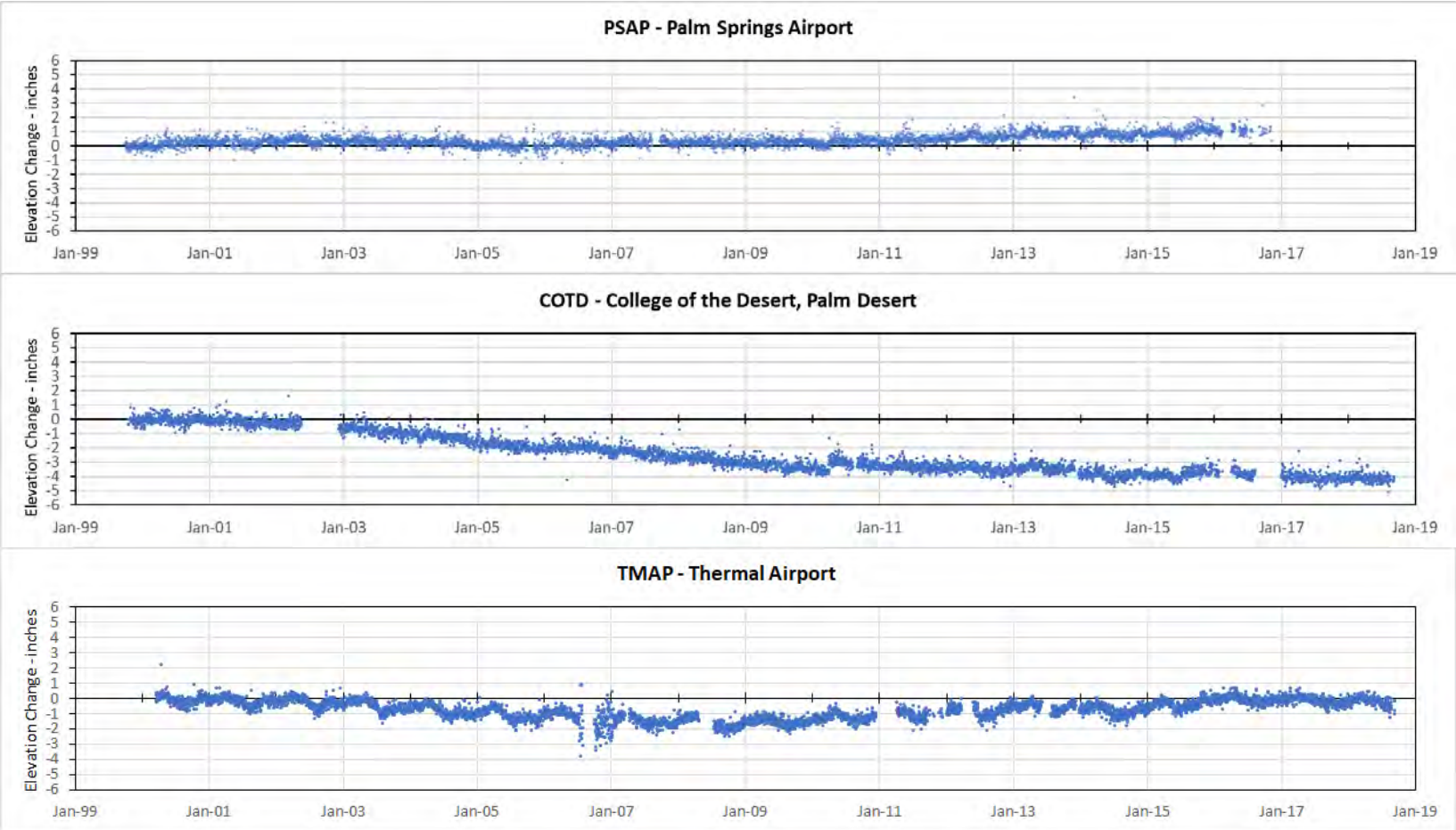
A report was published by the USGS in 2007, entitled *Detection and Measurement of Land Subsidence Using Global Positioning System Surveying and Interferometric Synthetic Aperture Radar, Coachella Valley, California 1996-2005* (Sneed and Brandt, 2007). The most recent phase of the investigation evaluated correlations between subsidence and recovery related to local geology and groundwater level changes during the period 1993 to 2010. The most recent in this series of reports was published by the USGS in 2014 (Sneed et al., 2014). This report indicated that some subsidence had occurred in the East Whitewater River Subbasin Management Area and portions of the West Whitewater River Subbasin Management Area (primarily within the Palm Desert area) during that time period. However, decreased rates of subsidence, or uplift, were observed in the La Quinta area in 2010. The uplift was attributed to the recovering water levels in the vicinity of the TEL GRF (Sneed et al., 2014).

CVWD and USGS initiated a four-year study in 2014 to analyze changes in land surface elevations in the Coachella Valley during the period 2010 to 2017. The report summarizing this data is in review and expected to be available in the first half of 2019.

Recent elevation data were collected through the cooperative program between CVWD and the USGS for three Indio Subbasin stations including Palm Springs Airport (PSAP), College of the Desert (COTD) in Palm Desert, and Jacqueline Cochran Regional Airport formerly known as Thermal Airport (TMAP). The PSAP, COTD, and TMAP monitoring station locations are shown on **Figure 2-1**. Land surface elevation change from a reference elevation, using GIPSY data for these stations from 1999 through 2018 (2016 for PSAP), are shown on **Figure 3-6**.

These GPS measurements indicate there has been about 1 inch of uplift in Palm Springs (PSAP) between 2000 and 2016, most of which occurred since 2011, possibly coinciding with periods of high recharge at the Whitewater River GRF. There has been about 4 inches of subsidence in Palm Desert (COTD) between 2001 and 2018, most of which occurred between 2001 and 2010. The rate of subsidence decreased between 2010 and 2015 possibly due to conversion of several golf courses to imported and recycled water supplied through the Mid-Valley Pipeline system. The elevation change in Palm Desert appears to have stabilized since about 2015. There was up to 2 inches of subsidence observed in Thermal from 2000 to 2009; however, the ground surface has since rebounded to the elevations observed in 2001. This rebound roughly coincides with commencement of recharge operations at the TEL GRF.

Figure 3-6. Coachella Valley Land Surface Elevation Changes



Note: See Figure 2-1 for subsidence monitoring locations.
Source: UCSD, S O P A C & C S R C Garner GPS Archive, 2019.

4.0 GROUNDWATER EXTRACTIONS

Section 356.2(b)(2) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.*

This section presents the groundwater extraction monitoring program results for the Indio Subbasin for Water Year (WY) 2017-2018. Because Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) are authorized to collect replenishment assessment from groundwater producers, their respective legislations mandate the installation of water meters on all wells producing more than 25-acre feet per year (AFY) in CVWD's service area, and 10 AFY in DWA's service area. As a result, CVWD and DWA monitoring of groundwater extractions is the most comprehensive and accurate for the Indio Subbasin.

Total groundwater production was 288,308 acre-feet (AF) during WY 2017-2018 as shown in **Table 4-1**, an increase of over 8.3% compared to WY 2016-2017. Of this total amount, groundwater production of 284,508 AF was reported from 563 wells. Groundwater production of 3,800 AF was estimated for minimal pumpers (less than 25 AFY in CVWD and 10 AFY in DWA) and tribal use that do not report production to CVWD or DWA. Every water sector showed an increase in groundwater extraction during WY 2017-2018, with the greatest increase of 17,912 AF for additional urban sector groundwater production. As indicated in **Table 4-1,** some water use for industrial and urban purposes is not metered and is estimated for purposes of this report. In addition, the Groundwater Sustainability Agencies (GSAs) estimate there could be about 1,500 AFY of unreported pumping by minimal producers and tribal producers whose use is unknown.

Figure 4-1 presents a map showing the general location of production in the Indio Subbasin. This map summarizes production by public land survey section and classifies the production intensity by color. Dark blue areas correspond to groundwater production in excess of 5,001 AF per square mile. These areas are all located near urban areas of Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, and Indio.

Table 4-1
WY 2017-2018 Groundwater Extractions by Water Use Sector in the Indio Subbasin

Water Use Sector	Groundwater Extractions (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	51,012	100% metered	±2%
Industrial[2]	1,522	27% metered 73% estimated	±2% ±50%
Urban[3]	234,274	99% metered 1% estimated	±2% ±50%
Environmental	0	Not applicable	--
Undetermined[4]	1,500	100% estimated	±50%
Total Production	**288,308**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes unreported groundwater production for industrial use on tribal land that is estimated to be 1,100 AFY.
3 Includes municipal and recreational uses. Total includes 1,211 AF of metered production to supply windbreaks along the railroad and unreported groundwater production for recreational use on tribal land estimated to be 1,200 AFY.
4 Estimated production by minimal pumpers and tribal use who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).

Return to Agenda

Open Bookmarks

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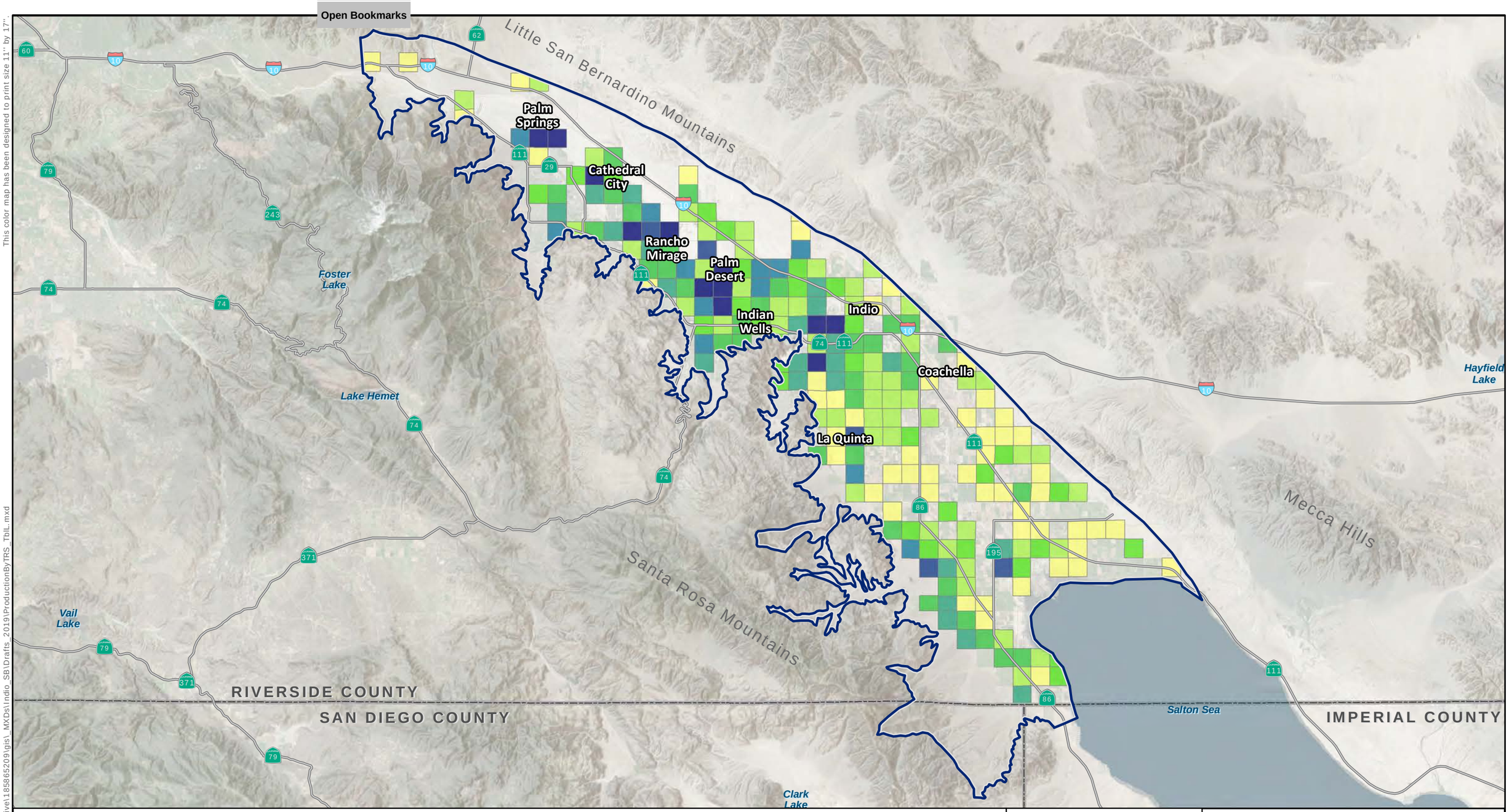


Production per Square Mile in Acre-Feet *

- 1 - 100
- 101 - 500
- 501 - 1000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 4,000
- 4,001 - 5,000
- > 5,001

* grid cells are approximately one square mile in area, based off the Public Land Survey System sections.

N

0 2 4 6 8 Miles

Date: 1/30/2019

TITLE:
Groundwater Production Data

PROJECT:
Indio Subbasin Annual Report

COORDINATE SYSTEM:
NAD 1983 StatePlane California VI FIPS 0406 Feet

Stantec

FIGURE
4-1

\\us1300-f01\workgroup\1858\active\185865209\gis_MXDs\Indio_SB\Drafts_2019\ProductionByTRS_TblL.mxd

5.0 SURFACE WATER

Section 356.2(b)(3) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(3) Surface water supply used or available for use, for groundwater recharge or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.*

This section presents the surface water availability and use for the Indio Subbasin for Water Year (WY) 2017-2018. For purposes of this report, surface water supplies consist of local surface water, imported water from the Colorado River via the Coachella Canal, State Water Project (SWP) Exchange Water from the Colorado River via the Colorado River Aqueduct (CRA), and recycled water produced by publicly-owned wastewater treatment plants.

5.1 COACHELLA VALLEY GROUNDWATER BASIN STREAM FLOW

Natural surface water flow in the Coachella Valley occurs as a result of precipitation, precipitation runoff, and stream flow originating from the San Bernardino and San Jacinto Mountains, with lesser amounts originating from the Santa Rosa Mountains. The majority of precipitation in the Coachella Valley occurs from December through February with annual averages ranging from 3 to 6 inches on the Coachella Valley floor to more than 30 inches in the surrounding mountains (DWR, 1964; NWS, 2019). Occasionally, intense precipitation events occur during the summer months from subtropical thunderstorms. The precipitation that occurs within the tributary watersheds either evaporates, is consumed by native vegetation, percolates into underlying alluvium and fractured rock, or becomes runoff, which can be captured by mountain-front debris basins and percolated into the aquifer. A portion of the flow percolating into the mountain watersheds eventually becomes subsurface inflow to the subbasins. The location of precipitation and streamflow stations in the Indio Subbasin are presented on the map in **Figure 2-1**.

5.1.1 Precipitation

Precipitation data for WY 2017-2018 was collected from the Riverside County Flood Control and Water Conservation District for twelve (12) precipitation monitoring stations (**Figure 2-1**) in the Coachella Valley as shown in **Table 5-1.** This table shows the average of the precipitation totals during the WY 2017-2018 for these stations was 2.89 inches with the majority of the precipitation occurring during the months of January, February, and March. Annual precipitation for WY 2017-2018 was approximately 60 percent of normal. The average precipitation was significantly less than the previous WY 2016-2017 which had an average precipitation of 9.81 inches for these stations. The remaining months of the year experienced little to no measurable amounts of precipitation with the exception of a July storm event.

Table 5-1
WY 2017-2018 Coachella Valley Precipitation Data
Monthly and Annual Recorded Precipitation (inches)

STATION NAME	WHITEWATER NORTH	SNOW CREEK	DESERT HOT SPRINGS	TACHEVAH DAM	TRAM VALLEY	CATHEDRAL CITY	THOUSAND PALMS	PALM SPRINGS SUNRISE	EDOM HILL	OASIS	MECCA LANDFILL III	THERMAL AIRPORT
SUBBASIN	**INDIO**	**INDIO**	**MC**	**INDIO**	**INDIO**	**INDIO**	**INDIO**	**INDIO**	**MC**	**INDIO**	**INDIO**	**INDIO**
STATION NUMBER	**233**	**207**	**57**	**216**	**224**	**34**	**222**	**442**	**436**	**431**	**432**	**443**
LATITUDE	33°59'23.06"	33°53'32.64"	33°58'2.85"	33°49'51.26"	33°50'11.56"	33°46'51.49"	33°49'1.66"	33°48'35.94"	33°53'7.52"	33°26'21.64"	33°34'20.19"	33°37'53.90"
LONGITUDE	116°39'21.39"	116°41'41.06"	116°29'39.93"	116°33'31.53"	116°36'49.72"	116°27'29.69"	116°23'46.30"	116°31'37.94"	116°26'18.48"	116° 4'44.83"	116° 0'15.33"	116° 9'50.81"
ELEVATION (FT ABOVE MSL)	2220	1658	1223	570	2675	283	230	397	1038	-108	13	-122
OCTOBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOVEMBER	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DECEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JANUARY	3.57	4.53	1.76	2.24	3.81	1.35	1.07	1.64	1.27	0.25	0.19	0.42
FEBRUARY	0.35	1.35	0.02	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MARCH	1.25	3.37	0.25	0.22	1.98	0.15	0.14	0.35	0.15	0.00	0.01	0.00
APRIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
MAY	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
JUNE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
JULY	0.01	0.00	0.13	0.42	0.83	0.13	0.06	1.08	0.03	0.01	0.01	0.00
AUGUST	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.11
SEPTEMBER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	**5.24**	**9.28**	**2.18**	**2.88**	**6.68**	**1.63**	**1.28**	**3.07**	**1.49**	**0.26**	**0.21**	**0.53**
AVERAGE	**2.89**											

5.1.2 Streamflow

The United States Geological Survey (USGS) measures streamflow at thirteen (13) locations in the Indio Subbasin. **Table 5-2** presents the total gauged runoff in acre-feet (AF) for WY 2017-2018 at each station. It should be noted that some streams, like the Whitewater River, are gauged at more than one location. A portion of the streamflow is diverted for agricultural and municipal use as described in Section 5.1.3 and the balance naturally replenishes the groundwater basin. USGS gauges 10257548 and 10257549 are downstream from where imported water is released to the Whitewater River from the Colorado River Aqueduct for aquifer recharge at the Whitewater River GRF. USGS gauge 10259540 measures the flow in the Coachella Valley Stormwater Channel before it enters the Salton Sea.

Table 5-2
WY 2017-2018 Local Streamflow Measurements for the Indio Subbasin

Gauge Number	Gauge Name	WY 2017-2018 Annual Flow (AF)
10256500	Snow C Nr Whitewater CA	1,800
10256501	Snow C And Div Combined CA	2,278
10256550	Snow C Div Nr Whitewater CA[1]	477
10257499	Falls C Div Nr Whitewater CA	14
10257500	Falls C Nr Whitewater CA[1]	66
10257501	Falls C and Div Combined CA	323
10257548	Whitewater R At Windy Point Main Channel CA	209,116
10257549	Whitewater R At Windy Point Overflow Channel CA	0
10257550	Whitewater R At Windy Pt Nr Whitewater CA	209,116
10257720	Chino Cyn C Bl Tramway Nr Palm Springs CA	7
10258000	Tahquitz C Nr Palm Springs CA	397
10258500	Palm Cyn C Nr Palm Springs CA	46
10258700	Murray Cyn C Nr Palm Springs CA	105
10259000	Andreas C Nr Palm Springs CA	787
10259050	Palm Cyn Wash Nr Cathedral City CA	16
10259100	Whitewater R At Rancho Mirage CA	41
10259200	Deep C Nr Palm Desert CA	0
10259300	Whitewater R At Indio CA	53
10259540	Whitewater R Nr Mecca	45,019

Notes:

1 USGS measurements for Snow Creek and Falls Creek diversions are calculated based on the difference in flow between gauges located upstream of the diversions and about ½ mile downstream of the diversions. DWA directly measures the diversion volumes shown in **Table 5-2.**

5.1.3 Direct Use of Local Surface Water

Desert Water Agency (DWA) operates stream diversions facilities on Snow, Falls, and Chino Creeks, and also captures subsurface flow from the Whitewater River Canyon. During WY 2017-2018, there was a total of 1,797 AF of local surface water put to direct use as shown in **Table 5-3**. Approximately 612 AF of surface water was estimated to be used for agricultural irrigation near Whitewater, California based on water rights filings for Calendar Year 2017; usage data submitted with water rights filings are not yet available for 2018. The remaining 1,185 AF was used for urban water supply in DWA's service area.

Table 5-3
WY 2017-2018 Direct Use of Local Surface Water in the Indio Subbasin

Water Use Sector	Surface Water Use (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	612	100% metered	±2%
Industrial	0	Not applicable	--
Urban[2]	1,185	100% metered	±2%
Environmental	0	Not applicable	--
Total Surface Water Use	**1,797**		

Notes:

Total diversions are measured by DWA at each source.

1 Estimated agricultural use is based on data reported to the State Water Resources Control Board for Calendar Year 2017; data for 2018 has not been submitted.

2 Includes municipal and recreational uses within the DWA service area.

5.2 IMPORTED WATER DELIVERIES

In addition to natural replenishment from precipitation and stream flow, the Indio Subbasin receives artificial replenishment from importation of surface water from the Colorado River, State Water Project (SWP) water that is exchanged for Colorado River water, and from recycled water.

CVWD and DWA provide artificial replenishment of the Coachella Valley Groundwater Basin through their Groundwater Replenishment Programs (GRPs). Groundwater replenishment is affected through two basic mechanisms: direct replenishment, in which imported surface water is percolated directly into the aquifer, and in-lieu replenishment, in which imported surface water or recycled water is provided for irrigation purposes, thus reducing or eliminating use of pumped groundwater. Supplies of imported water include the Colorado River and State Water Project (SWP) water that is exchanged for Colorado River water. More information on these imported water supplies is provided in the following sections.

5.2.1 Colorado River Water

Colorado River water has been a major source of supply for the Coachella Valley since 1949 with the completion of the Coachella Canal. California has an annual apportionment of 4.4 million acre-feet per year (AFY) of Colorado River water. California's apportionment is allocated by the 1931 Seven Party Agreement among Palo Verde Irrigation District (PVID), Imperial Irrigation District (IID), CVWD, and Metropolitan Water District of Southern California (MWD). The three remaining parties - the City and the County of San Diego and the City of Los Angeles - are now part of MWD.

The Coachella Canal is a branch of the All-American Canal that brings Colorado River water into the Imperial and Coachella Valleys. Historically, CVWD received approximately 330,000 AFY of Priority 3A Colorado River water delivered via the Coachella Canal. The Coachella Canal originates at Drop 1 on the

All-American Canal and extends approximately 122 miles, terminating in CVWD's Lake Cahuilla. The Coachella Valley's service area for Colorado River water delivery under CVWD's contract with the United States Bureau of Reclamation (USBR) for Colorado River water is defined as Improvement District No. 1 (ID-1), a 136,436-acre area which encompasses most of the eastern Coachella Valley and a portion of the western Coachella Valley north of Interstate 10.

In 2003, CVWD, IID and MWD completed negotiation of the Quantification Settlement Agreement (QSA), which quantifies the Colorado River water allocations of California's agricultural water contractors for the next 75 years and provides for the transfer of water between agencies. Under the QSA, CVWD has a base allotment of 330,000 AFY. In accordance with the QSA, CVWD has entered into water transfer agreements with MWD and IID that increase CVWD supplies by an additional 129,000 AFY.

Table 5-4 presents CVWD's Colorado River water supply for 2018 under the QSA. The QSA defines CVWD's Colorado River water supply allocation on a calendar year basis. CVWD's available Colorado River water supply in 2018 was 384,000 AF at Imperial Dam. This amount increased by 18,000 AF from 2017. Starting in 2019, CVWD's Colorado River water supply will increase annually in 5,000 AF increments through 2026, when the amount under the QSA will be 424,000 AF. The QSA also provided CVWD a transfer of SWP water from MWD in the amount of 35,000 AFY that may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability. CVWD currently arranges for delivery of this water at the Whitewater River GRF.

During WY 2017-2018, CVWD took delivery of 341,567 AF of Colorado River water at Imperial Dam (less measured returns to the river) and delivered 325,695 AF for uses from the Coachella Canal distribution system. The difference between diversions and deliveries (15,872 AF) is conveyance loss along the All-American and Coachella Canals from Imperial Dam and regulatory water releases from the distribution system. Approximately 80 percent of the delivered Colorado River water was for agricultural use, about 11 percent was delivered for urban uses, and about 9 percent for groundwater replenishment.

Table 5-4
CVWD Colorado River Water Supply under the QSA

Budget Component	2018 Amount (AF)[1]
Base Entitlement	330,000
Less Coachella Canal Lining (to SDCWA)	-26,000
Less Miscellaneous/Indian PPRs[2]	-3,000
1988 MWD/IID Approval Agreement	20,000
First IID/CVWD Transfer	50,000
Second IID/CVWD Transfer	13,000
MWD/CVWD Replacement Water[3]	0
Total Diversion at Imperial Dam	**384,000**

Notes:
1 The QSA defines CVWD's Colorado River water supply allocation on a calendar year basis.
2 Indian Present Perfected Rights
3 MWD assumes the obligation to provide 50,000 AFY of replacement water after 2048.

5.2.2 State Water Project Water

CVWD and DWA have contracts with the California Department of Water Resources (DWR) for State Water Project (SWP) water with a combined Table A Amount of 194,100 AFY as shown in **Table 5-5**. There are no physical facilities to deliver SWP water to the Coachella Valley. CVWD's and DWA's Table A water is exchanged with MWD for a like amount of Colorado River water from MWD's Colorado River Aqueduct (CRA), that extends from Lake Havasu, through the Coachella Valley to MWD's Lake Mathews. SWP Exchange water has been used to recharge the Indio Subbasin at the Whitewater River GRF since 1973. MWD, DWA and CVWD executed an advanced delivery agreement in 1985 that allowed MWD to pre-deliver up to 600,000 AF of SWP water into the Coachella Valley. MWD then has the option to deliver CVWD's and DWA's SWP allocation either from the CRA or from water previously stored in the basin. This agreement was subsequently amended to increase the pre-delivery amount to a maximum of 800,000 AF.

Table 5-5
State Water Project Table A Amounts

Agency	Original SWP Table A	Tulare Lake Basin Transfer #1	Tulare Lake Basin Transfer #2	Metropolitan Transfer	Berrenda Mesa Transfer	Total
CVWD	23,100	9,900	5,250	88,100	12,000	138,350
DWA	38,100	--	1,750	11,900	4,000	55,750
Total	61,200	9,900	7,000	100,000	16,000	194,100

Note: All values expressed in AFY.

Each year, DWR determines the amount of water available for delivery to SWP contractors based on hydrology, reservoir storage, the requirements of water rights licenses and permits, water quality, and environmental requirements for protected species in the Sacramento-San Joaquin Delta. The available supply is then allocated according to each SWP contractor's Table A amount. During calendar year 2017, DWR allocated 85 percent of the Table A amounts to contractors in response to the high snowpack during the winter of WY 2016-2017. DWR allocated 35 percent of CVWD's and DWA's Table A amounts in calendar year 2018.

For the WY 2017-2018, CVWD's and DWA's SWP allocation was delivered to MWD in accordance with the SWP Exchange Agreement. As shown in **Table 5-6**, MWD received on behalf of CVWD and DWA, 58,097 AF of SWP Table A water, 97,050 AF of SWP Article 56 carryover water from calendar year 2017, 0 AF of SWP Turnback Pool water, 1,246 AF of Dry Year (Yuba) water, 0 AF of Flexible Storage Payback water, and 20,576 AF of Rosedale-Rio Bravo water transfers on behalf of CVWD. In addition, MWD received 35,000 AF of SWP water transferred to CVWD under the QSA. The total deliveries received on behalf of CVWD and DWA by MWD in WY 2017-2018 was 211,969 AF.

Due to the nature of the Advanced Delivery agreement with MWD, CVWD and DWA may either receive direct deliveries of SWP Exchange water or water delivered from the Advanced Delivery storage account. As shown in **Table 5-6,** CVWD and DWA took delivery of 247,812 AF of SWP Exchange water at the Whitewater River GRF and 7,895 AF was delivered to the Mission Creek GRF (in the Mission Creek Subbasin), for a total delivery to the Coachella Valley of 255,707 AF. Of this amount, 43,738 AF was credited to the Advanced Delivery Account. As of the end of WY 2017-2018, there were 302,959 AF stored in MWD's advanced delivery account in the Coachella Valley. This represents over two years of SWP Exchange deliveries at the current average reliability of 62 percent of CVWD's and DWA's combined Table A Amounts. The 2017 SWP Delivery Capability Report (DWR, 2018) estimates the long-term average deliverability at 62 percent of maximum Table A amounts.

Table 5-6
Deliveries of CVWD and DWA State Water Project Water to Metropolitan Water District in WY 2017-2018

Description	CVWD (AF)	DWA (AF)	Total (AF)
Table A	41,411	16,686	58,097
Article 21 "Interruptible"	0	0	0
Turnback Pool A and B	0	0	0
Multi-Year Pool	0	0	0
Dry Year (Yuba)	888	358	1,246
Flex Storage Payback	0	0	0
Article 56 (c) "Carryover" from 2017 delivered in 2018	69,175	27,875	97,050
Rosedale-Rio Bravo	20,576	0	20,576
CVWD QSA Transfer[1]	35,000	0	35,000
Total Delivered to MWD	167,050	44,919	211,969
Water Deliveries to Coachella Valley			
Water Delivered to CVWD and DWA at Whitewater GRF	--	--	247,812
Water Delivered to CVWD and DWA at Mission Creek GRF	--	--	7,895
Total Water Delivered to Coachella Valley			255,707
Credit to/from Advanced Delivery Account[2]			+ 43,738
Advanced Delivery Account Balance as of September 30, 2018			+ 302,959

Notes:

1 The 35,000 AFY of SWP water available through the QSA may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.

2 Credit to/from Advanced Delivery Account is the difference between Total Water Delivered to MWD and Total Water Delivered to Coachella Valley.

5.2.3 Total Imported Deliveries

Table 5-7 summarizes the imported water deliveries to the Indio Subbasin by water use sector and source during WY 2017-2018. Total imported water deliveries were 573,507 AF. During Water Year 2017-2018, 2,517 AF of the Coachella Canal water supply was used outside the Indio Subbasin (1,655 AF was for agriculture and 862 AF was for urban use), for a total of 570,990 AF of imported water delivered to the Indio Subbasin.

Table 5-7
WY 2017-2018 Imported Water Deliveries to the Indio Subbasin

Water Use Sector	Water Source	Imported Water Use (AF)	Method of Measurement	Accuracy of Measurement
Agriculture[1]	Coachella Canal	259,890	100% metered	±2%
Industrial	Coachella Canal	0	100% metered	±2%
Urban[2]	Coachella Canal	34,963	100% metered	±2%
Environmental[3]	Coachella Canal	0	Not applicable	--
Total Imported Water for Direct Use		**294,853**		
Aquifer Recharge	Coachella Canal	30,842	100% metered	±2%
Aquifer Recharge	SWP Exchange	247,812	100% metered	±2%
Total Imported Water for Aquifer Recharge		**278,654**		
Total Imported Water Delivered		**573,507**		
Exported for use outside Indio Subbasin[4]		**-2,517**		
Net Imported Water delivered to Indio Subbasin		**570,990**		

Notes:

1 Includes crop irrigation and fish farms.
2 Includes municipal and recreational uses.
3 A small amount of Coachella Canal water is used for wildlife habitat enhancement and mitigation in the East Salton Sea groundwater basin.
4 This water was delivered to users located outside the Indio Subbasin boundary.

5.3 RECYCLED WATER

There are three Water Reclamation Plants (WRPs) that produce recycled water for reuse in the Indio Subbasin, as shown in **Table 5-8**. CVWD operates two WRPs in the Indio Subbasin that produce recycled water for reuse. Recycled water from two facilities (WRP-7 and WRP-10) is used for golf course and greenbelt irrigation, thereby reducing groundwater demand in the Indio Subbasin. DWA operates one WRP in the City of Palm Springs, delivering recycled water for golf course and park irrigation.

Table 5-8 summarizes recycled water use during WY 2017-2018 for the Indio Subbasin. All 14,188 AF of the recycled water was used for urban uses; primarily golf, park, and median irrigation with a small amount used for on-site WRP use.

Table 5-8
WY 2017-2018 Recycled Water Use in the Indio Subbasin

Water Use Sector	Water Source	Recycled Water Use (AF)	Method of Measurement	Accuracy of Measurement
Urban[1]	DWA WRP	4,663	100% metered	±2%
Urban[1]	CVWD WRP-7	1,891	100% metered	±2%
Urban[1]	CVWD WRP-10	7,634	100% metered	±2%
Total Recycled Water Use		**14,188**		

Note:

1 Includes municipal, recreational, and reclamation plant (including on-site) water uses.

In addition to direct recycled water use, a portion of the municipal wastewater generated in the Indio Subbasin is discharged through percolation/evaporation ponds or is discharged to the Coachella Valley Stormwater Channel (CVSC). In WY 2017-2018, a total of 41,442 AF of wastewater was treated of which 14,188 AF was used for recycled water and on-site WRP use, 6,078 AF was discharged through percolation/evaporation ponds, and 21,176 AF was discharged to the CVSC as shown in **Table 5-9**. Of the 21,176 AF of treated wastewater discharged to the CVSC, 6,525 AF was contributed by Valley Sanitary District, 2,956 AF by City of Coachella, 5,527 AF by CVWD, and 6,168 by Kent Sea Tech.

Table 5-9
WY 2017-2018 Wastewater Treatment, Reuse, and Disposal in the Indio Subbasin

Plant	Wastewater Treated (AF)	Recycled Water Use[1] (AF)	On-site WRP Use[2] (AF)	Disposal Percolation/ Evaporation (AF)	Disposal to CVSC[3] (AF)
Palm Springs WWTP	6,949	4,663	0	2,286	N/A
CVWD WRP-7	3,267	1,783	108	1,376	N/A
CVWD WRP-10	10,038	7,329	305	2,404	N/A
Valley SD WRP	6,525	0	0	0	6,525
City of Coachella WRP	2,956	0	0	0	2,956
CVWD WRP-4	5,527	0	0	0	5,527
Kent SeaTech	6,168	0	0	0	6,168
CVWD WRP-2	12	0	0	12	0
Total	**41,442**	**13,775**	**413**	**6,078**	**21,176**

Notes:

N/A – Not Applicable

1 Recycled water sold to customers.
2 Recycled water used for WRP on-site water uses.
3 CVSC – Coachella Valley Stormwater Channel

6.0 TOTAL WATER USE

Section 356.2(b)(4) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by water use sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.*

This section presents the total water use for the Indio Subbasin for Water Year (WY) 2017-2018.

Table 6-1 presents a summary of water use by source and type. The information presented in this table is derived from the tables in Sections 4 and 5 of this Annual Report. This table lists the method of measurement and the estimated accuracy of the measurements.

A portion of the water produced from or delivered to the Indio Subbasin is exported for use outside the Indio Subbasin. **Table 6-1** shows a total of 4,807 acre-feet (AF) of water exported from the Indio Subbasin. Some of this water (2,517 AF) is Coachella Canal water delivered to agricultural and urban users overlying the adjacent Desert Hot Springs Subbasin that are located within the Coachella Valley Water District (CVWD) Improvement District No. 1 (ID-1) service area. The remainder (2,290 AF) is groundwater pumped from the Indio Subbasin and delivered to CVWD customers in Imperial and Riverside Counties on the east and west sides of the Salton Sea (East and West Salton Sea Basins), or pumped by Mission Springs Water District (MSWD) and delivered to its customers in the Mission Creek and Desert Hot Springs Subbasins.

As shown in **Table 6-1**, a total of 594,339 AF of water was delivered for direct use within the Indio Subbasin. **Figure 6-1** shows a comparison of supply and demand for direct use within the Indio Subbasin for WY 2017-2018. These data exclude water exported for use outside of the basin.

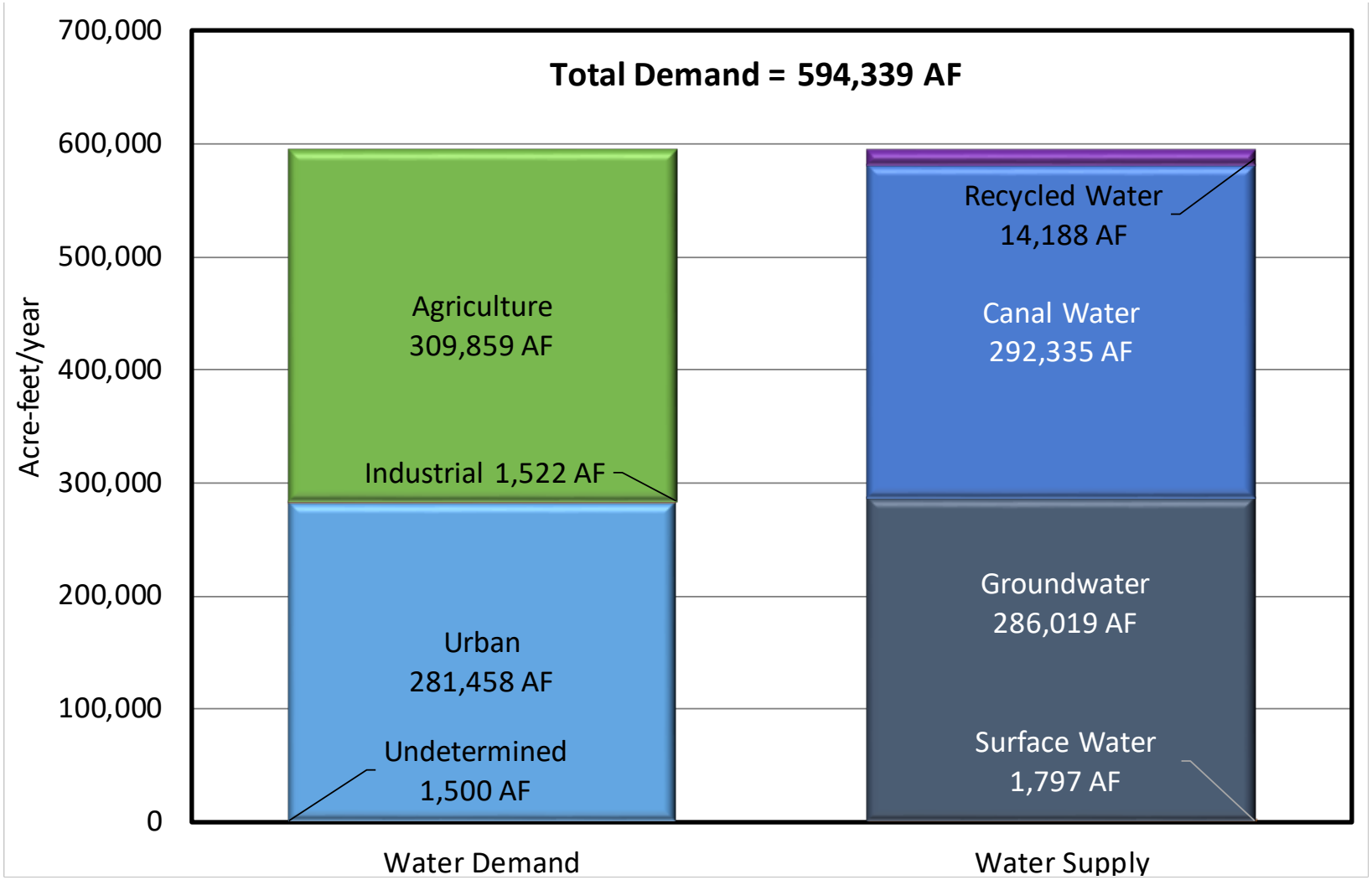
Table 6-1
WY 2017-2018 Total Water Use by Sector and Source in the Indio Subbasin

Water Use Sector	Water Source (AF)							Method of Measurement	Accuracy of Measurement
	Groundwater Production	Local Surface Water	Coachella Canal Water[4]	SWP Exchange Water	Recycled Water	Exported for Use Outside Basin[5]	Total Water Use Within Basin		
Agriculture[1]	51,012	612	259,890	0	0	-1,655	**309,859**	100% metered	±2%
Industrial	1,522	0	0	0	0	0	**1,522**	27% metered 73% estimated	±2% ±50%
Urban[2]	234,274	1,185	34,963	0	14,188	-3,152	**281,458**	99% metered 1% estimated	±2% ±50%
Environmental	0	0	0	0	0	0	**0**	Not applicable	--
Undetermined[3]	1,500	0	0	0	0	0	**1,500**	100% estimated	±50%
Total Direct Use	**288,308**	**1,797**	**294,853**	**0**	**14,188**	**-4,807**	**594,339**		

Notes:

1 Includes crop irrigation and fish farms. Some agricultural use is located in the Desert Hot Springs Subbasin and is served with Coachella Canal water.
2 Includes municipal and recreational uses. Some groundwater and Coachella Canal water is delivered to users in the Mission Creek, Desert Hot Springs, West Salton Sea and East Salton Sea groundwater basins.
3 Estimated production by small pumpers and tribal uses who do not report production to CVWD (<25 AFY) or DWA (<10 AFY).
4 Coachella Canal water use shown excludes regulatory water and conveyance losses.
5 Exported water is groundwater or Coachella Canal water that is delivered for use outside the Indio Subbasin.

Figure 6-1. Comparison of Supply and Demand for Direct Use for the Indio Subbasin – Water Year 2017-2018



Note: These data exclude water exported for use outside of the basin.

7.0 CHANGE IN GROUNDWATER STORAGE

Section 356.2(b)(4) of the Sustainable Groundwater Management Act (SGMA) Emergency Regulations requires:

> *A detailed description and graphical representation of the following conditions of the basin managed in the Plan: …*
>
> *(5) Change in groundwater in storage shall include the following:*
>
> *(A) Change in groundwater in storage maps for each principal aquifer in the basin.*
>
> *(B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater in storage for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.*

This section presents the groundwater balance and change in storage for the Indio Subbasin for Water Year (WY) 2017-2018.

7.1 GROUNDWATER BALANCE

A groundwater budget is helpful in assessing the condition of the Indio Subbasin. The groundwater budget compares the inflows and outflows to the Indio Subbasin. The difference between inflows and outflows at a given time defines the change in storage for that time period. The annual water balance for the Indio Subbasin during WY 2017-2018 is an increase of 151,659 acre-feet (AF). The sections that follow provide a discussion of the groundwater inflows and outflows in the Indio Subbasin.

7.1.1 Groundwater Inflows

Indio Subbasin groundwater inflows consist of:

- Infiltration of natural recharge and inflows,
- Infiltration of return flows from urban and agricultural uses,
- Artificial recharge, and
- Salton Sea intrusion.

7.1.1.1 Natural Recharge

Precipitation in the bordering San Jacinto and Santa Rosa Mountains produces surface runoff and subsurface inflow that are the chief natural sources of recharge to the Indio Subbasin. Additional recharge may be derived from precipitation in the Little San Bernardino Mountains in extremely wet years. The volume of natural recharge varies dramatically annually due to wide variations in precipitation. Perennial

flow is limited to only a few streams. The long-term average historical natural recharge to the Indio Subbasin (based on 1936-2009) is approximately 46,000 acre-feet per year (AFY), ranging from 204,000 AFY in very wet years to 8,400 AFY in dry years. The natural inflow estimates are based on the Coachella Valley Groundwater Flow Model data (prepared by Stantec and others), which was utilized for the 2010 Coachella Valley Water Management Plan (CVWMP) Update, and 2014 and 2016 CVWMP Status Reports.

7.1.1.2 Inflows from Outside the Indio Subbasin

Inflows from outside the Indio Subbasin consist of underflow from the San Gorgonio Pass area and flows across the Banning fault. Historically, these inflows are estimated to range from 7,000 AFY to 13,000 AFY. The 2010 CVWMP Update estimated inflow was approximately 11,405 AFY, the long-term average as shown in **Table 7-1**. This is a relatively small component of the water balance (less than 3 percent) and does not change significantly with time. In addition, subsurface inflow and outflow takes place near the Salton Sea. Groundwater modeling estimated the net subsurface inflow from the Salton Sea to be 1,102 acre-feet (AF) for WY 2017-2018.

Table 7-1
Indio Subbasin Estimated Average Subsurface Inflows

Subbasin Boundary Transfer	Estimated Average Annual Underflow (AF)
San Gorgonio Pass Subbasin to the Indio Subbasin	6,135 [1]
Mission Creek Subbasin to the Indio Subbasin	5,100 [2]
Desert Hot Springs Subbasin (Fargo Canyon) to the Indio Subbasin	170 [1]
Total Subsurface Inflow to Indio Subbasin	**11,405**
Salton Sea to the Indio Subbasin	1,736 [3]
Indio Subbasin to the Salton Sea	- 634 [3]
Net Subsurface Inflow - Indio Subbasin from the Salton Sea	**1,102**

Notes:
1 Estimated from groundwater modeling. Fogg, et al. 2000
2 Estimated from groundwater modeling. MWH 2013, Psomas 2013
3 Estimated inflow and outflow to Semi-perched Aquifer from groundwater modeling. MWH 2011

7.1.1.3 Return Flows from Use

Return flow is the difference between the amount of water applied for irrigation (agricultural, golf course, or urban) and the amount consumed by soil evaporation or plants to satisfy their evapotranspiration (ET) requirement. Water is also returned to the Indio Subbasin through percolation of treated wastewater and septic tank flow. A relatively rigorous calculation of irrigation return flows was utilized that considers types of water use, irrigation efficiency, and water conservation impacts. The methodology is presented in Appendix B of CVWD's Engineer's Reports on Water Supply and Replenishment Assessment for 2017-2018 and for 2018-2019 (CVWD, 2017; CVWD, 2018). Irrigation return flows are estimated to be 151,721 AF for WY 2017-2018 in the Indio Subbasin.

Much of the urban portions of the Indio Subbasin is served by municipal sewer systems that convey wastewater to municipal treatment plants. A portion of the treated wastewater that is not reused is disposed to percolation/evaporation ponds as described in Section 5. Wastewater discharge to percolation/evaporation ponds was 6,078 AF for WY 2017-2018. Rural portions of the Indio Subbasin and a few urban areas that do not currently have access to the sewer system use septic tank/leachfield systems to treat and dispose wastewater. It is estimated that about 3,536 AFY of septic effluent is discharged to the Indio Subbasin. It is recommended that the GSAs conduct an investigation to document the number of septic systems in the Indio Subbasin to refine this estimate.

Both return flows and wastewater percolation are affected by water use efficiency and overall demands. As conservation efforts increase, the amount of return flow decreases, reducing a source of inflow to the Indio Subbasin. Agricultural return flows have generally decreased over the past 20 years due to a combination of increased irrigation efficiency (including conversion to drip irrigation) and conversion of agricultural lands to urban land uses.

7.1.1.4 Artificial Recharge

Artificial recharge consists of recharge in the western portion of the Indio Subbasin at the Whitewater River GRF using State Water Project (SWP) Exchange water [exchanged for Colorado River Aqueduct (CRA) water] and in the eastern portion of the Indio Subbasin at the Thomas E. Levy Groundwater Replenishment Facility (TEL GRF), formerly the Dike 4 Recharge Facility, which began operation in 2009 using Colorado River water (Coachella Canal water).

Recharge at the Whitewater GRF has been variable based on availability of SWP Exchange water and deliveries by the Metropolitan Water District of Southern California (MWD). During WY 2017-2018, a total of 247,812 AF of imported water was recharged at the Whitewater River GRF (**Table 5-6**).

Recharge at the TEL GRF was 30,842 AF in WY 2017-2018 (**Table 5-7**). For groundwater balance purposes, a two percent evaporation loss is applied to all replenishment water deliveries as an outflow.

7.1.1.5 Salton Sea Intrusion

Intrusion of saline water from the Salton Sea into the shallow aquifers is possible if groundwater elevations are lower than the level of the Salton Sea. Although no direct evidence of intrusion has been observed, monitoring wells near the Salton Sea show elevated salinity at depth, which may be the result of ancient saline water left by previous saline lakes in the Salton Sink. Groundwater modeling performed by the Coachella Valley Water District (CVWD) for the 2010 CVWMP Update estimated that 1,651 AFY of saline water intrusion may be occurring in the semi-perched aquifer. While this inflow may not directly impact the deeper groundwater supplies, it does provide a potential source of local water quality degradation. Declining Salton Sea levels and increasing groundwater levels could reduce subsurface inflow in the future.

7.1.2 Groundwater Outflows

Indio Subbasin groundwater outflows consist of:

- Groundwater pumping to meet Coachella Valley demands,
- Flow from the semi-perched aquifer through the agricultural drains into the Salton Sea,
- Evapotranspiration from the semi-perched aquifer, and
- Subsurface flow out of the Indio Subbasin, into the aquifers beneath the Salton Sea.

7.1.2.1 Groundwater Pumping

Groundwater pumping refers to the amount of groundwater pumped for agricultural, urban, industrial, and environmental uses. Groundwater pumping is the largest component of outflow from the Indio Subbasin. During WY 2017-2018, there was 288,308 AF of groundwater pumped for beneficial uses within the Indio Subbasin or exported for use in adjacent basins as shown in **Table 4-1**.

7.1.2.2 Flow to Drains

Semi-perched groundwater conditions in many parts of the eastern portion of the Indio Subbasin impede the downward migration of return flows from water applied at the surface. This condition causes saturated soils and the accumulation of salts in the root zone, reducing agricultural productivity. Twenty-six surface (open) drains were constructed in the 1930s to alleviate this condition. The Coachella Valley Stormwater Channel (CVSC) also receives intercepted shallow groundwater from agricultural fields. With the delivery of Coachella Canal water to the Coachella Valley in 1949, subsurface (tile) drainage systems were first installed in 1950 to control the high water table conditions and to intercept poor quality shallow groundwater. CVWD currently maintains 21 miles of open drains and 166 miles of subsurface pipe drains serving 37,425 acres of agricultural lands in the Coachella Valley (CVWD, 2018).

Maintaining the water table at the level of the drains acts as a barrier to the percolation of poor-quality return flows into the deeper potable aquifers. Flow in the drains increased steadily as additional tile drains were installed, until the early 1970s. Agricultural drainage flow remained relatively stable through the 1970s and steadily declined through 2009. Drain flow (excluding wastewater discharges and fish farm effluent) has decreased steadily from a high of approximately 158,000 AF in 1976, to 58,800 AF in 1999, and about 40,000 AF in 2009. Since 2009, drain flows have increased due to improved groundwater conditions in the eastern portion of the Indio Subbasin.

CVWD monitors flows in the drainage system entering the Salton Sea on a monthly basis. In addition, the United States Geological Survey (USGS) maintains a continuous flow gauge in the CVSC at Lincoln Street (Gauge No. 10256540). The total flow to the Salton Sea in WY 2017-2018 was 74,750 AF as shown in **Table 7-2**. Of this total amount, Coachella Canal water that exceeds requested deliveries downstream of Lake Cahuilla (regulatory water), treated wastewater, and fish farm effluent are discharged to the CVSC and the drain system. These flows must be deducted from the total flow to calculate the amount of groundwater leaving the Indio Subbasin through the drain system. In WY 2017-2018, 47,866 AF of drain water flowed from the shallow groundwater system to the Salton Sea as shown in **Table 7-3**.

Table 7-2
WY 2017-2018 Measured Drain Flows from the Indio Subbasin to the Salton Sea

Drain	Measured Drain Flows (AF)[1]
F Channel	0
E Channel	1,092
Oasis-Grant	473
D Channel	1,066
C Channel	654
Ave 83	309
Ave 79	1,747
Lincoln-Oasis	4,244
A Channel	1,119
Ave 76	1,788
Ave 74	292
Coachella Valley Stormwater Channel[2]	45,019
Johnson St.	3,100
Grant St.	2,377
Grant 0.5	1,079
Hayes	2,064
Hayes 0.5	212
Garfield St.	1,796
Garfield 0.5	507
Arthur St.	1,595
Arthur 0.5	838
Cleveland East	383
Cleveland West	378
Caleb Channel	726
Cleveland 0.5	650
McKinley	684
Avenue 78[3]	558
Total Drain Flows	**74,750**

Notes:

1 Drain flows are measured once per month using current meter and cross-sectional areas. If conditions are unsafe for metering, flows are estimated based on the average for the three previous years. Total shown reflects rounding.

2 Coachella Valley Stormwater Channel flow is measured by USGS Gauge 10259540 – Whitewater River near Mecca.

3 Flow records were recently obtained for the Avenue 78 Drain.

Table 7-3
WY 2017-2018 Net Drain Flow from the Indio Subbasin to the Salton Sea

Component	Net Drain Flow (AF)
Total Drain Flow	74,750
Storm Flow[1]	-187
Regulatory Water[2]	-5,521
Valley Sanitary District	-6,525
Coachella Water Authority	-2,956
Water Reclamation Plant No. 4	-5,527
Kent Seatech	-6,168
Net Drain Flow to Salton Sea	**47,866**

Notes:

1 Storm flow is the volume of Coachella Valley Stormwater Channel flow attributed to storm events and is calculated using a base flow separation methodology.

2 Regulatory water is Coachella Canal water discharged to the drain system from the irrigation distribution system because it cannot be delivered to users, for example due to water order changes.

7.1.2.3 Subsurface Flow to the Salton Sea

Historically, when groundwater levels were relatively high, groundwater naturally flowed toward the Salton Sea. Shallow semi-perched groundwater discharged into the Salton Sea and deeper groundwater left the Indio Subbasin as subsurface outflow. As groundwater levels in the Indio Subbasin declined, the rate of outflow decreased. Groundwater modeling studies performed for the 2010 CVWMP Update indicate that both inflow and outflow from under the Salton Sea has occurred in recent years; 640 AFY of groundwater is estimated to flow under the Salton Sea for Water Year 2017-2018. Declining Salton Sea levels in the future could increase subsurface outflow.

7.1.2.4 Evapotranspiration

Native vegetation on undeveloped lands receives its water supply from precipitation and shallow groundwater. In the area underlain by the semi-perched aquifer, evapotranspiration (ET) was a significant water loss component in the eastern Coachella Valley. As lands were developed for agricultural uses, the amount of ET from native vegetation declined. The installation of drains in the 1950s and 1960s further reduced ET as the water table was lowered. Further ET reductions occurred in the 1980s and 1990s as increased pumping reduced groundwater levels. The ET component was estimated using groundwater modeling results from the 2010 CVWMP Update to be 4,769 AFY, a relatively small outflow (less than 1 percent) of the total outflow. In addition, a portion of the imported water used for recharge and wastewater disposal is lost to evaporation. This is estimated to be about 5,756 AF for WY 2017-2018.

7.1.3 Annual Change in Groundwater Storage

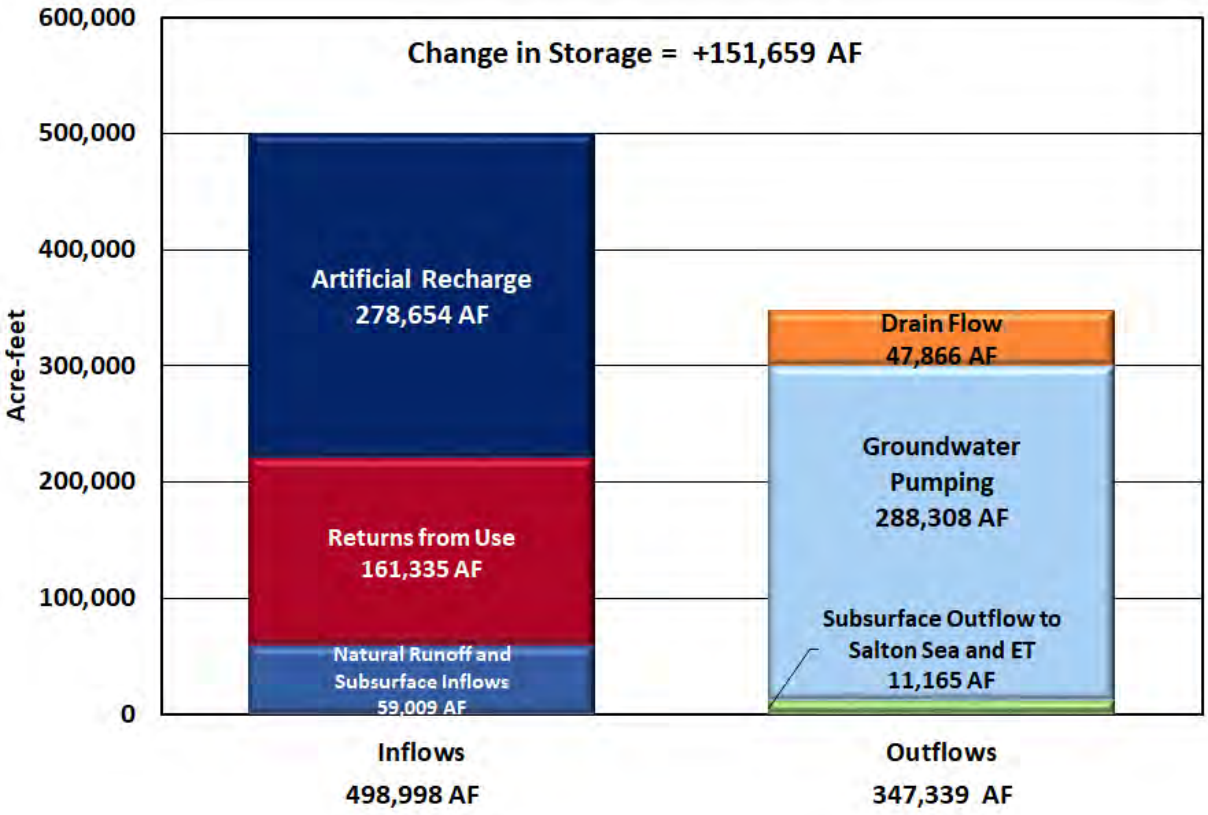
The annual change in groundwater storage represents the annual difference between inflows and outflows in the Indio Subbasin. During wet years or periods of high artificial recharge, the change in storage is positive (water in storage increases). In dry years or periods of high pumping, the change in storage is often negative (storage decreases). Because of the large amount of recharge, the change is storage for the Indio Subbasin is an increase of 151,659 AF for WY 2017-2018, as shown in **Table 7-4**. Refer to **Figure 7-1** for a graphical representation of the annual water balance in the Indio Subbasin.

Table 7-4
WY 2017-2018 Groundwater Balance in the Indio Subbasin

Component	Flows (AF)
Inflows	
Infiltration of natural runoff	45,953
Subsurface inflows from adjacent basins	11,405
Infiltration of applied irrigation water	151,721
Wastewater percolation	6,078
Septic tank percolation	3,536
Artificial recharge	278,654
Salton Sea intrusion	1,651
Total Inflow	**+ 498,998**
Outflows	
Groundwater pumping	-288,308
Net drain flow to Salton Sea	-47,866
Evaporative losses	-5,756
Evapotranspiration from the shallow aquifer	-4,769
Subsurface outflow to adjacent basins	-640
Total Outflow	**– 347,339**
Change in Groundwater Storage[1]	**+ 151,659**

Notes:
1 This annual increase in groundwater storage equals about 0.5 percent of the subbasin's estimated storage capacity of 29,800,000 AF in WY 2017-2018.

Figure 7-1. Groundwater Balance for the Indio Subbasin – Water Year 2017-2018



Historical change in storage is shown **Figure 7-2** from 1970 to the present (green columns). The starting year of 1970 was selected as it is three years before the commencement of imported water replenishment activities in the Indio Subbasin. The data used to prepare this figure is on a calendar year basis until WY 2016-2017 when the data source was converted to water year for the first Annual Report.

Also shown on **Figure 7-2** are annual inflows, outflows, groundwater production, and ten-year and twenty-year running average change in storage. Indio Subbasin inflows are variable due to the nature of imported water replenishment deliveries. High inflows occurred in the mid-1980s when MWD commenced large-scale advanced water deliveries to the Indio Subbasin. Other years of high inflows correspond to wet years on the SWP when increased deliveries occurred.

Groundwater production was a lower proportion of total outflows in the 1970s and early 1980s than in recent years. During this earlier period, groundwater levels were higher than that at present resulting in higher drain flows. In the late 1980s and 1990s, growth led to increased groundwater production which in turn caused lower groundwater levels and reduced drain flows. Changes in agricultural irrigation practices (conversion from flood to drip and sprinkler) also contributed to lower drain flows. After extended periods of decline, not only have both the ten- and twenty-year running average change in storage shown upward trends since 2009, but the ten-year running average is positive.

Figure 7-2. Historical Annual Change in Groundwater Storage in the Indio Subbasin

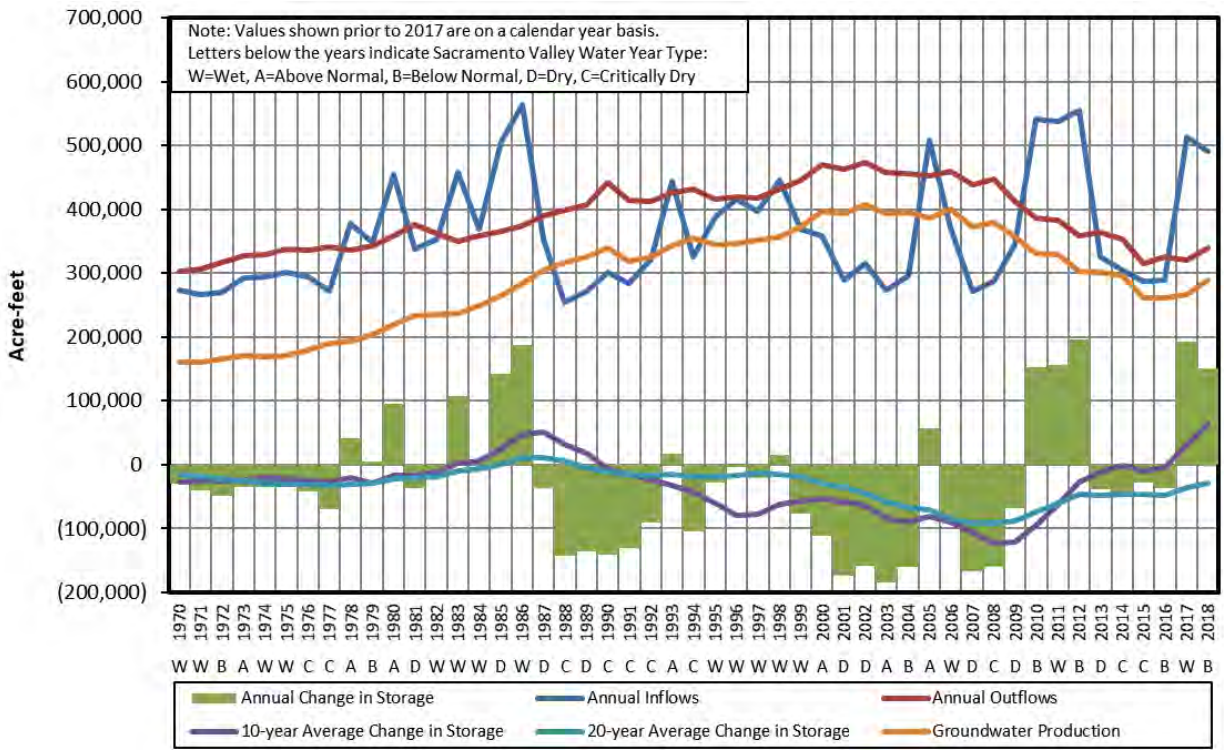
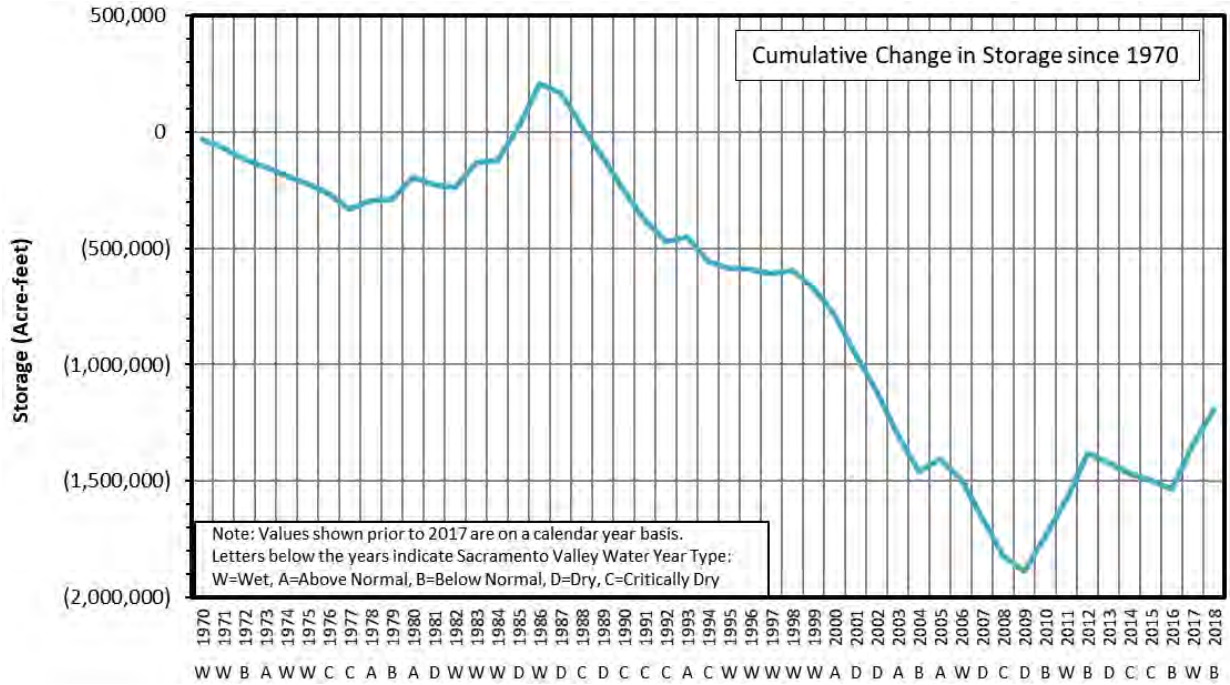


Figure 7-3 shows the cumulative change in storage since 1970. The goal of the CVWMP is to eliminate groundwater overdraft, but not to restore the subbasin to historical conditions. About 1.2 million AF have been removed from storage since 1970. This decrease represents about 4 percent of the estimated storage capacity of the Indio Subbasin. The subbasin was at its minimum storage in 2009, which was the first year of operation for the TEL GRF and before significant water conservation efforts were implemented. Since 2009, groundwater pumping has reduced by 25 percent and replenishment activities have increased. Consequently, the basin has recovered over 650,000 AF of groundwater in storage, about one-third of the depletion in 2009. This demonstrates the progress made through implementation of the CVWMP.

Figure 7-3. Cumulative Change in Groundwater Storage Since 1970



7.2 CHANGE IN GROUNDWATER ELEVATION MAPS

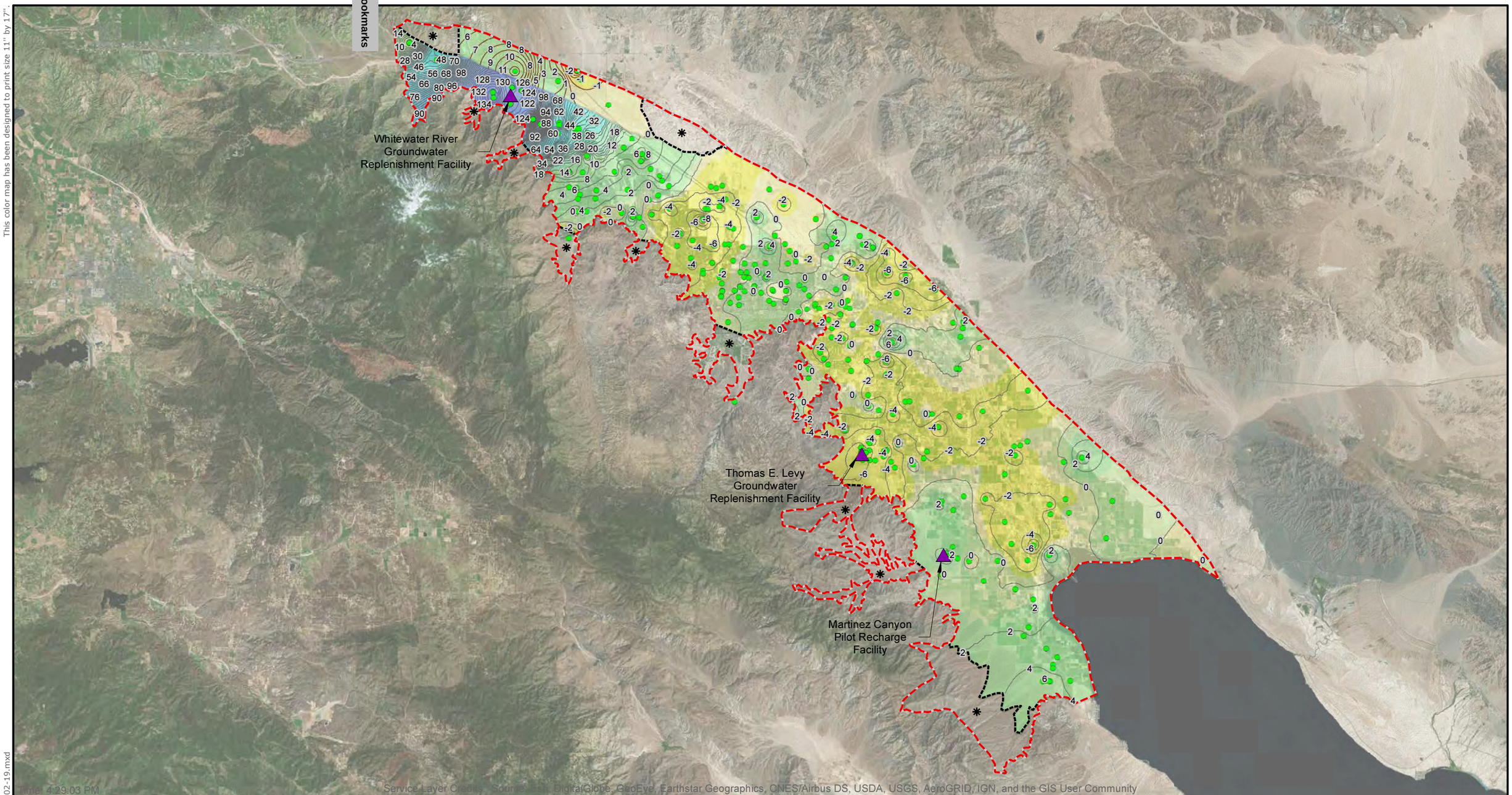
Figure 7-4 and **Figure 7-5** show the one-year and ten-year changes in groundwater elevation throughout the Indio Subbasin. These maps show the difference in average groundwater elevations from WY 2016-2017 to WY 2017-2018, and WY 2007-2008 to WY 2017-2018 for wells in the Indio Subbasin monitored by CVWD, Coachella Water Authority (CWA), Desert Water Agency (DWA), and Indio Water Authority (IWA) staff. Cooler colors (intensifying shades of green through blue) depict increases in groundwater elevation while warmer colors (intensifying shades of yellow through red) depict decreases in groundwater elevation.

Figure 7-4 shows significant increases in groundwater elevations near the Whitewater River GRF in response to the high recharge deliveries in WY 2016-2017 and WY 2017-2018. The Palm Springs and Cathedral City areas to the south of the Whitewater River GRF showed decreasing water levels in the range of 2 to 8 ft. The area around the TEL GRF showed decreased water levels in the range of 2 to 6 ft, due to a decrease in the replenishment quantity of about 7,000 AFY less than the WY 2016-2017 amount, which shows the effect of a relatively small change in recharge on water levels. One portion of the Indio Subbasin near the Salton Sea showed declining water levels as well, likely in response to increased pumping in the area.

Figure 7-5 shows significant increases in groundwater elevations in the Indio Subbasin over the past ten years. Water levels near the Whitewater River GRF show increased water levels in response to the high recharge deliveries in 2010-2012, in WY 2016-2017, and in WY 2017-2018. Localized portions of the mid-valley area of the Indio Subbasin near the Cities of Palm Desert, Indian Wells and Thousand Palms showed decreasing water levels in the range of 2-8 ft due to groundwater production. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF. All of the eastern portion of the Indio Subbasin showed increased groundwater storage, in response to decreased pumping and replenishment operations at the TEL GRF. The reduction in deliveries to the TEL GRF were due to a Coachella Canal project from December 2017 to January 2018.

Open Bookmarks

This color map has been designed to print size 11" by 17".



Time: 4:29:03 PM

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Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- 1-Foot Contour
- 2-Foot Contour
- Indio Subbasin
- Water Level Data Boundary

Water Level Change From 2017 to 2018

Value

- Increase
- No Change
- Decrease

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **One-Year (WY 2016-2017 to WY 2017-2018) Change in Groundwater Elevation in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

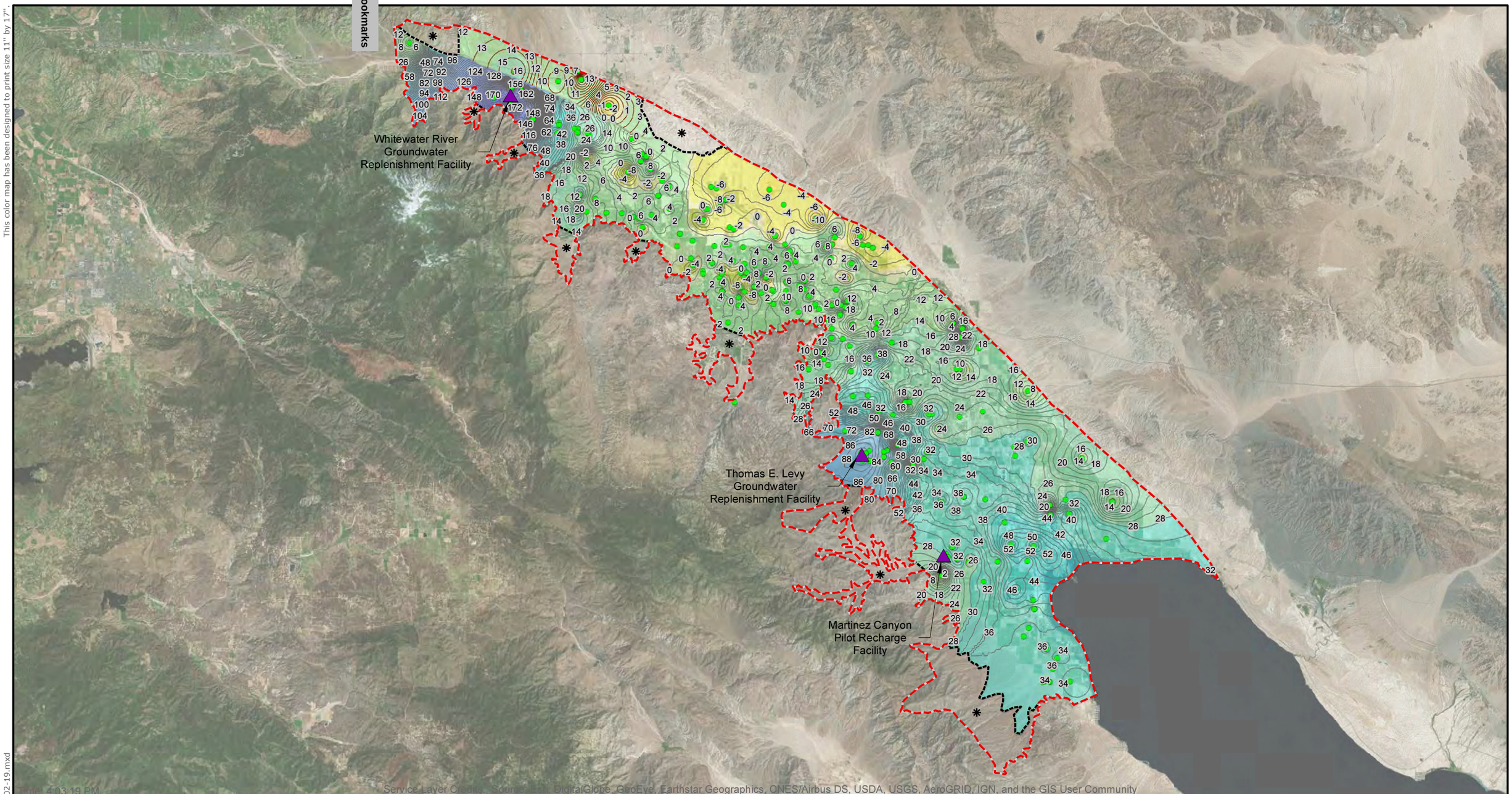
COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **7-4**

Open Bookmarks

This color map has been designed to print size 11" by 17".



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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Water Level Data Not Available
- Replenishment Facilities
- Monitored Water Wells
- 1-Foot Contour
- 2-Foot Contour
- Indio Subbasin
- Water Level Data Boundary

Water Level Change From 2008 to 2018

Value

- Increase
- No Change
- Decrease

N

0 5 10 Miles

Date: 2/19/2019

TITLE: **Ten-Year (WY 2007-2008 to WY 2017-2018) Change in Groundwater Elevation in the Indio Subbasin**

PROJECT: Indio Subbasin Annual Report

COORDINATE SYSTEM: NAD 1983 StatePlane California VI FIPS 0406 Feet

KRIEGER & STEWART Engineering Consultants

FIGURE **7-5**

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8.0 DESCRIPTION OF PROGRESS

The 2010 Coachella Valley Water Management Plan (CVWMP) Update was adopted in January 2012 as an update to the original 2002 CVWMP for the Indio Subbasin. The 2002 CVWMP identified specific objectives and projects for water conservation, new sources, groundwater recharge and source substitution. The established goal of the 2002 CVWMP was to assure adequate quantities of safe, high-quality water at the lowest cost to Coachella Valley water users. This would be accomplished by meeting the following objectives:

1. Elimination of groundwater overdraft and its adverse impacts, including:
    a. Groundwater storage reductions,
    b. Declining groundwater levels,
    c. Land subsidence and
    d. Water quality degradation.
2. Maximizing conjunctive use opportunities,
3. Minimizing adverse economic impacts to Coachella Valley water users,
4. Minimizing adverse environmental impacts.

The 2010 CVWMP Update refined these goals and objectives to better match the current needs of the Coachella Valley. The basic goal of the CVWMP remains the same but has been modified to reflect a more holistic approach: “to reliably meet current and future water demands in a cost-effective and sustainable manner.”

1. Meet current and future water demands with a 10 percent supply buffer.
2. Eliminate long-term groundwater overdraft.
3. Manage and protect water quality.
4. Comply with state and federal laws and regulations.
5. Manage future costs.
6. Minimize adverse environmental impacts.

In response to the adoption of Sustainable Groundwater Management Act (SGMA) in 2014, and as stated in Section 1, Coachella Valley Water District (CVWD), Desert Water Agency (DWA), Coachella Water Authority (CWA), and Indio Water Authority (IWA) collaboratively submitted the 2010 CVWMP Update as an Alternative to a Groundwater Sustainability Plan (Alternative Plan) with an associated Bridge Document that described how the existing 2010 CVWMP Update meets the requirements of SGMA. These documents were submitted to the California Department of Water Resources (DWR) in December 2016.

This section provides an update of the status of CVWMP implementation activities during Water Year (WY) 2017-2018.

8.1 IMPLEMENTATION OF PROJECTS AND MANAGEMENT ACTIONS

The sustainability goals described in the Alternative Plan for the Indio Subbasin identified the following water management elements for implementation:

- Water conservation measures
- Acquisition of additional water supplies
- Conjunctive use programs to maximize supply reliability
- Source substitution programs
- Groundwater recharge programs
- Water quality protection measures
- Other management activities

8.1.1 Water Conservation

Water conservation strategies in place are described in Section 6.2 of the SGMA Bridge Document. In July 2015, the State Water Resources Control Board (SWRCB) mandated that water agencies develop and implement plans to reduce water use statewide by 25 percent in response to statewide drought. CVWD, DWA, and Myoma Dunes Mutual Water Company (MDMWC) were required to meet a target of reducing overall use by 32 percent relative to 2013 baseline use. CWA, IWA, and Mission Springs Water District (MSWD) were assigned targets of 20 percent, 28 percent, and 24 percent, respectively. In May 2016, the SWRCB adopted a statewide water conservation approach (effective from June 2016 through January 2017) that replaced the prior percentage reduction-based water conservation standard with a localized "stress test" approach that mandates urban water suppliers act to ensure at least a three-year supply of water to their customers under drought conditions. In response to the "stress test" regulation, CVWD, DWA, MSWD, the City of Coachella, the City of Indio, and MDMWC all self-certified that sufficient water had been identified to meet all anticipated demands with existing conservation programs and plans in place, effectively placing their local conservation targets at 0%.

CVWD, CWA, DWA, and IWA have initiated and continue to implement the following on-going water conservation programs for large landscape and residential customers, as listed below.

- Compliance with California building codes and the Federal Energy Policy Act of 1992 (PL 102-486) requires the installation of water efficient plumbing for all new home construction and large rehabilitation projects.
- Most water purveyors as well as several cities within the Indio Subbasin have implemented landscape audit programs and rebates for replacements of lawns with water-efficient landscaping as well as weather-based irrigation controller and toilet rebates.
- The CVWD Ordinance No. 1302.3 (2017) provides uniform landscaping standards throughout the Coachella Valley, to include stringent ordinances and turf limitations for new golf courses. All cities and water agencies agreed to either adopt the ordinance in its entirety, adopt a similar version, or adopt it by reference in the local agency's ordinance. This ordinance was subsequently adopted by the Coachella Valley Association of Governments to cover the entire Coachella Valley.

- CVWD developed a new valley-wide program in conjunction with the College of the Desert and Coachella Valley Association of Governments to ensure that landscaping businesses must be trained on efficient watering practices before renewing their business licenses.
- The Coachella Valley Integrated Regional Water Management Group was awarded a grant for Proposition 84 Round 4, which included $547,387 in turf removal by CVWD, CWA, and DWA
- Between 2000 and 2016 urban water use for all water agencies declined by 18.8% through a combination of water rate restructuring, rebates, incentive programs, and efficiency improvements. Urban water use increased by about 7 percent in the past year, likely as the result of the end of drought restrictions. Despite this increase, all the local water agencies are on track to achieve their 20 by 2020 (SBx 7-7) savings requirements for urban per capita use ahead of schedule.
- The local water agencies invested about $120,000 in 2016 for the *CV Water Counts* regional conservation campaign to advertise water conservation awareness. This includes the establishment of the Water Counts Academy, a community water education program that started in 2017. This program is ongoing.
- In mid-2016, the United States Bureau of Reclamation (USBR) awarded CVWD a $300,000 Drought Resiliency Project grant to help offset the costs of a pipeline and pump station that will enhance CVWD's ability to deliver Colorado River water to the Bermuda Dunes area. The new infrastructure will make it possible to annually bring more than 1,000 acre feet (AF) of Colorado River water to Bermuda Dunes for irrigation purposes, reducing groundwater pumping by a like amount.
- USBR awarded CVWD a $1 million WaterSMART Water and Energy Efficiency grant to help finance rebates for the removal of turf that is replaced with drought-tolerant, low water-use desert landscaping at golf courses (USBR, 2014). CVWD combines these funds with their own $6 million budgeted for turf replacement rebates at residences, businesses and homeowners associations.

8.2 ADDITIONAL WATER SUPPLIES

The following describes the management strategies and their status associated with securing additional sources of water:

8.2.1 Colorado River Supplies

Demands on the Colorado River supplies have been reduced by voluntarily agreement between the USBR, Central Arizona Project, Metropolitan Water District of Southern California (MWD), Denver Water, and Southern Nevada Water Authority under the USBR 2014 Pilot System Conservation Program (USBR, 2014). Under this program, CVWD is offering rebates to farming customers to convert up to 667 acres of farmed land from flood/furrow to drip irrigation. The program began in 2016, is scheduled to operate for five years, and is estimated to conserve up to 5,000 acre-feet (AF).

As part of the Quantification Settlement Agreement (QSA), CVWD's Colorado River allocation through the Coachella Canal increased by 18,000 AFY in 2018 to 384,000 AF. CVWD's Colorado River water supply will increase annually in 5,000 AF increments through 2026, when the amount under the QSA will be 424,000 AF. The QSA also provided CVWD a transfer of SWP water from MWD in the amount of 35,000 AFY that may be delivered at either Imperial Dam or Whitewater River and is not subject to SWP or Colorado River reliability.

8.2.2 State Water Project

During 2017, State Water Project (SWP) allocations increased to 85 percent of SWP Table A Amounts in response to the wet winter of 2016-2017. SWP water allocations for 2018 were set at 35 percent of the SWP Table A Amounts. As a result of carryover storage from 2017 delivered in 2018, CVWD and DWA were able to receive almost 80 percent of their combined Table A Amount in Water Year 2017-2018 despite below normal runoff conditions.

The SWP faces many challenges including the on-going drought, risk of Delta levee failure, legal and regulatory restrictions on exports due to environmental degradation, water quality degradation, and climate change. In the absence of definitive measures to resolve these challenges, SWP reliability is likely to continue declining in the absence of the California WaterFix. CVWD and DWA are actively participating in the California WaterFix and other statewide programs to improve the long-term reliability of the SWP supply.

8.2.3 Other Water Transfers

As opportunities arise, CVWD and DWA make water purchases from programs such as SWP Article 21 (interruptible water) and Turnback Pool water, Governor's Drought Water Bank, the Yuba Accord, and the Rosedale-Rio Bravo transfer. During WY 2017-2018, CVWD and DWA acquired over 21,822 AF of supplemental water through these programs.

8.2.4 Recycled Water

The principal non-potable uses for recycled water in the Indio Subbasin are:

- Golf course irrigation
- Urban landscape irrigation

CVWD and DWA currently delivered approximately 13,775 AF of recycled water in the western portion of the Indio Subbasin for golf course and other large irrigation uses during Water Year 2017-2018, an increase of over 3,000 AF compared to the previous water year. Treated wastewater generated in the western Indio Subbasin that is not recycled is percolated into the Indio Subbasin. Current recycled water usage in the eastern portion of the Indio Subbasin is approximately 250 AF for golf course irrigation.

8.2.5 Desalinated Semi-Perched Brackish Groundwater

The 2002 CVWMP recommended that a desalination facility commence operation between 2010 and 2015 with a 4,000 AFY facility to treat semi-perched brackish groundwater for irrigation purposes. The facility would be expanded to 11,000 AFY by 2025.

A brackish groundwater treatment study and feasibility study was completed in 2008. Source water supply options for producing desalinated water includes the installation of a well field to extract semi-perched brackish groundwater in the upper part of the aquifer (2010 CVWMP Update).

The 2015 Urban Water Management Plan (UWMP) (CVWD, 2016b) anticipates the need for desalinated semi-perched brackish groundwater starting in 2025. No activities were conducted during WY 2017-2018 with regard to desalination. Additional development of this potential supply has been deferred until demands increase.

8.3 GROUNDWATER SUPPLY SUBSTITUTION

Groundwater supply substitution represents an effective strategy to mitigate the lowering of groundwater levels, reduction of groundwater in storage, and subsidence. Management strategies currently include the substitution of groundwater supply with recycled water and Coachella Canal water for golf and agricultural use and future treatment of Coachella Canal water for urban use. Several groundwater substitution projects were identified in the Alternative Plan. These include:

- Conversion of existing and future golf courses in the western Indio Subbasin from groundwater to recycled water.
- Conversion of existing and future golf courses in the eastern Indio Subbasin from groundwater to Colorado River water.
- Conversion of existing and future golf courses in the western Indio Subbasin from groundwater to Colorado River water via the Mid-Valley Pipeline.
- Conversion of agricultural irrigation from groundwater to Colorado River water, primarily in the Oasis area.
- Conversion of urban use from groundwater to treated Colorado River water in the eastern Indio Subbasin.
- Conversion of outdoor urban use to non-potable water including Colorado River water or recycled water in the eastern Indio Subbasin.

- **Table 8-1** shows the current status of golf course conversions in the Indio Subbasin. There are 115 golf courses in the Indio Subbasin, of which 60 currently receive non-potable water from the Coachella Canal, recycled water, or a combination of the two sources.

Table 8-1
Golf Course Conversion Status – Indio Subbasin (Golf Course Count)

Water Source	Existing	Planned Future	Not Planned	Total
Non-potable Water via CVWD WRP-7 [1]	2.5	0		2.5
Non-potable Water via CVWD WRP-10 [2]	15	21		36
Coachella Canal Water via CVWD Mid Valley Pipeline	6	15		21
Coachella Canal Water via CVWD Canal Distribution System [1]	30	4.5		34.5
Non-potable Water via DWA WRP	6	2		8
Groundwater Only			13	13
Total Golf Courses	59.5	42.5	13	115

Notes:
1 Courses indicated as 0.5 are served with recycled water with non-potable water (blend of recycled and Canal water) on part of the course and Canal water on the other part.
2 In addition to golf courses, non-potable water is served to five existing landscape irrigation customers and three future landscape irrigation customers are planned.

8.3.1 Golf Courses Served with Coachella Canal Water

CVWD has worked closely with golf courses in the eastern portion of the Indio Subbasin to encourage the use of Coachella Canal water instead of pumping groundwater. Currently, 30 golf courses and a portion of another course are connected to the Coachella Canal distribution system. CVWD plans to connect four additional courses after 2023.

CVWD staff continues to work closely with the connected golf courses to ensure they meet at least 80 percent of their demand with Coachella Canal water. In Water Year (WY) 2017-2018, golf courses connected to the Coachella Canal distribution system met 66 percent of their total water use with Coachella Canal water.

8.3.2 Mid-Valley Pipeline

The Mid-Valley Pipeline (MVP) is a key element of "in-lieu" replenishment designed to help eliminate overdraft in the Indio Subbasin. This source substitution project is currently being implemented to reduce groundwater pumping by supplying CVWD recycled water and Colorado River water. Colorado River water from the Coachella Canal is supplied through the MVP to Water Reclamation Plant No. 10 (WRP-10), where it supplements the supply of recycled water and both are delivered to non-potable water customers for golf course and landscape irrigation.

Construction of the first phase of the MVP from the Coachella Canal in Indio to WRP-10 (6.6 miles in length) was completed in 2009. Since that time, CVWD staff have worked with local golf courses to connect them to the non-potable water system. Currently, 15 golf courses and five landscape irrigation

customers are connected either directly to the MVP or to the non-potable water system supplied by the MVP and WRP-10 recycled water.

CVWD contracted with a consulting firm to prepare a non-potable water master plan to guide the implementation of the MVP project. A draft plan was prepared in 2016 and CVWD is preparing an update that is expected to be completed in 2019. The environmental analysis has been initiated and is also expected to be completed in 2019. Approximately 21 additional golf courses as well as three other landscape irrigation customers are expected to connect to the MVP non-potable water system between 2022 and 2031. When these connections are completed, the MVP non-potable water system will deliver over 38,000 AFY of recycled water and Coachella Canal water, together known as "non-potable" water, for irrigation. Previously, an additional 15 golf courses were scheduled to be connected to the MVP system. Construction of these connections has been deferred pending results of the groundwater response to the Palm Desert GRF operations.

In August 2018, CVWD completed an initial environmental study and mitigated negative declaration to install approximately 50,000 linear feet (LF) of non-potable pipeline to connect seven golf courses to non-potable water and increase the existing capacity serving Indian Ridge Country Club. By 2022, CVWD intends to connect Emerald Desert, Oasis, Woodhaven, Palm Desert Resort, and Bermuda Dunes to the MVP system.

DWA is evaluating the feasibility of connecting two additional golf courses and one park to its non-potable water system in the future. Connection of these users to non-potable water will increase DWA's winter demand and minimize future wastewater percolation.

8.4 GROUNDWATER RECHARGE

Groundwater recharge in the Indio Subbasin is a major groundwater management strategy that has been employed in the Coachella Valley.

8.4.1 Whitewater River Groundwater Replenishment Facility

CVWD initiated activities in 1918 to obtain water rights and acquire lands to begin groundwater replenishment activities using stream flows from the Whitewater River. Replenishment with imported water commenced in 1973, and the Whitewater River GRF was expanded in 1984. During WY 2017-2018, groundwater recharge operations replenished 247,812 AF of imported water at the Whitewater River GRF. This was the fifth largest volume of water recharged in a 12 month period since imported water replenishment commenced. As of September 30, 2017, a total of 3,447,792 AF of imported water has been recharged at the Whitewater River GRF.

8.4.2 Palm Desert Groundwater Replenishment Facility

The Palm Desert GRF includes re-purposing land with existing ponds on CVWD's Palm Desert property, adjacent to the Steve Robbins Administration Building and WRP-10, and constructing detention basins in the Whitewater River Storm Water Channel between Cook Street and Fred Waring Drive, for the purpose

of replenishing the Indio Subbasin using Colorado River Water. The total project capacity is estimated to be 25,000 AFY and the estimated capital cost is approximately $9.8 million. Project design began in April 2017, and Phase I of construction began in April 2018. Construction of Phase 1 will be completed in the first quarter of 2019. Operation of the Phase 1 facility, which will start in 2019, will replenish 10,000 AFY. Phase II is currently being designed and will eventually replenish an additional 15,000 AFY.

8.4.3 Thomas E. Levy Groundwater Replenishment Facility

Recharge operations continued at the Thomas E. Levy (TEL) GRF with an annual recharge of 30,842 AF in WY 2017-2018. This amount was about 20 percent less than the previous year due to a Coachella Canal project in the winter of 2017/2018. Since the full-scale facility commenced operation in 2009, a total of 322,700 AF has been recharged and groundwater elevations near the facility have increased by 97 feet.

8.5 WATER QUALITY IMPROVEMENTS

Based on historical and recent monitoring, CVWD, CWA, and IWA identified that approximately 30 percent of their drinking water wells have chromium-6 levels above 10 micrograms per liter (µg/L). This level was adopted by California as the standard in 2014, but was subsequently deleted in 2017. Building on the success with ion exchange (IX) technology for arsenic removal and treatment, the water agencies evaluated the use of similar technology to reduce chromium-6 levels found in other drinking water wells. CVWD operates two IX facilities reducing chromium-6 levels in four wells and IWA is currently treating three wells to remove chromium-6.

In October 2016, the CVWD Board of Directors approved launching a pilot study to evaluate the feasibility and effectiveness of using stannous chloride to reduce chromium-6 (Cr-6) levels in drinking water. CVWD recently completed a full-scale demonstration project using stannous chloride treatment for the water system serving Indio Hills, Sky Valley, and some areas in and around Desert Hot Springs. The project successfully reduced Cr-6 to Cr-3 using stannous chloride, an approved drinking water and food additive. The stannous chloride treatment option is substantially less expensive and has less impact to the community and the environment than other methods.

On September 11, 2017, the State deleted the drinking water standard for Cr-6 in response to a court order. The State plans to complete work needed to establish a new Cr-6 drinking water standard in the next two years. Because of the aforementioned testing, CVWD is prepared to meet anticipated future Cr-6 drinking water standards set by the State.

As part of the Coachella Valley Integrated Regional Water Management Group, CVWD was awarded two grants for Proposition 84 Round 4 totaling about $500,000 for two rebate programs. The Regional Well Retrofit and Abandonment Program totals approximately $250,000 providing up to $35,000 per well for the retrofit of leaking artesian wells, or the capping and sealing of improperly abandoned wells. The Disadvantaged Community (DAC) Septic Rehabilitation and Demand Reduction Program totals approximately $250,000 providing up to $60,000 per septic system for the rehabilitation of failing septic systems.

8.6 CURRENT IMPLEMENTATION STATUS

The recommended actions identified in the 2010 CVWMP Update, the Alternative Plan, are described in Table 6-2 of the Alternative Plan. A revised version of Table 6-2, with the current updated status, is presented as **Table 8-2**.

Table 8-2
WY 2017-2018 Coachella Valley Water Management Plan Implementation Status Update

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
WATER CONSERVATION PROGRAM				
Adopt and implement 2009 CVWD/CVAG Landscape Ordinance or equivalent	CVWD, water purveyors, cities, Riverside County	Ongoing	**Complete**	Complete. Ordinance revised in 2015 to comply with new State requirements and reduce ETAF\
Establish urban water conservation baseline	CVWD, other urban water purveyors	Completed	**Complete**	Complete. Re-evaluated in 2015 UWMPs based on 2010 census population
Achieve minimum 10 percent reduction in existing golf course use	CVWD, DWA	2015	In Progress	Continue to work with Golf and Water Task Force to implement and monitor custom water budgets and to continue to implement grant-funded conservation rebates
Achieve 14 percent reduction in agricultural water use	CVWD	2020	In Progress	CVWD will work with Agricultural Water Advisory Group to develop programs for increased conservation
Achieve 20 percent reduction in urban use	CVWD, other urban water purveyors	2020	**Complete**	Complete. 2015 UWMPs documented 37% reduction in 2015 from 1999 to 2008 baseline
WATER SUPPLY DEVELOPMENT PROGRAM				
Complete siting studies, environmental impact evaluation and design for CVSC drain water capture and treatment facilities	CVWD	2013	Deferred due to changes in water supply needs	No action. Imported water status report (2015) indicated potential deferral until 2025 or later depending on growth

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
File for water rights application for change of point of use for wastewater effluent discharges to allow water recycling	CVWD, VSD, CWA	2015	CVWD's wastewater change petition to reuse effluent from WRP-4 was released for public review in October 2017	CVWD continues work to resolve any concerns identified by valid protests.
Complete construction of initial CVSC drain water capture and treatment facilities	CVWD	2015	Deferred due to changes in water supply needs	No action. Imported water status report (2015) indicated potential deferral until 2025 or later depending on growth
Conduct a feasibility study to investigate the potential for additional stormwater capture in the East Valley	CVWD	2015	Ongoing with stormwater studies	Continue to maximize stormwater capture in facilities design
Conduct a study to determine the amount of water lost to leakage or otherwise unaccounted in the first 49 miles of the Coachella Canal and evaluate the feasibility of corrective actions to capture lost water	CVWD	2015	No longer a priority due to measured losses below 5% since canal lining	Continue to monitor annual system losses
Conduct a joint investigation with IWA and CWA of groundwater development potential in Fargo Canyon Subarea of the Desert Hot Springs Subbasin to determine the available supply and suitability for use in meeting non-potable demands of development east of the San Andreas fault	CVWD, IWA, CWA	2020	Deferred due to changes in water supply needs	No action. Re-evaluate need in next WMP update
SOURCE SUBSTITUTION PROGRAM				
Prepare a master plan for Mid-Valley Pipeline completion	CVWD	2011	In Progress - Draft plan completed in 2016	Master plan and environmental analysis to be completed in 2019

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Connect four golf course users along the Mid-Valley Pipeline alignment to the Mid-Valley Pipeline	CVWD	2011	**Complete**	Continue Monthly Progress Report to Board
Work with existing East Valley golf courses having Coachella Canal water access to increase their use to 90 percent of demand	CVWD	2012	In Progress - revised to 80% via non-potable agreements	Continue to report progress in annual Non-Potable Water Report
Investigate regional opportunities for Colorado River water treatment facilities	CVWD, IWA, CWA	2012	Completed via Source of Supply/Treatment Study (SS/TS)	No action. Budget funds in future CIB based on growth
Develop policy requiring the installation of non-potable water systems for new development	CVWD	2012	**Complete**	Continue required WSAs/WSVs and Development Design Manual
Work with large agricultural groundwater pumpers to determine what obstacles exist that prevent them from using additional Coachella Canal water and encourage them to reduce their groundwater pumping	CVWD	2012	Deferred due to changes in water supply needs	No action. Re-evaluate need in next WMP update
Construct north and east extensions to the Mid-Valley Pipeline system	CVWD	2013	Design and environmental documentation is currently underway	Finalize design and advertise the projects for construction. CVWD is applying for loan and grant funding to help implement these projects.
Complete siting studies, environmental impact evaluation and design for Colorado River water treatment facilities	CVWD	2013	Deferred	No action. Re-evaluate schedule based on SS/TS and growth

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Complete construction of initial Colorado River water treatment facilities and connect to distribution system	CVWD	2015	Deferred	No action. Re-evaluate schedule based on SS/TS and growth
Complete Oasis study update	CVWD	2015	Design completed in 2015; construction deferred	Continue Quarterly Progress Report to Board, Budget funds in CIP
Prepare a non-potable water distribution master plan Phase 3	CVWD	2015	**Complete**	No action.
Complete construction of Mid-Valley Pipeline backbone system	CVWD	2020	Deferred pending results of non-potable master plan	No action. Re-evaluate schedule based on master plan
GROUNDWATER RECHARGE PROGRAM				
Operate and monitor the TEL GRF with a 40,000 AFY goal	CVWD	2010	In Progress with lower goal of 32,000 AFY	Continue recharge with lower goal of 32,000 AFY
Investigate groundwater storage opportunities with IID	CVWD	2010	**Complete**	No action
Transfer the unused portion of the 35,000 AFY of SWP water available under the QSA to the WR GRF	CVWD	2011	**Complete**	Continue to budget transportation funds annually. Maximize advanced delivery opportunities
Work with IWA to evaluate the feasibility of developing a groundwater recharge project that reduce groundwater overdraft. If feasible, work with IWA to construct the facility	CVWD, IWA	2011	Deferred pending evaluation of need	No action. Continue evaluation
Design and construct an additional pumping station and pipeline from Lake Cahuilla to the TELGRF if the existing pumping station and pipeline cannot provide sufficient water to meet the annual goal	CVWD	2015	Deferred	No action. Re-evaluate need in next WMP update

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Conduct siting studies, environmental impact evaluation and design for Martinez Canyon GRF	CVWD	2018	Deferred indefinitely due to monitoring results	No action
MONITORING AND DATA MANAGEMENT				
Continue to monitor the extent of land subsidence	CVWD, USGS	2010	Monitoring ongoing - next report in first half of 2019	Continue monitoring and evaluate results
Provide additional information in the annual engineers' reports:	CVWD, DWA	2011	More consistency with DWA's reports achieved	Engineer's reports content will be coordinated with SGMA annual reporting requirements
* Annual precipitation and stream flow			**Complete**	
* Additional groundwater level data and hydrographs			**Complete**	
* In-lieu recharge water deliveries from imported water and recycled water that offset pumping			**Complete**	
* Imported water deliveries for direct use			**Complete**	
Obtain DWR designation as groundwater level monitoring and reporting entity for the Coachella Valley within their respective service areas	CVWD, DWA, water purveyors	2011	**Complete** via the CASGEM Program	Continue to budget funds as needed to continue program participation
Prepare a comprehensive groundwater monitoring plan	CVWD, DWA, water purveyors, wastewater agencies, tribes	2012	Developed monitoring well grid with the GSA's in 2017 and will continue adding wells as needed.	Continue to pursue IRWM grant funding, periodic reviews by GSAs
Enhance the CVSC gauging station at Lincoln Street to provide continuous flow recording	CVWD, USGS	2012	**Complete**	Continue using USGS gauge for CVSC drain flow reporting

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Develop centralized groundwater database	CVWD, DWA, water agencies, tribes	2012	Deferred, pending DWR decision on the Alternative Plan.	Continue to budget funds in CIB as necessary to maintain program participation
Install gauging stations on the individual drains flowing to the Salton Sea	CVWD	New	In Progress	CVWD is investigating suitable locations for drain gauging stations.
OTHER PROGRAMS				
Continue to operate a groundwater advisory committee regarding groundwater management issues in the East Valley	CVWD, water agencies, pumpers, tribes	2010	**Complete**	Continue to budget CIB funds as necessary to continue annual meetings
Develop a program to educate and work with well owners to properly control artesian wells	CVWD	2011	**Complete.** Obtained $250,000 IWRM grant funding for artesian well sealing – up to $35,000/well.	Continue program implementation
Update and recalibrate the CVWD groundwater model based on the most current information	CVWD	2012	Deferred	No action. Complete in parallel with future WMP update
Develop a water planning interface to the groundwater model	CVWD	2012	Deferred	No action. Add to scope of work for next groundwater model update
Prepare a plan to maintain and enhance the existing drainage system to allow its future use for urban purposes	CVWD	2012	**Complete**, legal authority established	No action
Develop well construction, destruction and abandonment policies	CVWD, DWA, water agencies, tribes, Riverside County	2012	Obtained $250,000 grant funding – up to $35,000/well for artesian well retrofits (sealing, well destruction, and conversion to CASGEM monitoring well.)	Continue to support County's efforts to enforce. Pursue additional IRWMP Well Retrofit Rebate Program grant funding as available.

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Add groundwater quality simulation capabilities to the model that will allow simulation of salinity (TDS) and nitrogen in the groundwater	CVWD	2013	Deferred	No action. Add to scope of work for next groundwater model update
Prepare a salt/nutrient management plan for the Valley to meet SWRCB Recycled Water Policy requirements	CVWD, DWA, water purveyors, wastewater agencies, tribes, agricultural and golf communities, and Regional Board	2014	Submitted to RWQCB in June 2015, RWQCB acceptance pending	Continue coordination with RWQCB to obtain acceptance
Extend urban water and sewer service to trailer/RV park communities with deficient infrastructure and poor water quality	CVWD	2015	Ongoing. Formed Disadvantaged Community Task Force. Developing an implementation strategy that prioritizes connection needs. Secured IRWM and USDA rural assistance funding for St. Anthony's, Huerda, and Mountain View Estates mobile home parks. Short term arsenic treatment	Continue to sponsor applications for USDA, IRWM, CDPH, and SWRCB funding
Investigate the feasibility of installing nitrate treatment on selected high nitrate wells to avoid redistribution of nitrates	CVWD	2015	In Progress via CVWD's Source of Supply/ Treatment Study. Treatment process being re-evaluated	CVWD continues to explore new technologies to identify for pilot testing any promising processes that may be technically and economically feasible to implement.

Plan Element	Responsible Entity(ies)	SGMA Bridge Document Goal	2018 Status	2019 Planned Activities
Undertake a cooperative program to identify and cap wells that are no longer being used for groundwater production	CVWD, DWA	2015	Obtained $250,000 grant funding – up to $35,000/well for artesian well retrofits (sealing, well destruction, and conversion to CASGEM monitoring well.)	Continue to support County's efforts to enforce. Pursue IRWM grant funding
ENVIRONMENTAL ENHANCEMENT AND MITIGATION PROJECTS				
Develop plans for the creation of: * 25 acres of managed pupfish replacement habitat * 66 acres of managed rail replacement habitat * 44 acres of Sonoran cottonwood-willow riparian forest habitat	CVWD	2010	In Progress. Received wildlife agency approval of site, workplan under review by wildlife agencies	Continue to work with wildlife agencies to complete review. Update project implementation schedule. Budget funds in CIB/CIP
Remove tamarisk, restore and enhance mesquite and Coachella Valley round-tailed ground squirrel habitat on land CVWD owns in the East Indio Hills Conservation Area	CVWD, CVCC	Not Specified	Completed tamarisk removal at WRP-7 site. CVCC study on mesquite restoration in progress	Continue to support CVCC efforts to complete feasibility study
Conserve approximately 1,200 acres of land owned in the CVFTL HCP Whitewater Floodplain Preserve in perpetuity as part of the CVMSHCP Reserve System	CVWD, CVCC	2010	In Progress. Resource agencies reviewing Draft Conservation Easement prepared by CVCC and CVWD	Continue to work with Resource agencies to achieve conservation easement approvals

8.7 SUMMARY OF PROGRESS

The Indio Subbasin GSAs continue to implement the goals and programs of the 2010 CVWMP Update. WY 2016-2017 saw the highest volume of water recharged in a 12-month period. Groundwater production remained more than 25 percent less than the historical highs in the early 2000s. The results of the on-going basin monitoring program demonstrate the significant progress being made toward the goal of eliminating groundwater overdraft. Since 2009, the Indio Subbasin has gained over 650,000 AF of groundwater in storage.

Groundwater level monitoring demonstrates that most of the Indio Subbasin exhibited water level gains in the past year except for portions of the Indio Subbasin between Palm Springs and Rancho Mirage, and the Desert Palm (Sun City) community. The water level decline in the Palm Springs and Rancho Mirage area is the residual effect of low imported replenishment water deliveries in previous years due to the recent drought.

Over the past ten years, much of the Indio Subbasin experienced water level gains in the range of 2 to over 50 ft as a result of implementation of the TEL GRF, conversion of golf courses from groundwater to Coachella Canal water, and water conservation. The portion of the Indio Subbasin between Palm Springs and Palm Desert experienced water level declines in the range of 2 to 8 ft in this period. Eliminating this decline is the focus of the Mid-Valley Pipeline source substitution project and the proposed Palm Desert GRF.

CVWD continues to work with the golf courses in its service area to extend the Mid-Valley Pipeline distribution system to serve additional courses and reduce their groundwater pumping. Increased availability of Colorado River water through the QSA added 18,000 AF of deliveries in 2018. CVWD expects to receive an additional 5,000 AF of Colorado River water through the QSA in 2019.

Continued implementation of CVWMP programs is critical to meeting the goals of the plan. In the coming year, the GSAs will continue to pursue their successful water conservation efforts. CVWD began non-potable water deliveries to one golf course in February 2018 and plans to connect five additional golf courses to non-potable water supplies in 2022.

CVWD also plans to complete construction of Phase I of the Palm Desert GRF in the first quarter of 2019 and continue with the design phase of Phase II. Anticipated recharge is 10,000 AFY.

The GSAs continue to evaluate the effectiveness of their groundwater monitoring program and add additional wells to the program as the need arises. In addition, the next USGS report on land subsidence is expected to be published in early 2019.

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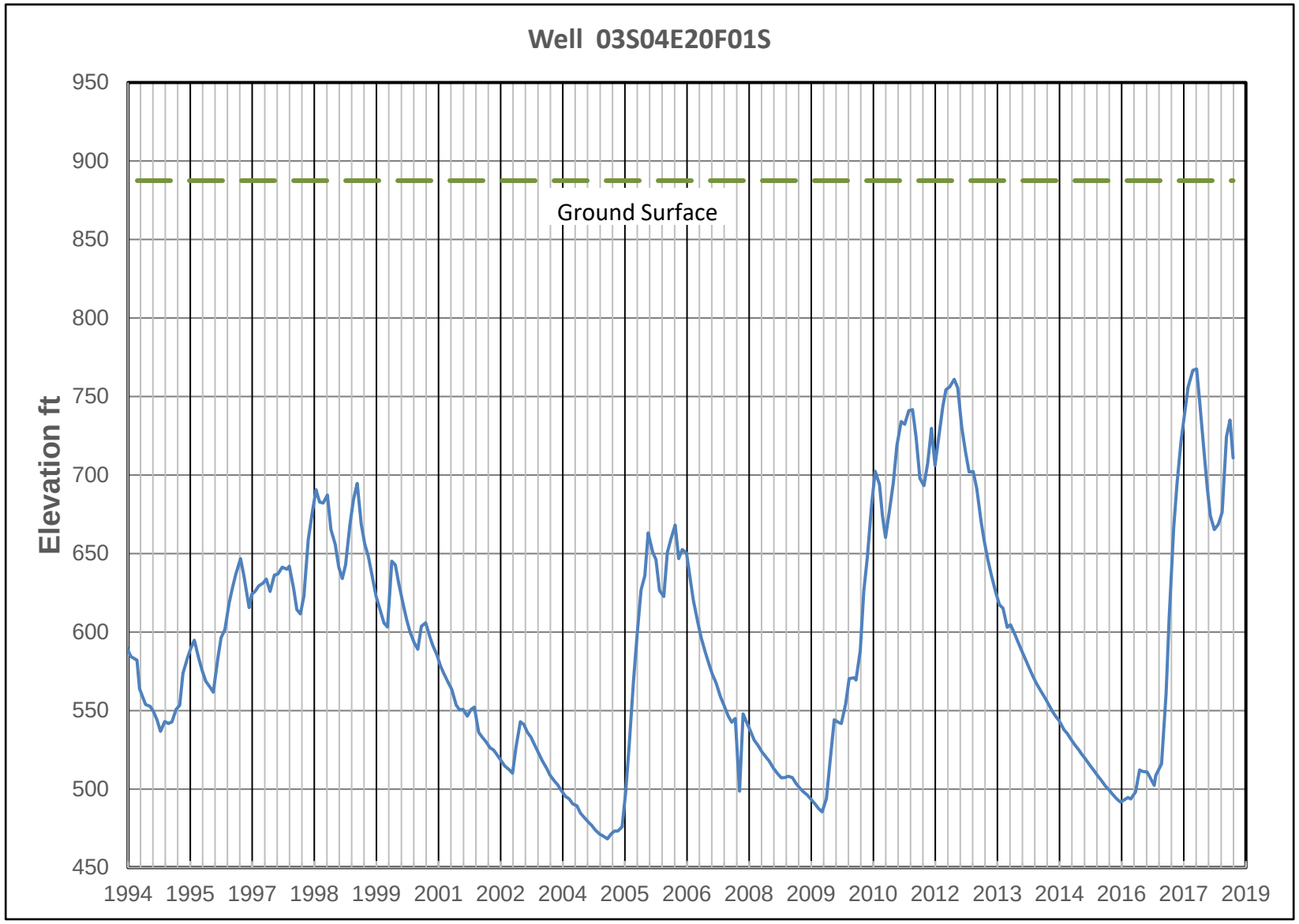
APPENDIX A

Representative Groundwater Elevation Hydrographs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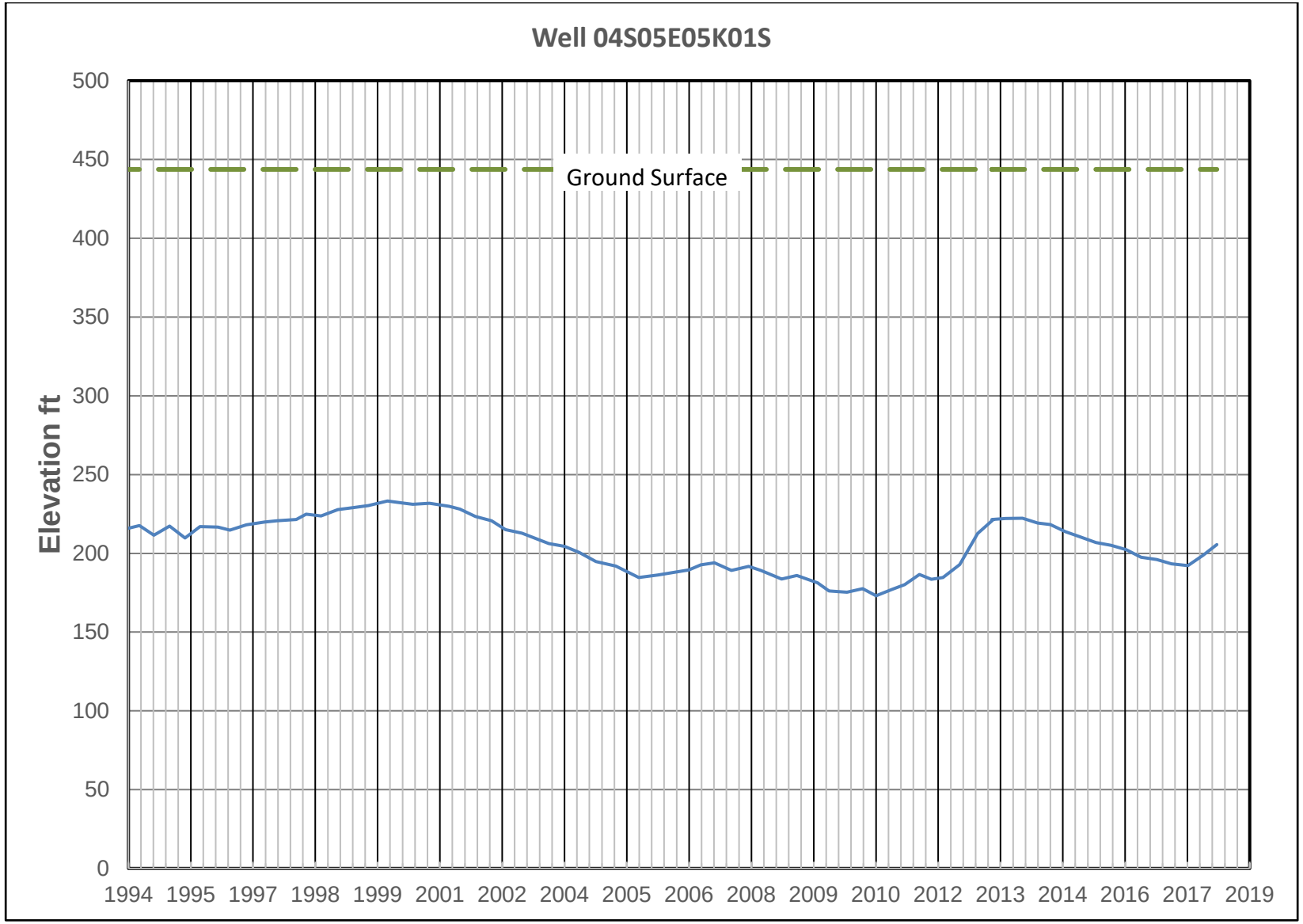
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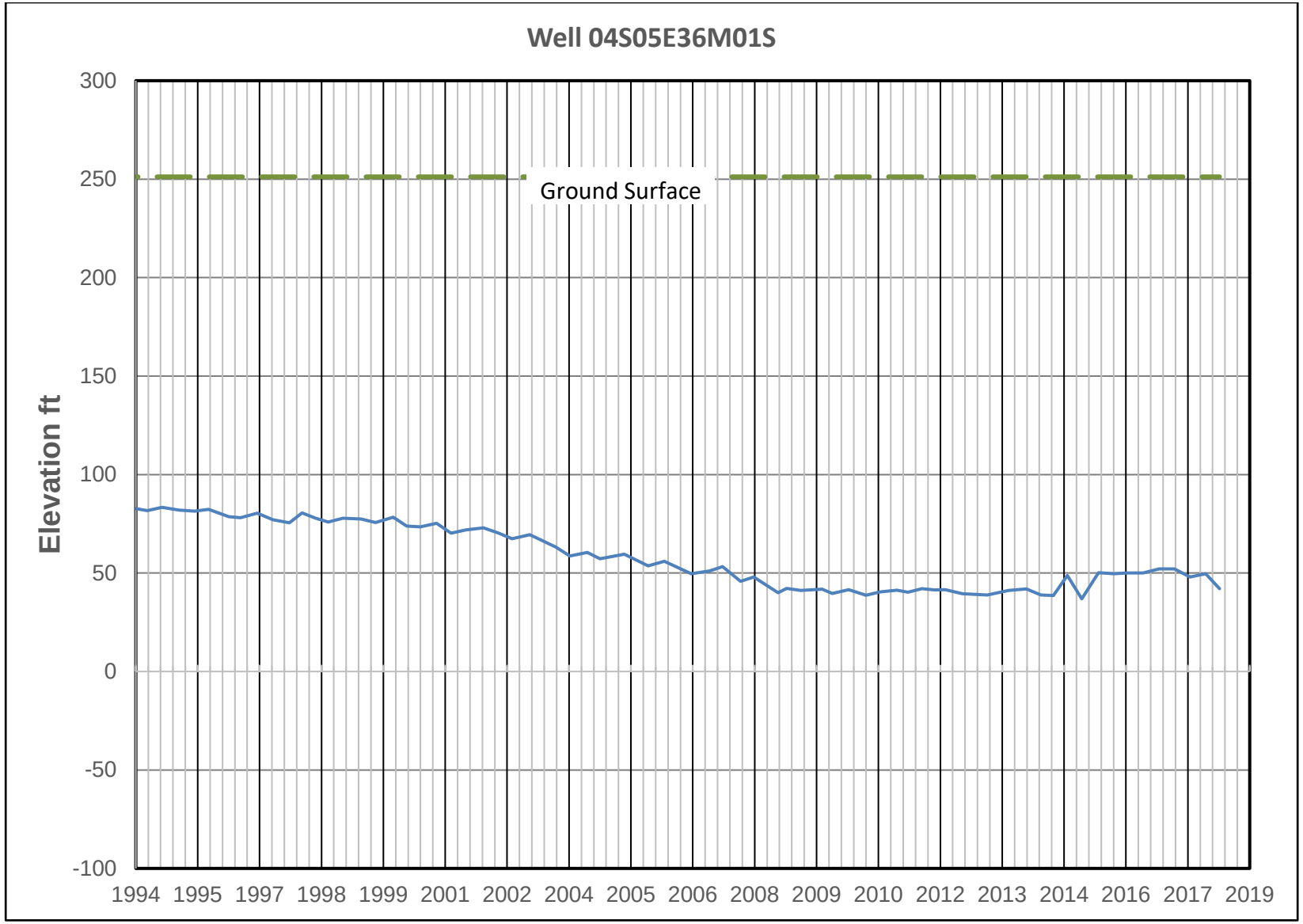
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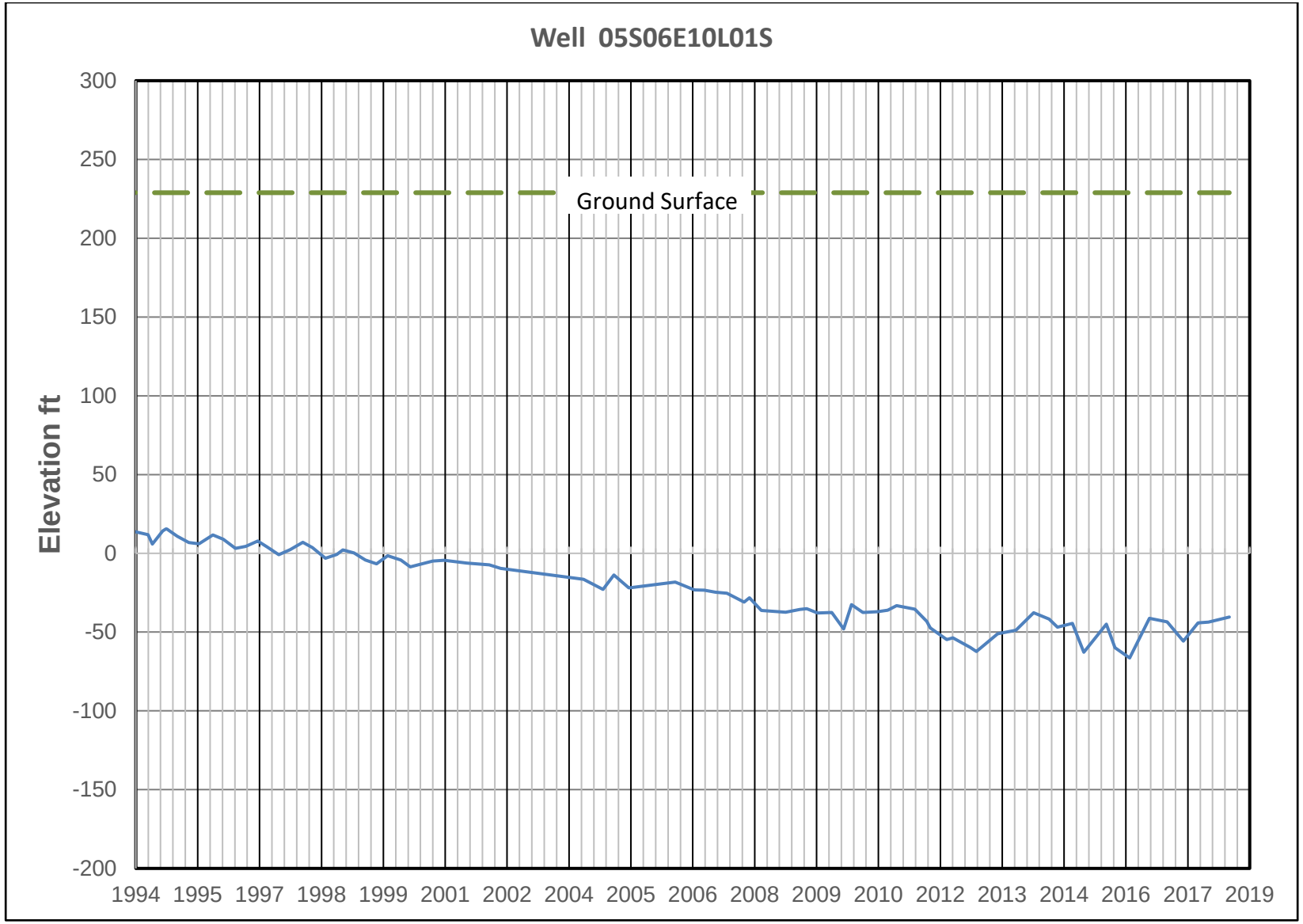
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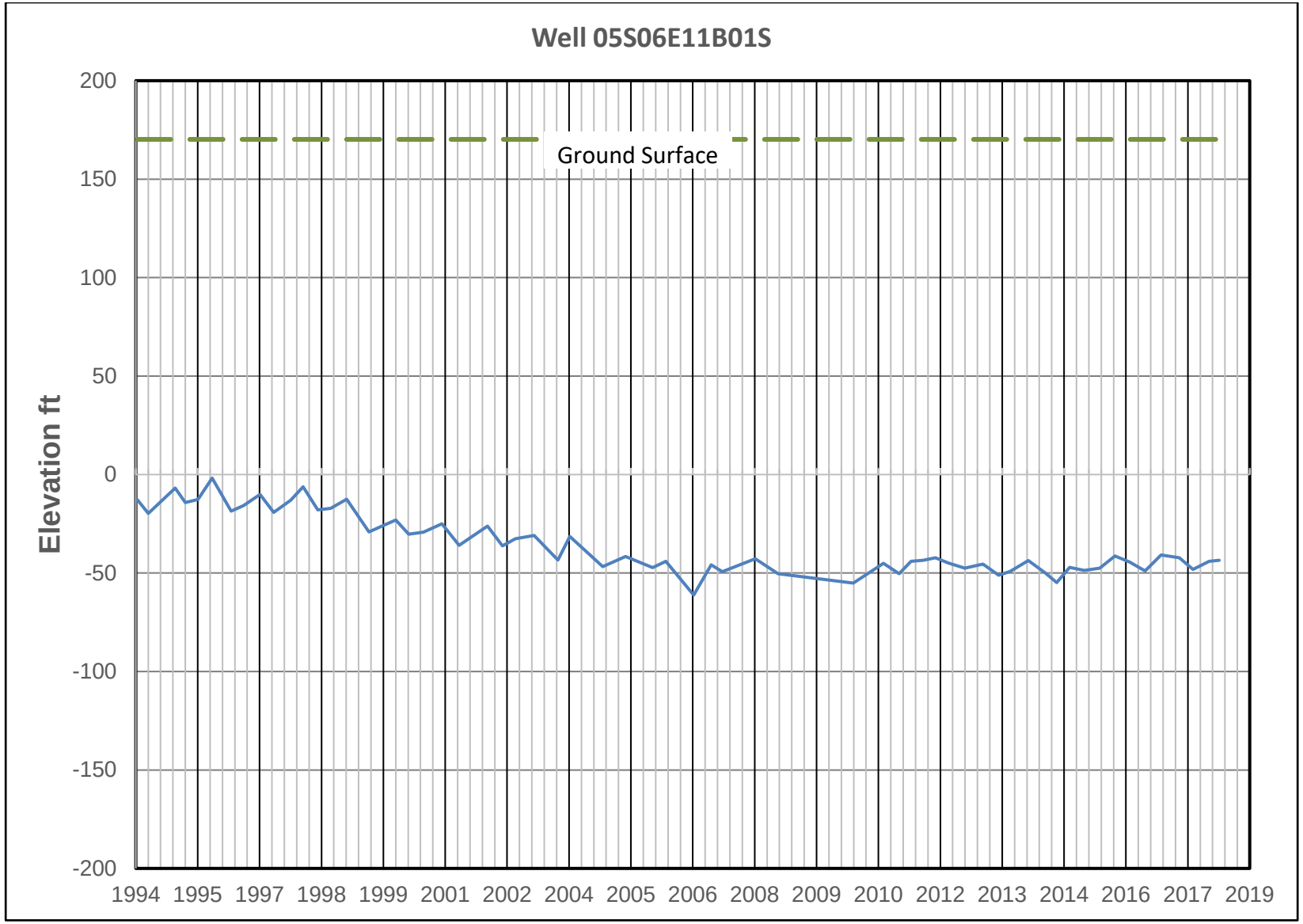
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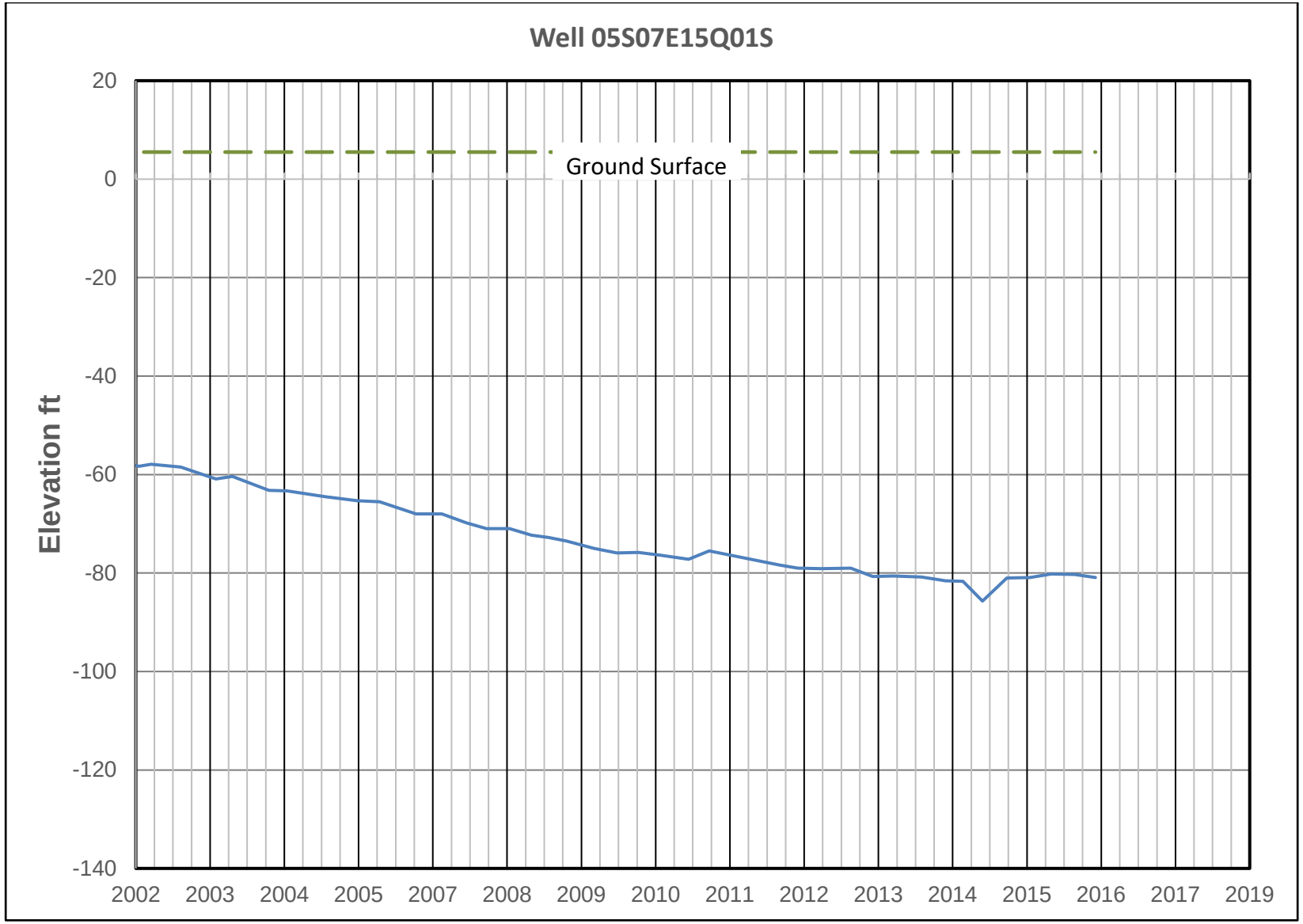
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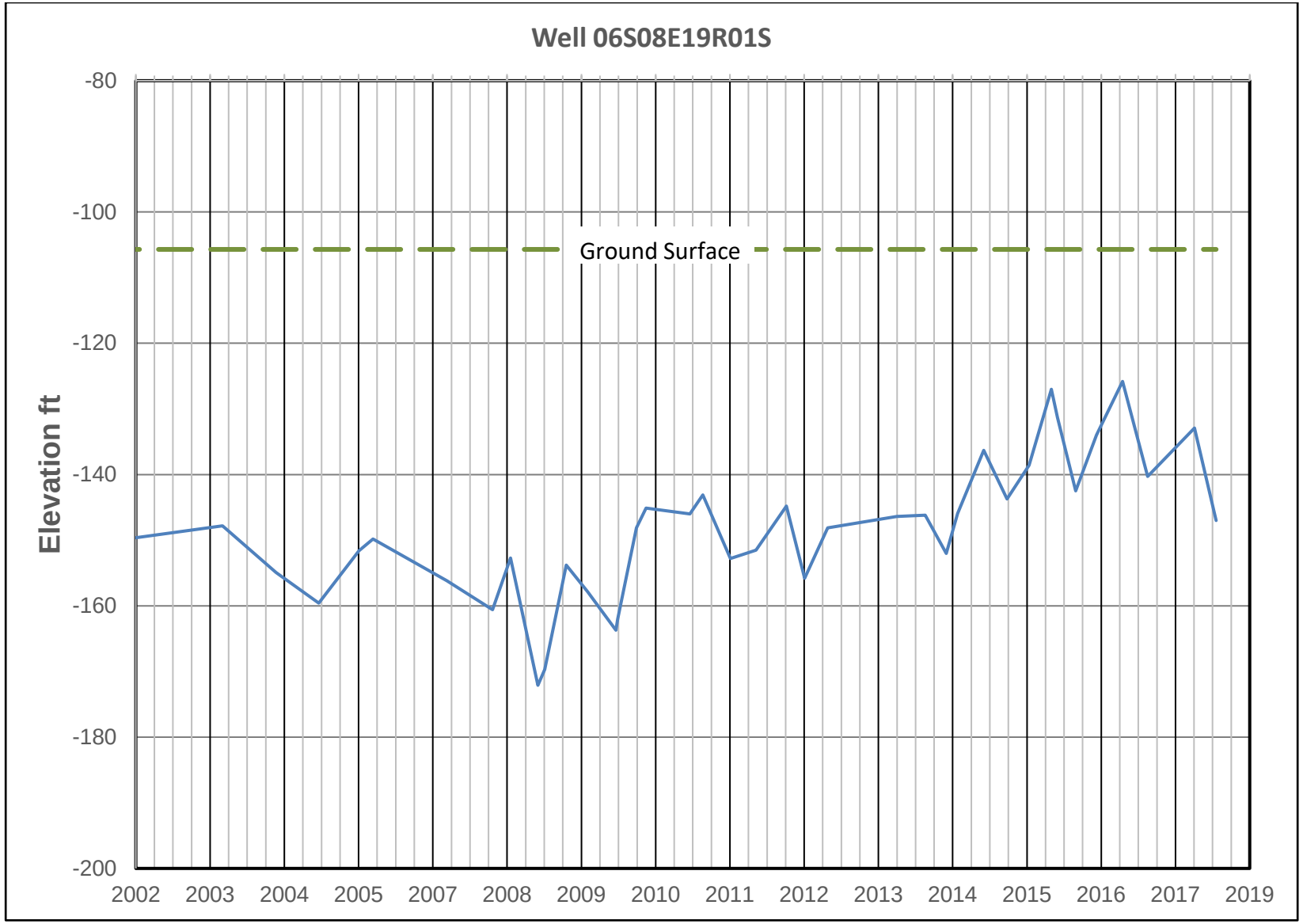
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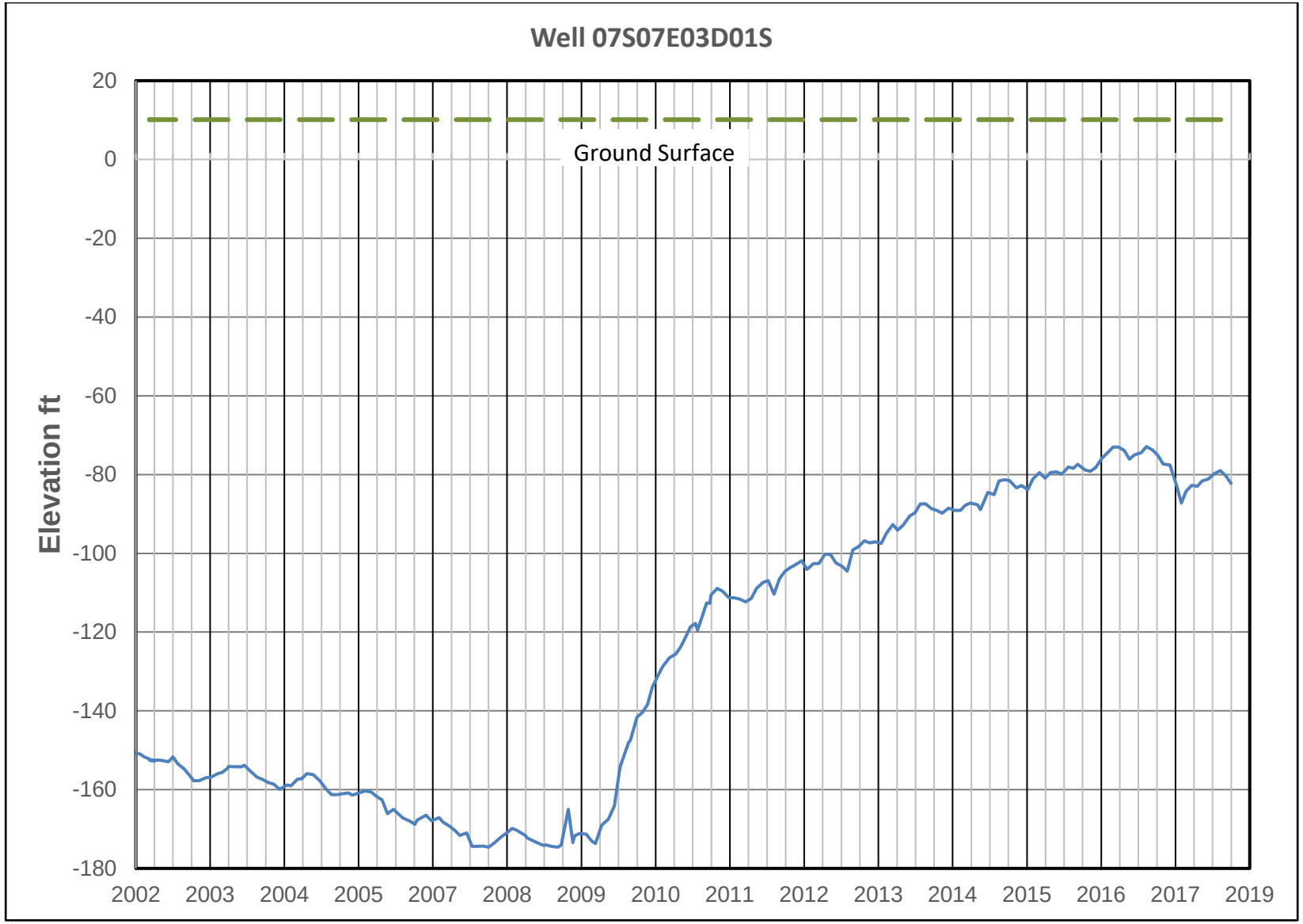
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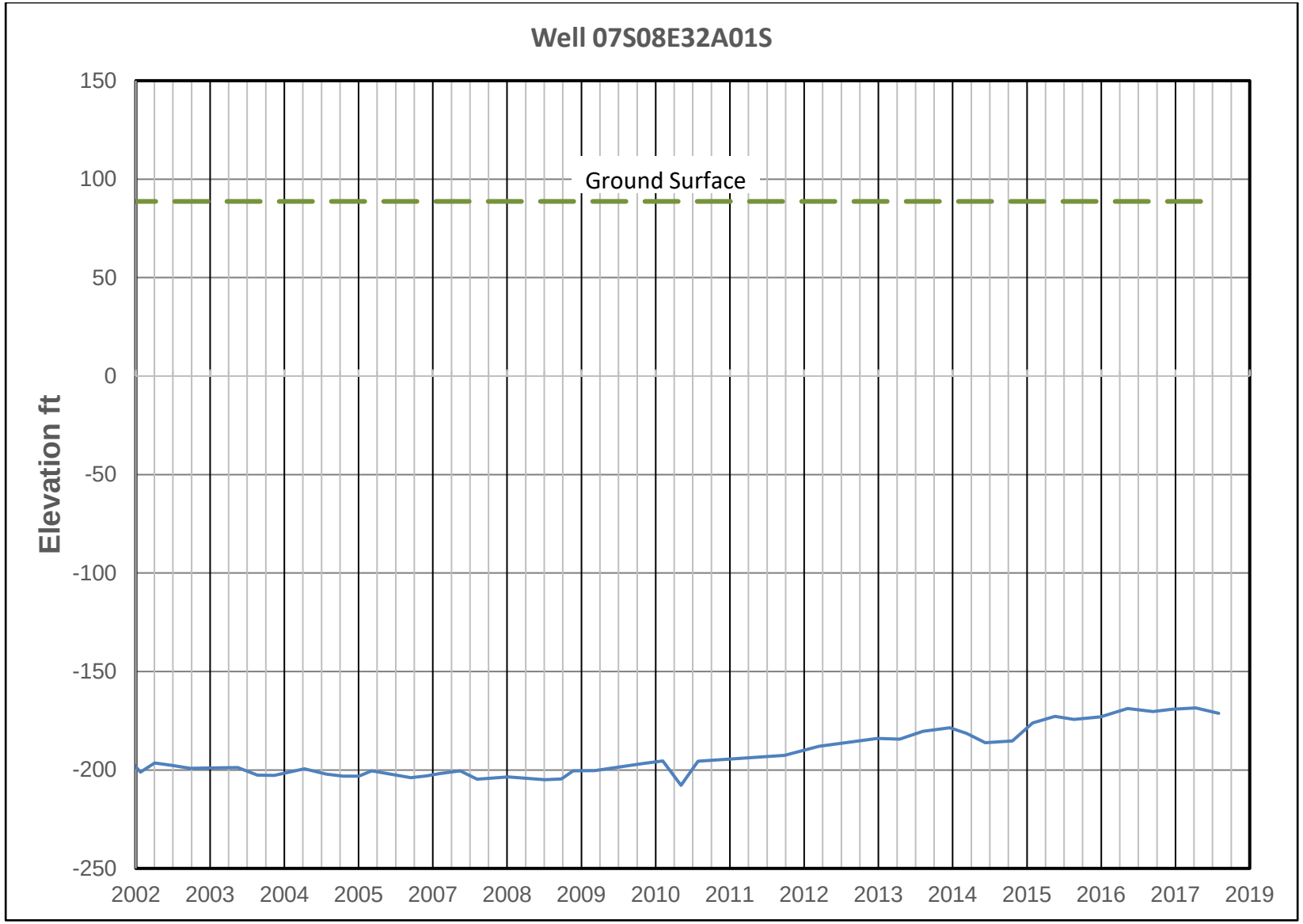
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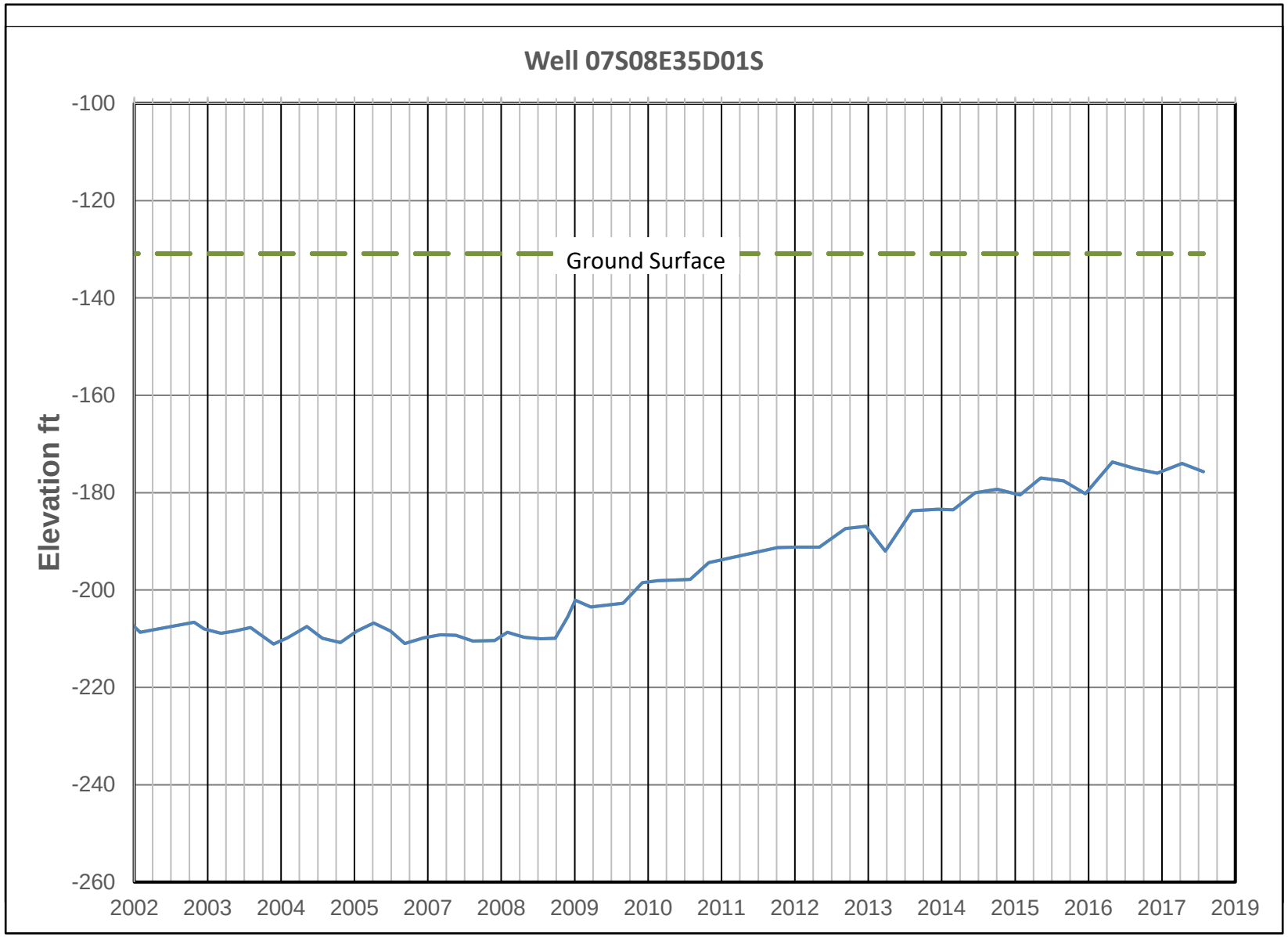
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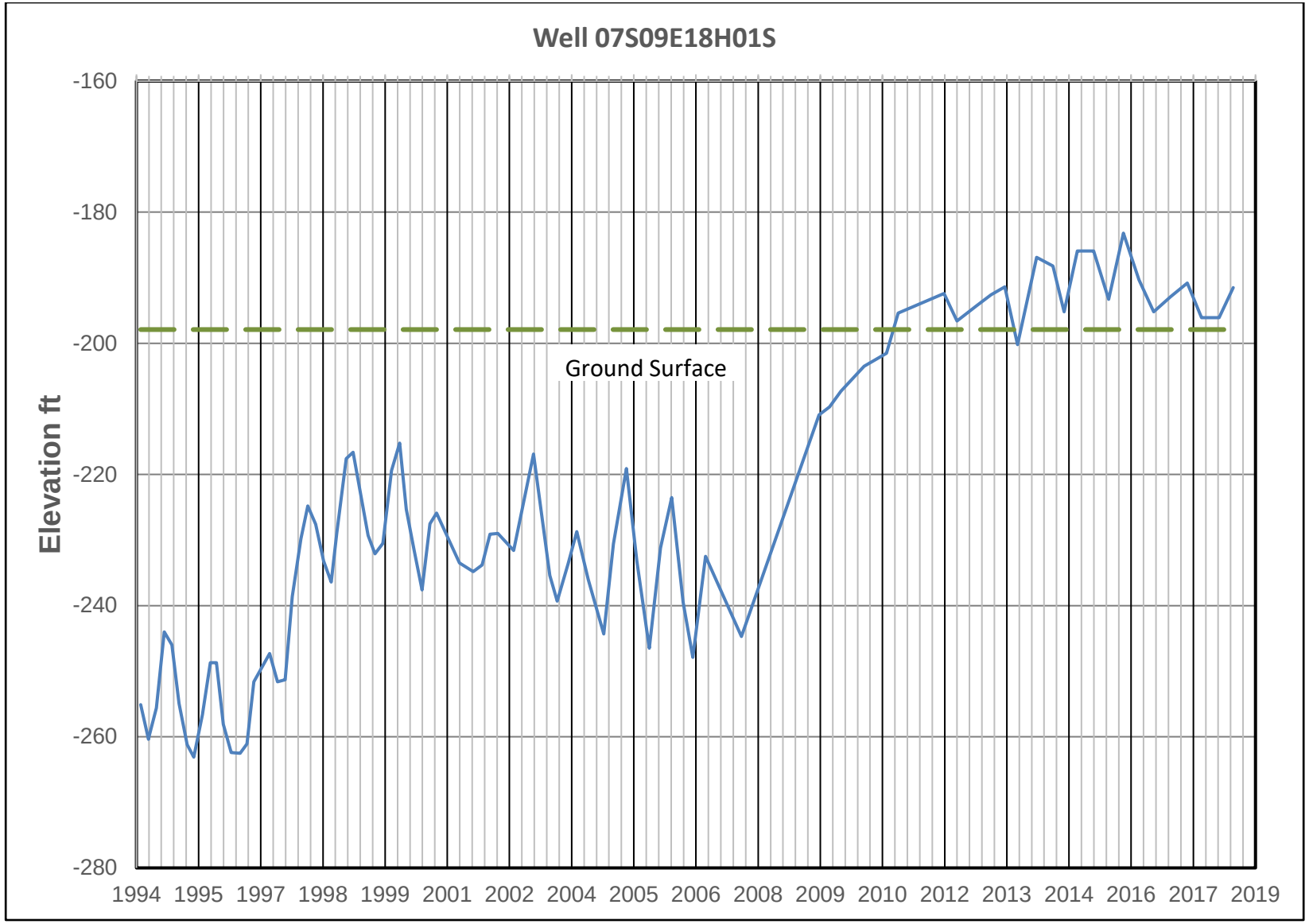
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APPENDIX B

Groundwater Elevation Data

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
MSWD	26A	03S03E08A01S	1508.50	2017	10/17/2017	312.86	2018
MSWD	26A	03S03E08A01S	1508.50	2017	11/8/2017	312.93	2018
MSWD	26A	03S03E08A01S	1508.50	2017	12/7/2017	313.11	2018
MSWD	26A	03S03E08A01S	1508.50	2018	1/18/2018	313.2	2018
MSWD	26A	03S03E08A01S	1508.50	2018	2/13/2018	313.46	2018
MSWD	26A	03S03E08A01S	1508.50	2018	3/7/2018	313.39	2018
MSWD	26A	03S03E08A01S	1508.50	2018	4/10/2018	313.43	2018
MSWD	26A	03S03E08A01S	1508.50	2018	5/8/2018	313.69	2018
MSWD	26A	03S03E08A01S	1508.50	2018	6/6/2018	313.71	2018
MSWD	26A	03S03E08A01S	1508.50	2018	8/8/2018	313.96	2018
MSWD	26A	03S03E08A01S	1508.50	2018	9/13/2018	313.99	2018
DWA	BR	03S03E10P01S	1168.00	2017	10/24/2017	359.91	2018
DWA	BR	03S03E10P01S	1168.00	2017	11/28/2017	351.08	2018
DWA	BR	03S03E10P01S	1168.00	2017	12/20/2017	349.50	2018
DWA	BR	03S03E10P01S	1168.00	2018	1/29/2018	340.66	2018
DWA	BR	03S03E10P01S	1168.00	2018	2/21/2018	341.25	2018
DWA	BR	03S03E10P01S	1168.00	2018	3/27/2018	334.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	4/18/2018	330.83	2018
DWA	BR	03S03E10P01S	1168.00	2018	5/22/2018	329.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	6/25/2018	328.33	2018
DWA	BR	03S03E10P01S	1168.00	2018	7/20/2018	327.58	2018
DWA	BR	03S03E10P01S	1168.00	2018	8/23/2018	324.57	2018
DWA	BR	03S03E10P01S	1168.00	2018	9/18/2018	321.72	2018
CVWD	-	03S04E13N02S	710.00	2018	1/23/2018	193.10	2018
CVWD	-	03S04E13N02S	710.00	2018	5/15/2018	189.60	2018
CVWD	-	03S04E13N02S	710.00	2018	9/26/2018	189.20	2018
MSWD	33	03S04E14J01S	760.00	2017	10/19/2017	241.60	2018
MSWD	33	03S04E14J01S	760.00	2017	11/29/2017	242.70	2018
MSWD	33	03S04E14J01S	760.00	2017	12/11/2017	237.60	2018
MSWD	33	03S04E14J01S	760.00	2018	1/16/2018	234.50	2018
MSWD	33	03S04E14J01S	760.00	2018	2/13/2018	234.50	2018
MSWD	33	03S04E14J01S	760.00	2018	3/13/2018	235.80	2018
MSWD	33	03S04E14J01S	760.00	2018	4/4/2018	234.10	2018
MSWD	33	03S04E14J01S	760.00	2018	5/14/2018	233.40	2018
MSWD	33	03S04E14J01S	760.00	2018	6/12/2018	232.70	2018
MSWD	33	03S04E14J01S	760.00	2018	8/14/2018	233.10	2018
MSWD	33	03S04E14J01S	760.00	2018	9/12/2018	232.10	2018
DWA	-	03S04E15G01S	769.00	2017	11/16/2017	173.16	2018
DWA	-	03S04E15G01S	769.00	2017	12/20/2017	171.77	2018
DWA	-	03S04E15G01S	769.00	2018	1/23/2018	167.66	2018
DWA	-	03S04E15G01S	769.00	2018	2/21/2018	164.08	2018
DWA	-	03S04E15G01S	769.00	2018	3/28/2018	160.83	2018
DWA	-	03S04E15G01S	769.00	2018	4/19/2018	159.50	2018
DWA	-	03S04E15G01S	769.00	2018	4/19/2018	160.35	2018
DWA	-	03S04E15G01S	769.00	2018	5/21/2018	158.16	2018
DWA	-	03S04E15G01S	769.00	2018	6/22/2018	157.66	2018
DWA	-	03S04E15G01S	769.00	2018	8/16/2018	157.66	2018
DWA	-	03S04E15G01S	769.00	2018	9/18/2018	152.00	2018
CVWD	-	03S04E17K01S	898.20	2018	1/23/2018	253.00	2018
CVWD	-	03S04E17K01S	898.20	2018	5/15/2018	254.40	2018
CVWD	-	03S04E17K01S	898.20	2018	9/26/2018	272.00	2018
DWA	43	03S04E19L01S		2017	10/20/2017	203.25	2018
DWA	43	03S04E19L01S		2017	11/27/2017	194.33	2018
DWA	43	03S04E19L01S		2017	12/19/2017	186.75	2018
DWA	43	03S04E19L01S		2018	1/25/2018	167.50	2018
DWA	43	03S04E19L01S		2018	2/20/2018	213.25	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	43	03S04E19L01S		2018	3/27/2018	239.50	2018
DWA	43	03S04E19L01S		2018	4/23/2018	257.33	2018
DWA	43	03S04E19L01S		2018	5/21/2018	270.00	2018
DWA	43	03S04E19L01S		2018	6/21/2018	271.08	2018
DWA	43	03S04E19L01S		2018	7/20/2018	261.75	2018
DWA	43	03S04E19L01S		2018	8/15/2018	231.50	2018
DWA	43	03S04E19L01S		2018	9/14/2018	203.30	2018
CVWD	-	03S04E20F01S	887.50	2017	10/27/2017	131.60	2018
CVWD	-	03S04E20F01S	887.50	2017	12/4/2017	120.80	2018
CVWD	-	03S04E20F01S	887.50	2018	1/4/2018	119.90	2018
CVWD	-	03S04E20F01S	887.50	2018	1/30/2018	142.70	2018
CVWD	-	03S04E20F01S	887.50	2018	2/27/2018	168.50	2018
CVWD	-	03S04E20F01S	887.50	2018	3/30/2018	195.50	2018
CVWD	-	03S04E20F01S	887.50	2018	4/23/2018	213.20	2018
CVWD	-	03S04E20F01S	887.50	2018	5/25/2018	222.20	2018
CVWD	-	03S04E20F01S	887.50	2018	6/27/2018	218.80	2018
CVWD	-	03S04E20F01S	887.50	2018	7/27/2018	211.10	2018
CVWD	-	03S04E20F01S	887.50	2018	8/31/2018	163.30	2018
CVWD	-	03S04E20F01S	887.50	2018	9/28/2018	152.50	2018
CVWD	-	03S04E20F02S	887.50	2017	10/27/2017	92.20	2018
CVWD	-	03S04E20F02S	887.50	2017	12/4/2017	86.30	2018
CVWD	-	03S04E20F02S	887.50	2018	1/4/2018	91.60	2018
CVWD	-	03S04E20F02S	887.50	2018	1/30/2018	125.60	2018
CVWD	-	03S04E20F02S	887.50	2018	2/27/2018	156.60	2018
CVWD	-	03S04E20F02S	887.50	2018	3/30/2018	185.50	2018
CVWD	-	03S04E20F02S	887.50	2018	4/23/2018	204.40	2018
CVWD	-	03S04E20F02S	887.50	2018	5/25/2018	198.90	2018
CVWD	-	03S04E20F02S	887.50	2018	6/27/2018	205.70	2018
CVWD	-	03S04E20F02S	887.50	2018	7/27/2018	186.90	2018
CVWD	-	03S04E20F02S	887.50	2018	8/31/2018	120.50	2018
CVWD	-	03S04E20F02S	887.50	2018	9/28/2018	117.20	2018
CVWD	-	03S04E20F03S	887.50	2017	10/27/2017	174.40	2018
CVWD	-	03S04E20F03S	887.50	2017	12/4/2017	161.00	2018
CVWD	-	03S04E20F03S	887.50	2018	1/4/2018	156.60	2018
CVWD	-	03S04E20F03S	887.50	2018	1/30/2018	172.70	2018
CVWD	-	03S04E20F03S	887.50	2018	2/27/2018	192.30	2018
CVWD	-	03S04E20F03S	887.50	2018	3/23/2018	214.70	2018
CVWD	-	03S04E20F03S	887.50	2018	4/23/2018	230.10	2018
CVWD	-	03S04E20F03S	887.50	2018	5/25/2018	241.00	2018
CVWD	-	03S04E20F03S	887.50	2018	6/27/2018	239.60	2018
CVWD	-	03S04E20F03S	887.50	2018	7/27/2018	235.00	2018
CVWD	-	03S04E20F03S	887.50	2018	8/31/2018	197.40	2018
CVWD	-	03S04E20F03S	887.50	2018	9/28/2018	184.30	2018
CVWD	-	03S04E20J01S	839.20	2017	10/27/2017	109.40	2018
CVWD	-	03S04E20J01S	839.20	2017	12/4/2017	97.90	2018
CVWD	-	03S04E20J01S	839.20	2018	1/4/2018	96.90	2018
CVWD	-	03S04E20J01S	839.20	2018	1/30/2018	118.70	2018
CVWD	-	03S04E20J01S	839.20	2018	2/28/2018	146.20	2018
CVWD	-	03S04E20J01S	839.20	2018	3/30/2018	172.10	2018
CVWD	-	03S04E20J01S	839.20	2018	4/23/2018	189.80	2018
CVWD	-	03S04E20J01S	839.20	2018	5/25/2018	198.00	2018
CVWD	-	03S04E20J01S	839.20	2018	6/27/2018	193.20	2018
CVWD	-	03S04E20J01S	839.20	2018	7/27/2018	191.50	2018
CVWD	-	03S04E20J01S	839.20	2018	8/31/2018	144.10	2018
CVWD	-	03S04E20J01S	839.20	2018	9/28/2018	133.00	2018
CVWD	-	03S04E20J02S	839.20	2017	10/27/2017	112.20	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	03S04E20J02S	839.20	2017	12/4/2017	100.50	2018
CVWD	-	03S04E20J02S	839.20	2018	1/4/2018	99.20	2018
CVWD	-	03S04E20J02S	839.20	2018	1/30/2018	120.20	2018
CVWD	-	03S04E20J02S	839.20	2018	2/28/2018	147.40	2018
CVWD	-	03S04E20J02S	839.20	2018	3/30/2018	173.00	2018
CVWD	-	03S04E20J02S	839.20	2018	4/23/2018	190.70	2018
CVWD	-	03S04E20J02S	839.20	2018	5/25/2018	199.10	2018
CVWD	-	03S04E20J02S	839.20	2018	6/27/2018	194.60	2018
CVWD	-	03S04E20J02S	839.20	2018	7/27/2018	192.50	2018
CVWD	-	03S04E20J02S	839.20	2018	8/31/2018	146.00	2018
CVWD	-	03S04E20J02S	839.20	2018	9/28/2018	134.80	2018
CVWD	-	03S04E20J03S	839.20	2017	10/27/2017	131.40	2018
CVWD	-	03S04E20J03S	839.20	2017	12/4/2017	118.60	2018
CVWD	-	03S04E20J03S	839.20	2018	1/4/2018	115.60	2018
CVWD	-	03S04E20J03S	839.20	2018	1/30/2018	133.70	2018
CVWD	-	03S04E20J03S	839.20	2018	2/28/2018	156.90	2018
CVWD	-	03S04E20J03S	839.20	2018	3/30/2018	180.10	2018
CVWD	-	03S04E20J03S	839.20	2018	4/23/2018	197.40	2018
CVWD	-	03S04E20J03S	839.20	2018	5/25/2018	206.40	2018
CVWD	-	03S04E20J03S	839.20	2018	6/27/2018	203.30	2018
CVWD	-	03S04E20J03S	839.20	2018	7/27/2018	200.20	2018
CVWD	-	03S04E20J03S	839.20	2018	8/31/2018	159.20	2018
CVWD	-	03S04E20J03S	839.20	2018	9/28/2018	146.70	2018
CVWD	-	03S04E22A01S	711.80	2018	1/23/2018	110.60	2018
CVWD	-	03S04E22A01S	711.80	2018	5/15/2018	116.30	2018
CVWD	-	03S04E22A01S	711.80	2018	9/26/2018	110.60	2018
CVWD	-	03S04E29F01S	873.80	2017	10/27/2017	107.40	2018
CVWD	-	03S04E29F01S	873.80	2017	12/4/2017	98.30	2018
CVWD	-	03S04E29F01S	873.80	2018	1/4/2018	100.10	2018
CVWD	-	03S04E29F01S	873.80	2018	1/30/2018	130.00	2018
CVWD	-	03S04E29F01S	873.80	2018	2/27/2018	160.50	2018
CVWD	-	03S04E29F01S	873.80	2018	3/30/2018	191.80	2018
CVWD	-	03S04E29F01S	873.80	2018	4/23/2018	211.50	2018
CVWD	-	03S04E29F01S	873.80	2018	5/25/2018	216.40	2018
CVWD	-	03S04E29F01S	873.80	2018	6/27/2018	208.20	2018
CVWD	-	03S04E29F01S	873.80	2018	7/27/2018	204.70	2018
CVWD	-	03S04E29F01S	873.80	2018	8/31/2018	144.20	2018
CVWD	-	03S04E29F01S	873.80	2018	9/28/2018	133.60	2018
CVWD	-	03S04E29R01S	777.40	2017	10/27/2017	153.20	2018
CVWD	-	03S04E29R01S	777.40	2017	12/4/2017	132.20	2018
CVWD	-	03S04E29R01S	777.40	2018	1/4/2018	123.20	2018
CVWD	-	03S04E29R01S	777.40	2018	1/30/2018	137.90	2018
CVWD	-	03S04E29R01S	777.40	2018	2/27/2018	158.30	2018
CVWD	-	03S04E29R01S	777.40	2018	3/30/2018	183.90	2018
CVWD	-	03S04E29R01S	777.40	2018	4/23/2018	200.90	2018
CVWD	-	03S04E29R01S	777.40	2018	5/25/2018	215.60	2018
CVWD	-	03S04E29R01S	777.40	2018	6/27/2018	212.80	2018
CVWD	-	03S04E29R01S	777.40	2018	7/27/2018	216.30	2018
CVWD	-	03S04E29R01S	777.40	2018	8/31/2018	184.50	2018
CVWD	-	03S04E29R01S	777.40	2018	9/28/2018	172.70	2018
DWA	17	03S04E30C01S	938.00	2017	10/21/2017	174.33	2018
DWA	17	03S04E30C01S	938.00	2017	11/21/2017	162.75	2018
DWA	17	03S04E30C01S	938.00	2017	12/19/2017	153.83	2018
DWA	17	03S04E30C01S	938.00	2018	1/26/2018	167.50	2018
DWA	17	03S04E30C01S	938.00	2018	2/20/2018	186.83	2018
DWA	17	03S04E30C01S	938.00	2018	3/27/2018	213.16	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	17	03S04E30C01S	938.00	2018	4/20/2018	230.33	2018
DWA	17	03S04E30C01S	938.00	2018	5/22/2018	245.00	2018
DWA	17	03S04E30C01S	938.00	2018	6/22/2018	245.00	2018
DWA	17	03S04E30C01S	938.00	2018	8/17/2018	200.00	2018
DWA	17	03S04E30C01S	938.00	2018	9/14/2018	172.50	2018
DWA	42	03S04E33H01S	691.45	2017	10/20/2017	274.08	2018
DWA	42	03S04E33H01S	691.45	2017	11/21/2017	207.25	2018
DWA	42	03S04E33H01S	691.45	2018	1/26/2018	233.58	2018
DWA	42	03S04E33H01S	691.45	2018	2/20/2018	233.08	2018
DWA	42	03S04E33H01S	691.45	2018	3/27/2018	240.50	2018
DWA	42	03S04E33H01S	691.45	2018	4/20/2018	239.50	2018
DWA	42	03S04E33H01S	691.45	2018	5/21/2018	239.00	2018
DWA	42	03S04E33H01S	691.45	2018	6/21/2018	254.91	2018
DWA	42	03S04E33H01S	691.45	2018	7/20/2018	257.50	2018
DWA	42	03S04E33H01S	691.45	2018	8/22/2018	253.66	2018
DWA	42	03S04E33H01S	691.45	2018	9/18/2018	246.32	2018
DWA	30	03S04E34H01S	622.83	2017	10/18/2017	299.16	2018
DWA	30	03S04E34H01S	622.83	2017	11/27/2017	292.00	2018
DWA	30	03S04E34H01S	622.83	2017	12/19/2017	285.75	2018
DWA	30	03S04E34H01S	622.83	2018	1/20/2018	272.53	2018
DWA	30	03S04E34H01S	622.83	2018	2/20/2018	256.16	2018
DWA	30	03S04E34H01S	622.83	2018	3/26/2018	256.16	2018
DWA	30	03S04E34H01S	622.83	2018	4/20/2018	266.08	2018
DWA	30	03S04E34H01S	622.83	2018	5/22/2018	269.50	2018
DWA	30	03S04E34H01S	622.83	2018	6/21/2018	269.50	2018
DWA	30	03S04E34H01S	622.83	2018	8/14/2018	266.58	2018
DWA	30	03S04E34H01S	622.83	2018	9/11/2018	262.16	2018
DWA	35	03S04E34H02S	618.98	2018	4/20/2018	263.58	2018
DWA	35	03S04E34H02S	618.98	2018	8/15/2018	265.50	2018
DWA	35	03S04E34H02S	618.98	2018	9/11/2018	262.66	2018
DWA	21	03S04E34R01S	610.69	2017	10/23/2017	307.00	2018
DWA	21	03S04E34R01S	610.69	2017	11/21/2017	299.33	2018
DWA	21	03S04E34R01S	610.69	2017	12/18/2017	293.83	2018
DWA	21	03S04E34R01S	610.69	2018	1/23/2018	282.33	2018
DWA	21	03S04E34R01S	610.69	2018	2/20/2018	276.91	2018
DWA	21	03S04E34R01S	610.69	2018	3/26/2018	273.00	2018
DWA	21	03S04E34R01S	610.69	2018	4/23/2018	272.25	2018
DWA	21	03S04E34R01S	610.69	2018	5/21/2018	272.25	2018
DWA	21	03S04E34R01S	610.69	2018	6/21/2018	274.58	2018
DWA	21	03S04E34R01S	610.69	2018	7/20/2018	274.91	2018
DWA	21	03S04E34R01S	610.69	2018	8/16/2018	271.75	2018
DWA	21	03S04E34R01S	610.69	2018	9/18/2018	270.16	2018
DWA	33	03S04E35J01S	551.74	2017	10/18/2017	284.00	2018
DWA	33	03S04E35J01S	551.74	2017	11/21/2017	272.16	2018
DWA	33	03S04E35J01S	551.74	2017	12/19/2017	278.16	2018
DWA	33	03S04E35J01S	551.74	2018	1/25/2018	266.66	2018
DWA	33	03S04E35J01S	551.74	2018	2/20/2018	262.00	2018
DWA	33	03S04E35J01S	551.74	2018	3/26/2018	258.88	2018
DWA	33	03S04E35J01S	551.74	2018	4/17/2018	258.91	2018
DWA	33	03S04E35J01S	551.74	2018	5/21/2018	257.66	2018
DWA	33	03S04E35J01S	551.74	2018	6/26/2018	258.00	2018
DWA	33	03S04E35J01S	551.74	2018	8/16/2018	254.75	2018
DWA	33	03S04E35J01S	551.74	2018	9/18/2018	251.72	2018
DWA	34	03S04E35J02S	560.81	2017	10/18/2017	279.81	2018
DWA	34	03S04E35J02S	560.81	2017	11/16/2017	282.00	2018
DWA	34	03S04E35J02S	560.81	2017	12/18/2017	275.87	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	34	03S04E35J02S	560.81	2018	1/25/2018	251.23	2018
DWA	34	03S04E35J02S	560.81	2018	2/20/2018	261.10	2018
DWA	34	03S04E35J02S	560.81	2018	3/26/2018	257.00	2018
DWA	34	03S04E35J02S	560.81	2018	4/17/2018	256.00	2018
DWA	34	03S04E35J02S	560.81	2018	5/21/2018	256.00	2018
DWA	34	03S04E35J02S	560.81	2018	6/21/2018	254.00	2018
DWA	34	03S04E35J02S	560.81	2018	8/13/2018	254.58	2018
DWA	34	03S04E35J02S	560.81	2018	9/18/2018	251.72	2018
DWA	27	03S04E35R01S	543.00	2018	4/20/2018	253.00	2018
DWA	27	03S04E35R01S	543.00	2018	8/22/2018	248.91	2018
DWA	28	03S04E35R02S	546.85	2017	10/13/2017	284.50	2018
DWA	28	03S04E35R02S	546.85	2017	11/21/2017	278.25	2018
DWA	28	03S04E35R02S	546.85	2017	12/18/2017	273.66	2018
DWA	28	03S04E35R02S	546.85	2018	1/26/2018	264.25	2018
DWA	28	03S04E35R02S	546.85	2018	2/22/2018	262.25	2018
DWA	28	03S04E35R02S	546.85	2018	3/26/2018	254.00	2018
DWA	28	03S04E35R02S	546.85	2018	4/17/2018	253.25	2018
DWA	28	03S04E35R02S	546.85	2018	5/22/2018	249.00	2018
DWA	28	03S04E35R02S	546.85	2018	6/21/2018	248.58	2018
DWA	28	03S04E35R02S	546.85	2018	7/20/2018	247.00	2018
DWA	28	03S04E35R02S	546.85	2018	8/14/2018	246.33	2018
DWA	28	03S04E35R02S	546.85	2018	9/18/2018	244.64	2018
DWA	9	03S04E36M01S	546.82	2018	4/19/2018	250.25	2018
DWA	9	03S04E36M01S	546.82	2018	9/18/2018	243.64	2018
DWA	38	03S04E36Q01S	516.50	2017	10/18/2017	270.00	2018
DWA	38	03S04E36Q01S	516.50	2017	11/21/2017	268.91	2018
DWA	38	03S04E36Q01S	516.50	2017	12/18/2017	263.16	2018
DWA	38	03S04E36Q01S	516.50	2018	1/26/2018	256.83	2018
DWA	38	03S04E36Q01S	516.50	2018	2/20/2018	253.00	2018
DWA	38	03S04E36Q01S	516.50	2018	3/26/2018	249.00	2018
DWA	38	03S04E36Q01S	516.50	2018	4/19/2018	248.33	2018
DWA	38	03S04E36Q01S	516.50	2018	5/21/2018	247.66	2018
DWA	38	03S04E36Q01S	516.50	2018	6/21/2018	244.44	2018
DWA	38	03S04E36Q01S	516.50	2018	7/20/2018	245.00	2018
DWA	38	03S04E36Q01S	516.50	2018	8/16/2018	241.33	2018
DWA	38	03S04E36Q01S	516.50	2018	9/12/2018	240.58	2018
DWA	37	03S04E36Q02S	519.00	2018	4/19/2018	247.66	2018
DWA	37	03S04E36Q02S	519.00	2018	8/15/2018	243.16	2018
DWA	37	03S04E36Q02S	519.00	2018	9/12/2018	239.08	2018
CVWD	-	03S05E30G01S	587.10	2018	1/23/2018	203.80	2018
CVWD	-	03S05E30G01S	587.10	2018	5/15/2018	203.80	2018
CVWD	-	03S05E30G01S	587.10	2018	9/26/2018	204.00	2018
DWA	22	04S04E02B01S	564.18	2017	10/23/2017	298.00	2018
DWA	22	04S04E02B01S	564.18	2017	11/27/2017	297.25	2018
DWA	22	04S04E02B01S	564.18	2017	12/19/2017	295.33	2018
DWA	22	04S04E02B01S	564.18	2018	1/26/2018	281.00	2018
DWA	22	04S04E02B01S	564.18	2018	2/22/2018	281.50	2018
DWA	22	04S04E02B01S	564.18	2018	3/26/2018	272.75	2018
DWA	22	04S04E02B01S	564.18	2018	4/19/2018	272.66	2018
DWA	22	04S04E02B01S	564.18	2018	5/21/2018	270.25	2018
DWA	22	04S04E02B01S	564.18	2018	6/21/2018	269.16	2018
DWA	22	04S04E02B01S	564.18	2018	7/20/2018	269.66	2018
DWA	22	04S04E02B01S	564.18	2018	8/22/2018	267.08	2018
DWA	22	04S04E02B01S	564.18	2018	9/14/2018	266.00	2018
DWA	5	04S04E11Q01S	468.25	2017	10/20/2017	246.41	2018
DWA	5	04S04E11Q01S	468.25	2017	11/27/2017	245.25	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	5	04S04E11Q01S	468.25	2017	12/19/2017	243.50	2018
DWA	5	04S04E11Q01S	468.25	2018	1/26/2018	237.58	2018
DWA	5	04S04E11Q01S	468.25	2018	2/21/2018	235.75	2018
DWA	5	04S04E11Q01S	468.25	2018	3/27/2018	233.41	2018
DWA	5	04S04E11Q01S	468.25	2018	4/19/2018	230.16	2018
DWA	5	04S04E11Q01S	468.25	2018	5/21/2018	227.50	2018
DWA	5	04S04E11Q01S	468.25	2018	6/22/2018	228.33	2018
DWA	5	04S04E11Q01S	468.25	2018	7/20/2018	228.00	2018
DWA	5	04S04E11Q01S	468.25	2018	8/17/2018	223.25	2018
DWA	5	04S04E11Q01S	468.25	2018	9/14/2018	221.33	2018
DWA	18	04S04E11Q02S	469.21	2018	4/19/2018	224.66	2018
DWA	18	04S04E11Q02S	469.21	2018	9/14/2018	216.58	2018
DWA	23	04S04E13C01S	454.11	2017	10/23/2017	237.41	2018
DWA	23	04S04E13C01S	454.11	2017	11/27/2017	236.00	2018
DWA	23	04S04E13C01S	454.11	2017	12/19/2017	233.16	2018
DWA	23	04S04E13C01S	454.11	2018	1/26/2018	229.58	2018
DWA	23	04S04E13C01S	454.11	2018	2/21/2018	228.50	2018
DWA	23	04S04E13C01S	454.11	2018	3/27/2018	229.41	2018
DWA	23	04S04E13C01S	454.11	2018	4/19/2018	223.16	2018
DWA	23	04S04E13C01S	454.11	2018	5/21/2018	220.58	2018
DWA	23	04S04E13C01S	454.11	2018	6/22/2018	219.33	2018
DWA	23	04S04E13C01S	454.11	2018	7/20/2018	218.66	2018
DWA	23	04S04E13C01S	454.11	2018	8/14/2018	216.50	2018
DWA	23	04S04E13C01S	454.11	2018	9/13/2018	215.91	2018
DWA	20	04S04E14Q01S	424.11	2018	4/20/2018	208.66	2018
DWA	20	04S04E14Q01S	424.11	2018	5/22/2018	210.66	2018
DWA	20	04S04E14Q01S	424.11	2018	9/19/2018	206.00	2018
DWA	11	04S04E14R01S	415.60	2017	10/20/2017	218.00	2018
DWA	11	04S04E14R01S	415.60	2017	11/27/2017	218.50	2018
DWA	11	04S04E14R01S	415.60	2017	12/19/2017	195.00	2018
DWA	11	04S04E14R01S	415.60	2018	1/26/2018	209.75	2018
DWA	11	04S04E14R01S	415.60	2018	2/21/2018	210.00	2018
DWA	11	04S04E14R01S	415.60	2018	3/27/2018	207.41	2018
DWA	11	04S04E14R01S	415.60	2018	4/19/2018	206.75	2018
DWA	11	04S04E14R01S	415.60	2018	5/21/2018	205.50	2018
DWA	11	04S04E14R01S	415.60	2018	6/22/2018	204.25	2018
DWA	11	04S04E14R01S	415.60	2018	7/20/2018	202.50	2018
DWA	11	04S04E14R01S	415.60	2018	8/17/2018	202.41	2018
DWA	11	04S04E14R01S	415.60	2018	9/19/2018	201.08	2018
DWA	24	04S04E24D01S	400.97	2017	10/23/2017	202.91	2018
DWA	24	04S04E24D01S	400.97	2017	11/20/2017	199.60	2018
DWA	24	04S04E24D01S	400.97	2018	2/21/2018	189.66	2018
DWA	24	04S04E24D01S	400.97	2018	3/22/2018	196.91	2018
DWA	24	04S04E24D01S	400.97	2018	4/19/2018	194.50	2018
DWA	24	04S04E24D01S	400.97	2018	5/21/2018	194.08	2018
DWA	24	04S04E24D01S	400.97	2018	6/22/2018	193.50	2018
DWA	24	04S04E24D01S	400.97	2018	7/24/2018	197.00	2018
DWA	24	04S04E24D01S	400.97	2018	8/22/2018	191.50	2018
DWA	24	04S04E24D01S	400.97	2018	9/13/2018	190.83	2018
DWA	32	04S04E24E01S	403.66	2018	4/19/2018	196.75	2018
DWA	32	04S04E24E01S	403.66	2018	7/2/2018	195.33	2018
DWA	32	04S04E24E01S	403.66	2018	9/18/2018	200.33	2018
DWA	29	04S04E24H01S	380.97	2017	10/23/2017	183.03	2018
DWA	29	04S04E24H01S	380.97	2017	11/20/2017	185.75	2018
DWA	29	04S04E24H01S	380.97	2017	12/19/2017	186.50	2018
DWA	29	04S04E24H01S	380.97	2018	1/26/2018	183.66	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	29	04S04E24H01S	380.97	2018	7/20/2018	181.33	2018
DWA	29	04S04E24H01S	380.97	2018	8/23/2018	181.45	2018
DWA	29	04S04E24H01S	380.97	2018	9/19/2018	179.08	2018
DWA	39	04S04E25C01S	416.54	2017	10/20/2017	222.25	2018
DWA	39	04S04E25C01S	416.54	2017	11/20/2017	219.00	2018
DWA	39	04S04E25C01S	416.54	2017	12/19/2017	222.91	2018
DWA	39	04S04E25C01S	416.54	2018	1/26/2018	217.08	2018
DWA	39	04S04E25C01S	416.54	2018	2/21/2018	217.66	2018
DWA	39	04S04E25C01S	416.54	2018	3/27/2018	215.66	2018
DWA	39	04S04E25C01S	416.54	2018	4/19/2018	216.83	2018
DWA	39	04S04E25C01S	416.54	2018	5/21/2018	214.91	2018
DWA	39	04S04E25C01S	416.54	2018	6/22/2018	215.25	2018
DWA	39	04S04E25C01S	416.54	2018	7/24/2018	216.66	2018
DWA	39	04S04E25C01S	416.54	2018	8/22/2018	213.25	2018
DWA	39	04S04E25C01S	416.54	2018	9/13/2018	213.16	2018
DWA	40	04S04E25D02S	423.14	2018	4/19/2018	216.83	2018
DWA	40	04S04E25D02S	423.14	2018	7/2/2018	220.50	2018
DWA	40	04S04E25D02S	423.14	2018	8/15/2018	219.83	2018
DWA	40	04S04E25D02S	423.14	2018	9/13/2018	218.08	2018
DWA	14	04S04E26A01S	433.05	2017	10/20/2017	236.83	2018
DWA	14	04S04E26A01S	433.05	2017	11/20/2017	242.66	2018
DWA	14	04S04E26A01S	433.05	2017	12/19/2017	234.25	2018
DWA	14	04S04E26A01S	433.05	2018	1/26/2018	232.33	2018
DWA	14	04S04E26A01S	433.05	2018	2/21/2018	233.50	2018
DWA	14	04S04E26A01S	433.05	2018	3/27/2018	232.66	2018
DWA	14	04S04E26A01S	433.05	2018	4/19/2018	237.25	2018
DWA	14	04S04E26A01S	433.05	2018	5/21/2018	238.66	2018
DWA	14	04S04E26A01S	433.05	2018	6/22/2018	239.00	2018
DWA	14	04S04E26A01S	433.05	2018	7/20/2018	237.00	2018
DWA	14	04S04E26A01S	433.05	2018	8/22/2018	229.66	2018
DWA	14	04S04E26A01S	433.05	2018	9/19/2018	235.66	2018
DWA	15	04S04E35K01S		2018	6/22/2018	322.00	2018
DWA	15	04S04E35K01S		2018	9/18/2018	323.00	2018
CVWD	-	04S05E04N01S	427.90	2018	1/25/2018	262.40	2018
CVWD	-	04S05E04N01S	427.90	2018	5/16/2018	259.60	2018
CVWD	-	04S05E05A01S	448.00	2018	1/25/2018	250.20	2018
CVWD	-	04S05E05A01S	448.00	2018	5/16/2018	244.90	2018
CVWD	-	04S05E05K01S	443.70	2018	1/25/2018	244.90	2018
CVWD	-	04S05E05K01S	443.70	2018	5/16/2018	238.20	2018
CVWD	-	04S05E08D01S	443.90	2018	1/25/2018	263.80	2018
CVWD	-	04S05E08D01S	443.90	2018	5/16/2018	254.60	2018
DWA	41	04S05E08N01S	412.02	2017	10/19/2017	220.16	2018
DWA	41	04S05E08N01S	412.02	2017	11/17/2017	217.08	2018
DWA	41	04S05E08N01S	412.02	2017	12/19/2017	220.16	2018
DWA	41	04S05E08N01S	412.02	2018	1/26/2018	202.58	2018
DWA	41	04S05E08N01S	412.02	2018	2/20/2018	213.00	2018
DWA	41	04S05E08N01S	412.02	2018	3/27/2018	208.33	2018
DWA	41	04S05E08N01S	412.02	2018	4/19/2018	220.10	2018
DWA	41	04S05E08N01S	412.02	2018	5/21/2018	208.08	2018
DWA	41	04S05E08N01S	412.02	2018	6/21/2018	205.50	2018
DWA	41	04S05E08N01S	412.02	2018	8/22/2018	204.41	2018
DWA	41	04S05E08N01S	412.02	2018	9/11/2018	202.75	2018
CVWD	-	04S05E08R01S	397.00	2018	1/25/2018	246.00	2018
CVWD	-	04S05E08R01S	397.00	2018	5/18/2018	243.80	2018
CVWD	-	04S05E09B01S	395.50	2018	1/25/2018	221.00	2018
CVWD	-	04S05E09B01S	395.50	2018	5/18/2018	217.70	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	04S05E09F03S	396.90	2018	1/25/2018	222.60	2018
CVWD	-	04S05E09F03S	396.90	2018	5/18/2018	220.70	2018
CVWD	-	04S05E09R01S	375.40	2018	1/25/2018	212.20	2018
CVWD	-	04S05E09R01S	375.40	2018	5/22/2018	217.50	2018
CVWD	-	04S05E15C01S	353.70	2018	1/29/2018	231.20	2018
CVWD	-	04S05E15C01S	353.70	2018	5/22/2018	230.60	2018
CVWD	-	04S05E15G01S	356.70	2018	1/29/2018	237.70	2018
CVWD	-	04S05E15G01S	356.70	2018	5/22/2018	233.40	2018
CVWD	-	04S05E15R02S	346.70	2018	1/29/2018	223.40	2018
CVWD	-	04S05E15R02S	346.70	2018	5/22/2018	227.70	2018
CVWD	-	04S05E16J01S	367.80	2017	10/4/2017	247.80	2018
CVWD	-	04S05E16J01S	367.80	2018	1/29/2018	239.30	2018
CVWD	-	04S05E16J01S	367.80	2018	5/22/2018	232.80	2018
DWA	31	04S05E17Q02S	367.99	2017	10/19/2017	203.16	2018
DWA	31	04S05E17Q02S	367.99	2017	11/27/2017	206.08	2018
DWA	31	04S05E17Q02S	367.99	2017	12/19/2017	205.33	2018
DWA	31	04S05E17Q02S	367.99	2018	1/26/2018	216.25	2018
DWA	31	04S05E17Q02S	367.99	2018	2/20/2018	203.66	2018
DWA	31	04S05E17Q02S	367.99	2018	3/26/2018	198.33	2018
DWA	31	04S05E17Q02S	367.99	2018	4/19/2018	199.00	2018
DWA	31	04S05E17Q02S	367.99	2018	5/21/2018	198.50	2018
DWA	31	04S05E17Q02S	367.99	2018	6/21/2018	198.00	2018
DWA	31	04S05E17Q02S	367.99	2018	7/20/2018	198.50	2018
DWA	31	04S05E17Q02S	367.99	2018	8/14/2018	195.75	2018
DWA	31	04S05E17Q02S	367.99	2018	9/19/2018	195.40	2018
DWA	3	04S05E19D01S	394.26	2018	4/20/2018	195.83	2018
DWA	3	04S05E19D01S	394.26	2018	9/14/2018	191.00	2018
CVWD	-	04S05E21J02S	345.40	2018	1/29/2018	217.20	2018
CVWD	-	04S05E21J02S	345.40	2018	5/23/2018	216.00	2018
CVWD	-	04S05E22C01S	350.10	2018	1/29/2018	232.40	2018
CVWD	-	04S05E22C01S	350.10	2018	5/22/2018	233.50	2018
CVWD	-	04S05E25A01S	350.00	2017	10/5/2017	298.30	2018
CVWD	-	04S05E25A01S	350.00	2018	2/7/2018	297.20	2018
CVWD	-	04S05E25A01S	350.00	2018	6/1/2018	300.40	2018
CVWD	-	04S05E25D02S	324.80	2017	10/12/2017	253.70	2018
CVWD	-	04S05E25D02S	324.80	2018	2/7/2018	249.50	2018
CVWD	-	04S05E25D02S	324.80	2018	6/1/2018	252.70	2018
CVWD	-	04S05E25J01S	318.16	2017	10/6/2017	286.50	2018
CVWD	-	04S05E25J01S	318.16	2018	2/9/2018	266.50	2018
CVWD	-	04S05E25J01S	318.16	2018	6/5/2018	287.20	2018
CVWD	-	04S05E27A01S	349.00	2017	10/4/2017	252.70	2018
CVWD	-	04S05E27A01S	349.00	2018	2/2/2018	252.40	2018
CVWD	-	04S05E27A01S	349.00	2018	5/30/2018	251.90	2018
CVWD	-	04S05E27E01S	313.20	2017	10/4/2017	199.90	2018
CVWD	-	04S05E27E01S	313.20	2018	2/2/2018	199.50	2018
CVWD	-	04S05E27E01S	313.20	2018	5/30/2018	198.20	2018
CVWD	-	04S05E27E03S		2017	10/4/2017	203.10	2018
CVWD	-	04S05E27E03S		2018	2/2/2018	202.80	2018
CVWD	-	04S05E27E03S		2018	5/30/2018	201.90	2018
CVWD	-	04S05E27K01S	296.50	2017	10/4/2017	198.60	2018
CVWD	-	04S05E27K01S	296.50	2018	2/2/2018	198.00	2018
CVWD	-	04S05E27K01S	296.50	2018	5/30/2018	197.50	2018
CVWD	-	04S05E28F02S	318.30	2017	10/4/2017	196.30	2018
CVWD	-	04S05E28F02S	318.30	2018	1/30/2018	190.80	2018
CVWD	-	04S05E28F02S	318.30	2018	5/23/2018	191.70	2018
DWA	25	04S05E29A02S	334.04	2017	10/19/2017	188.33	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
DWA	25	04S05E29A02S	334.04	2017	11/21/2017	190.58	2018
DWA	25	04S05E29A02S	334.04	2017	12/19/2017	194.20	2018
DWA	25	04S05E29A02S	334.04	2018	1/26/2018	197.30	2018
DWA	25	04S05E29A02S	334.04	2018	2/20/2018	197.50	2018
DWA	25	04S05E29A02S	334.04	2018	3/27/2018	189.66	2018
DWA	25	04S05E29A02S	334.04	2018	4/19/2018	188.50	2018
DWA	25	04S05E29A02S	334.04	2018	5/22/2018	189.10	2018
DWA	25	04S05E29A02S	334.04	2018	6/21/2018	188.25	2018
DWA	25	04S05E29A02S	334.04	2018	7/20/2018	188.25	2018
DWA	25	04S05E29A02S	334.04	2018	8/17/2018	188.00	2018
DWA	25	04S05E29A02S	334.04	2018	9/11/2018	187.16	2018
CVWD	-	04S05E29F01S		2017	10/4/2017	188.10	2018
CVWD	-	04S05E29F01S		2018	1/30/2018	187.00	2018
CVWD	-	04S05E29F01S		2018	5/23/2018	185.70	2018
DWA	26	04S05E29H01S	330.25	2018	4/19/2018	190.50	2018
DWA	26	04S05E29H01S	330.25	2018	8/29/2018	186.80	2018
DWA	26	04S05E29H01S	330.25	2018	9/1/2018	189.66	2018
CVWD	-	04S05E30C01S		2017	10/4/2017	192.00	2018
CVWD	-	04S05E30C01S		2018	1/30/2018	189.70	2018
CVWD	-	04S05E30C01S		2018	5/23/2018	189.40	2018
DWA	19	04S05E33B03S	299.31	2017	10/19/2017	177.25	2018
DWA	19	04S05E33B03S	299.31	2017	11/21/2017	173.00	2018
DWA	19	04S05E33B03S	299.31	2017	12/19/2017	177.00	2018
DWA	19	04S05E33B03S	299.31	2018	1/26/2018	177.00	2018
DWA	19	04S05E33B03S	299.31	2018	2/20/2018	178.00	2018
DWA	19	04S05E33B03S	299.31	2018	3/27/2018	177.33	2018
DWA	19	04S05E33B03S	299.31	2018	4/19/2018	177.16	2018
DWA	19	04S05E33B03S	299.31	2018	5/21/2018	176.66	2018
DWA	19	04S05E33B03S	299.31	2018	6/22/2018	175.66	2018
DWA	19	04S05E33B03S	299.31	2018	7/20/2018	176.83	2018
DWA	19	04S05E33B03S	299.31	2018	8/22/2018	176.75	2018
DWA	19	04S05E33B03S	299.31	2018	9/19/2018	175.88	2018
CVWD	-	04S05E35G03S	271.80	2017	10/6/2017	204.70	2018
CVWD	-	04S05E35G03S	271.80	2018	2/9/2018	204.00	2018
CVWD	-	04S05E35G03S	271.80	2018	6/5/2018	204.60	2018
CVWD	-	04S05E35G04S	272.70	2017	10/6/2017	206.70	2018
CVWD	-	04S05E35G04S	272.70	2018	2/9/2018	202.60	2018
CVWD	-	04S05E35G04S	272.70	2018	6/5/2018	208.50	2018
CVWD	-	04S05E36M01S	251.20	2017	10/9/2017	203.20	2018
CVWD	-	04S05E36M01S	251.20	2018	2/13/2018	201.50	2018
CVWD	-	04S05E36M01S	251.20	2018	6/5/2018	209.20	2018
CVWD	-	04S06E18P01S	231.10	2017	10/5/2017	177.50	2018
CVWD	-	04S06E18P01S	231.10	2018	2/7/2018	181.70	2018
CVWD	-	04S06E18P01S	231.10	2018	6/1/2018	182.40	2018
CVWD	-	04S06E18Q04S	243.20	2017	10/5/2017	203.00	2018
CVWD	-	04S06E18Q04S	243.20	2018	2/7/2018	202.90	2018
CVWD	-	04S06E18Q04S	243.20	2018	6/1/2018	206.80	2018
CVWD	-	04S06E18Q06S	228.90	2017	10/5/2017	182.30	2018
CVWD	-	04S06E18Q06S	228.90	2018	2/7/2018	181.30	2018
CVWD	-	04S06E18Q06S	228.90	2018	6/1/2018	183.50	2018
CVWD	-	04S06E18R01S	242.50	2017	10/4/2017	198.70	2018
CVWD	-	04S06E18R01S	242.50	2018	2/7/2018	197.10	2018
CVWD	-	04S06E18R01S	242.50	2018	6/1/2018	198.90	2018
CVWD	-	04S06E19J03S	218.90	2017	10/6/2017	206.30	2018
CVWD	-	04S06E19J03S	218.90	2018	2/8/2018	197.60	2018
CVWD	-	04S06E19J03S	218.90	2018	6/5/2018	201.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	04S06E20M02S	207.30	2017	10/6/2017	177.20	2018
CVWD	-	04S06E20M02S	207.30	2018	2/8/2018	172.50	2018
CVWD	-	04S06E20M02S	207.30	2018	6/4/2018	176.90	2018
CVWD	-	04S06E22C01S	218.70	2017	10/5/2017	215.10	2018
CVWD	-	04S06E22C01S	218.70	2018	2/7/2018	214.20	2018
CVWD	-	04S06E22C01S	218.70	2018	6/1/2018	214.60	2018
CVWD	-	04S06E25J02S	157.90	2017	11/3/2017	164.50	2018
CVWD	-	04S06E25J02S	157.90	2018	3/16/2018	163.50	2018
CVWD	-	04S06E25J02S	157.90	2018	7/17/2018	162.60	2018
CVWD	-	04S06E28H02S	169.20	2017	12/20/2017	166.30	2018
CVWD	-	04S06E28H02S	169.20	2018	2/8/2018	175.00	2018
CVWD	-	04S06E28H02S	169.20	2018	7/24/2018	174.30	2018
CVWD	-	04S06E32C01S	311.90	2017	10/12/2017	300.10	2018
CVWD	-	04S06E32C01S	311.90	2018	2/27/2018	291.40	2018
CVWD	-	04S06E32C01S	311.90	2018	6/8/2018	298.80	2018
CVWD	-	04S06E32C02S	305.70	2017	10/12/2017	297.30	2018
CVWD	-	04S06E32C02S	305.70	2018	2/27/2018	290.00	2018
CVWD	-	04S06E32C02S	305.70	2018	6/8/2018	297.20	2018
CVWD	-	04S06E32N02S	186.00	2017	10/12/2017	277.70	2018
CVWD	-	04S06E32N02S	186.00	2018	2/21/2018	274.20	2018
CVWD	-	04S06E32N02S	186.00	2018	6/8/2018	278.20	2018
CVWD	-	04S06E32N03S	292.00	2017	10/12/2017	271.30	2018
CVWD	-	04S06E32N03S	292.00	2018	2/21/2018	267.10	2018
CVWD	-	04S06E32N03S	292.00	2018	6/8/2018	271.80	2018
CVWD	-	04S06E34K01S	160.60	2018	2/9/2018	176.30	2018
CVWD	-	04S06E34K01S	160.60	2018	6/12/2018	179.30	2018
CVWD	-	04S06E35P01S	151.60	2017	10/5/2017	193.10	2018
CVWD	-	04S06E35P01S	151.60	2018	2/8/2018	190.90	2018
CVWD	-	04S06E35P01S	151.60	2018	6/1/2018	192.50	2018
CVWD	-	04S07E31H01S	96.90	2017	11/6/2017	160.10	2018
CVWD	-	04S07E31H01S	96.90	2018	3/15/2018	155.70	2018
CVWD	-	04S07E31H01S	96.90	2018	7/17/2018	165.20	2018
CVWD	-	04S07E31J01S	89.60	2017	11/6/2017	155.10	2018
CVWD	-	04S07E31J01S	89.60	2018	3/15/2018	149.70	2018
CVWD	-	04S07E31J01S	89.60	2018	7/17/2018	159.40	2018
CVWD	-	04S07E31R02S	86.10	2017	11/6/2017	170.30	2018
CVWD	-	04S07E31R02S	86.10	2018	3/15/2018	159.60	2018
CVWD	-	04S07E31R02S	86.10	2018	7/17/2018	172.80	2018
CVWD	-	04S07E33L01S	66.00	2018	1/10/2018	121.70	2018
CVWD	-	04S07E33L01S	66.00	2018	3/22/2018	122.20	2018
CVWD	-	04S07E33L01S	66.00	2018	7/18/2018	126.40	2018
CVWD	-	04S07E33L02S	66.00	2018	1/10/2018	119.80	2018
CVWD	-	04S07E33L02S	66.00	2018	3/22/2018	119.80	2018
CVWD	-	04S07E33L02S	66.00	2018	7/18/2018	123.40	2018
CVWD	-	05S05E01L05S	240.10	2017	10/9/2017	206.70	2018
CVWD	-	05S05E01L05S	240.10	2018	2/13/2018	204.50	2018
CVWD	-	05S05E01L05S	240.10	2018	6/5/2018	205.60	2018
CVWD	-	05S05E02B01S	261.90	2017	10/9/2017	201.70	2018
CVWD	-	05S05E02B01S	261.90	2018	2/13/2018	199.80	2018
CVWD	-	05S05E02B01S	261.90	2018	6/5/2018	200.30	2018
CVWD	-	05S05E12C01S	231.40	2017	10/9/2017	177.30	2018
CVWD	-	05S05E12C01S	231.40	2017	10/9/2017	189.30	2018
CVWD	-	05S05E12C01S	231.40	2018	2/18/2018	187.70	2018
CVWD	-	05S05E12C01S	231.40	2018	6/6/2018	190.40	2018
CVWD	-	05S05E12H02S	221.80	2017	10/9/2017	204.20	2018
CVWD	-	05S05E12H02S	221.80	2018	2/13/2018	202.10	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S05E12H02S	221.80	2018	6/6/2018	204.40	2018
CVWD	-	05S05E12J01S	223.40	2017	10/9/2017	212.90	2018
CVWD	-	05S05E12J01S	223.40	2018	2/13/2018	214.40	2018
CVWD	-	05S05E12J01S	223.40	2018	6/6/2018	211.50	2018
CVWD	-	05S06E01R02S	118.20	2017	11/3/2017	180.30	2018
CVWD	-	05S06E01R02S	118.20	2018	3/13/2018	173.30	2018
CVWD	-	05S06E01R02S	118.20	2018	7/16/2018	181.50	2018
CVWD	-	05S06E02C01S	150.90	2017	11/3/2017	193.70	2018
CVWD	-	05S06E02C01S	150.90	2018	3/12/2018	191.80	2018
CVWD	-	05S06E02C01S	150.90	2018	7/16/2018	198.70	2018
CVWD	-	05S06E02G03S	144.60	2017	11/3/2017	191.10	2018
CVWD	-	05S06E02G03S	144.60	2018	3/12/2018	188.90	2018
CVWD	-	05S06E02G03S	144.60	2018	7/16/2018	195.90	2018
CVWD	-	05S06E02J01S		2017	11/2/2017	193.70	2018
CVWD	-	05S06E02J01S		2018	3/13/2018	193.60	2018
CVWD	-	05S06E02J01S		2018	7/17/2018	189.50	2018
CVWD	-	05S06E03B02S	182.50	2017	11/3/2017	211.60	2018
CVWD	-	05S06E03B02S	182.50	2018	3/13/2018	199.90	2018
CVWD	-	05S06E03B02S	182.50	2018	6/21/2018	204.50	2018
CVWD	-	05S06E03P01S	245.70	2017	10/18/2017	276.20	2018
CVWD	-	05S06E03P01S	245.70	2018	3/7/2018	270.10	2018
CVWD	-	05S06E03P01S	245.70	2018	6/18/2018	270.60	2018
CVWD	-	05S06E04D03S	271.98	2017	10/12/2017	279.20	2018
CVWD	-	05S06E04D03S	271.98	2017	10/12/2017	280.90	2018
CVWD	-	05S06E04D03S	271.98	2018	2/27/2018	275.80	2018
CVWD	-	05S06E04D03S	271.98	2018	6/8/2018	282.30	2018
CVWD	-	05S06E05Q01S	244.70	2017	10/11/2017	247.10	2018
CVWD	-	05S06E05Q01S	244.70	2018	2/21/2018	245.60	2018
CVWD	-	05S06E05Q01S	244.70	2018	6/5/2018	248.50	2018
CVWD	-	05S06E06B03S	283.40	2017	10/11/2017	272.30	2018
CVWD	-	05S06E06B03S	283.40	2018	2/21/2018	274.60	2018
CVWD	-	05S06E06B03S	283.40	2018	6/8/2018	271.80	2018
CVWD	-	05S06E06Q01S	220.30	2017	10/11/2017	210.10	2018
CVWD	-	05S06E06Q01S	220.30	2018	2/21/2018	207.20	2018
CVWD	-	05S06E06Q01S	220.30	2018	6/7/2018	210.60	2018
CVWD	-	05S06E06Q02S	220.00	2017	10/11/2017	212.60	2018
CVWD	-	05S06E06Q02S	220.00	2018	2/21/2018	209.20	2018
CVWD	-	05S06E06Q02S	220.00	2018	6/7/2018	215.00	2018
CVWD	-	05S06E07J04S	202.80	2017	10/11/2017	206.00	2018
CVWD	-	05S06E07J04S	202.80	2018	2/14/2018	199.20	2018
CVWD	-	05S06E07J04S	202.80	2018	6/7/2018	208.80	2018
CVWD	-	05S06E08E01S	211.10	2017	10/11/2017	225.70	2018
CVWD	-	05S06E08E01S	211.10	2018	2/14/2018	225.10	2018
CVWD	-	05S06E08E01S	211.10	2018	6/7/2018	230.20	2018
CVWD	-	05S06E08M03S	202.60	2017	10/11/2017	215.70	2018
CVWD	-	05S06E08M03S	202.60	2018	2/14/2018	212.40	2018
CVWD	-	05S06E08M03S	202.60	2018	6/7/2018	215.10	2018
CVWD	-	05S06E08N02S	192.20	2017	10/11/2017	205.80	2018
CVWD	-	05S06E08N02S	192.20	2018	2/14/2018	201.40	2018
CVWD	-	05S06E08N02S	192.20	2018	6/7/2018	205.40	2018
CVWD	-	05S06E09A01S	242.00	2017	10/19/2017	263.90	2018
CVWD	-	05S06E09A01S	242.00	2018	2/28/2018	257.70	2018
CVWD	-	05S06E09A01S	242.00	2018	6/18/2018	262.30	2018
CVWD	-	05S06E09C01S	242.90	2017	10/19/2017	261.70	2018
CVWD	-	05S06E09C01S	242.90	2018	3/7/2018	257.80	2018
CVWD	-	05S06E09C01S	242.90	2018	6/13/2018	257.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E09E01S	196.70	2017	10/23/2017	220.00	2018
CVWD	-	05S06E09E01S	196.70	2018	3/7/2018	221.40	2018
CVWD	-	05S06E09E01S	196.70	2018	6/13/2018	216.60	2018
CVWD	-	05S06E09F01S	209.60	2017	10/19/2017	227.50	2018
CVWD	-	05S06E09F01S	209.60	2018	3/7/2018	225.50	2018
CVWD	-	05S06E09F01S	209.60	2018	6/13/2018	225.80	2018
CVWD	-	05S06E09M01S	188.10	2017	10/18/2017	225.40	2018
CVWD	-	05S06E09M01S	188.10	2018	3/7/2018	222.20	2018
CVWD	-	05S06E09M01S	188.10	2018	7/18/2018	230.40	2018
CVWD	-	05S06E09P01S	195.20	2017	10/18/2017	228.70	2018
CVWD	-	05S06E09P01S	195.20	2018	3/6/2018	230.50	2018
CVWD	-	05S06E09P01S	195.20	2018	6/13/2018	225.20	2018
CVWD	-	05S06E10E01S	237.80	2017	10/19/2017	247.50	2018
CVWD	-	05S06E10E01S	237.80	2018	3/7/2018	247.60	2018
CVWD	-	05S06E10E01S	237.80	2018	6/18/2018	247.60	2018
CVWD	-	05S06E10L01S	228.90	2017	12/13/2017	273.10	2018
CVWD	-	05S06E10L01S	228.90	2018	3/7/2018	272.60	2018
CVWD	-	05S06E10L01S	228.90	2018	8/23/2018	269.40	2018
CVWD	-	05S06E11B01S	170.20	2017	11/3/2017	218.40	2018
CVWD	-	05S06E11B01S	170.20	2018	3/13/2018	214.30	2018
CVWD	-	05S06E11B01S	170.20	2018	6/2/2018	213.70	2018
CVWD	-	05S06E12N01S	178.10	2017	11/3/2017	231.60	2018
CVWD	-	05S06E12N01S	178.10	2018	3/12/2018	227.90	2018
CVWD	-	05S06E12N01S	178.10	2018	6/21/2018	231.50	2018
CVWD	-	05S06E12Q03S	136.40	2017	12/8/2017	204.70	2018
CVWD	-	05S06E12Q03S	136.40	2018	3/12/2018	205.10	2018
CVWD	-	05S06E12Q03S	136.40	2018	7/17/2018	207.40	2018
CVWD	-	05S06E13D01S	169.90	2017	10/25/2017	225.70	2018
CVWD	-	05S06E13D01S	169.90	2018	3/8/2018	221.80	2018
CVWD	-	05S06E13D01S	169.90	2018	6/20/2018	224.90	2018
CVWD	-	05S06E13G02S	157.90	2017	11/2/2017	219.00	2018
CVWD	-	05S06E13G02S	157.90	2018	3/8/2018	214.30	2018
CVWD	-	05S06E13G02S	157.90	2018	6/20/2018	217.50	2018
CVWD	-	05S06E13R01S	147.70	2017	10/25/2017	218.90	2018
CVWD	-	05S06E13R01S	147.70	2018	3/8/2018	212.00	2018
CVWD	-	05S06E13R01S	147.70	2018	7/20/2018	217.90	2018
CVWD	-	05S06E14B02S	215.20	2017	12/20/2017	257.10	2018
CVWD	-	05S06E14B02S	215.20	2018	3/12/2018	255.20	2018
CVWD	-	05S06E14B02S	215.20	2018	6/21/2018	257.50	2018
CVWD	-	05S06E14G01S	206.70	2017	10/25/2017	259.20	2018
CVWD	-	05S06E14G01S	206.70	2018	3/8/2018	252.20	2018
CVWD	-	05S06E14G01S	206.70	2018	6/20/2018	257.40	2018
CVWD	-	05S06E14G03S	210.20	2017	10/11/2017	253.40	2018
CVWD	-	05S06E14G03S	210.20	2018	1/10/2018	253.30	2018
CVWD	-	05S06E14G03S	210.20	2018	3/8/2018	252.30	2018
CVWD	-	05S06E14G03S	210.20	2018	6/20/2018	253.60	2018
CVWD	-	05S06E14P02S	170.00	2017	10/25/2017	210.70	2018
CVWD	-	05S06E14P02S	170.00	2018	3/8/2018	200.30	2018
CVWD	-	05S06E14P02S	170.00	2018	6/20/2018	209.90	2018
CVWD	-	05S06E14P03S	163.50	2017	10/11/2017	208.10	2018
CVWD	-	05S06E14P03S	163.50	2018	1/10/2018	208.70	2018
CVWD	-	05S06E14P03S	163.50	2018	3/8/2018	207.80	2018
CVWD	-	05S06E14P03S	163.50	2018	6/20/2018	208.20	2018
CVWD	-	05S06E15F01S	180.00	2017	10/23/2017	196.60	2018
CVWD	-	05S06E15F01S	180.00	2018	3/7/2018	200.00	2018
CVWD	-	05S06E15F01S	180.00	2018	6/19/2018	199.70	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E15H01S	191.80	2017	10/25/2017	245.90	2018
CVWD	-	05S06E15H01S	191.80	2018	3/8/2018	243.60	2018
CVWD	-	05S06E15H01S	191.80	2018	6/20/2018	246.70	2018
CVWD	-	05S06E15M01S	162.20	2017	10/23/2017	181.60	2018
CVWD	-	05S06E15M01S	162.20	2018	3/7/2018	182.00	2018
CVWD	-	05S06E15M01S	162.20	2018	6/19/2018	181.60	2018
CVWD	-	05S06E15P01S	152.20	2017	10/23/2017	176.20	2018
CVWD	-	05S06E15P01S	152.20	2018	3/7/2018	175.90	2018
CVWD	-	05S06E15P01S	152.20	2018	6/19/2018	176.40	2018
CVWD	-	05S06E16A02S	179.60	2017	10/23/2017	205.80	2018
CVWD	-	05S06E16A02S	179.60	2018	3/7/2018	199.80	2018
CVWD	-	05S06E16A02S	179.60	2018	6/19/2018	202.40	2018
CVWD	-	05S06E16A03S	182.50	2017	10/11/2017	202.70	2018
CVWD	-	05S06E16A03S	182.50	2018	1/10/2018	202.80	2018
CVWD	-	05S06E16A03S	182.50	2018	3/7/2018	202.30	2018
CVWD	-	05S06E16A03S	182.50	2018	6/19/2018	200.40	2018
CVWD	-	05S06E16A04S		2017	10/23/2017	207.40	2018
CVWD	-	05S06E16A04S		2018	3/22/2018	200.50	2018
CVWD	-	05S06E16A04S		2018	7/25/2018	206.50	2018
CVWD	-	05S06E16E01S	179.90	2017	10/13/2017	230.80	2018
CVWD	-	05S06E16E01S	179.90	2018	3/6/2018	223.20	2018
CVWD	-	05S06E16E01S	179.90	2018	6/12/2018	227.70	2018
CVWD	-	05S06E16K03S	164.00	2017	10/13/2017	209.90	2018
CVWD	-	05S06E16K03S	164.00	2018	3/6/2018	204.70	2018
CVWD	-	05S06E16K03S	164.00	2018	6/12/2018	207.30	2018
CVWD	-	05S06E16L01S	172.80	2017	10/18/2017	209.70	2018
CVWD	-	05S06E16L01S	172.80	2018	3/6/2018	204.80	2018
CVWD	-	05S06E16L01S	172.80	2018	6/12/2018	205.40	2018
CVWD	-	05S06E16N02S	181.60	2017	10/13/2017	205.80	2018
CVWD	-	05S06E16N02S	181.60	2018	3/6/2018	199.90	2018
CVWD	-	05S06E16N02S	181.60	2018	6/12/2018	202.40	2018
CVWD	-	05S06E17E01S	197.50	2017	10/11/2017	214.60	2018
CVWD	-	05S06E17E01S	197.50	2018	2/14/2018	215.20	2018
CVWD	-	05S06E17E01S	197.50	2018	6/7/2018	213.30	2018
CVWD	-	05S06E17G03S	186.00	2017	10/10/2017	205.10	2018
CVWD	-	05S06E17G03S	186.00	2018	2/14/2018	201.80	2018
CVWD	-	05S06E17G03S	186.00	2018	6/6/2018	204.40	2018
CVWD	-	05S06E17L01S	187.70	2017	10/10/2017	219.80	2018
CVWD	-	05S06E17L01S	187.70	2018	2/14/2018	216.00	2018
CVWD	-	05S06E17L01S	187.70	2018	6/6/2018	216.80	2018
CVWD	-	05S06E18R01S	192.80	2017	10/10/2017	210.70	2018
CVWD	-	05S06E18R01S	192.80	2018	2/14/2018	206.70	2018
CVWD	-	05S06E18R01S	192.80	2018	6/6/2018	208.90	2018
CVWD	-	05S06E18R02S	193.40	2017	10/10/2017	213.90	2018
CVWD	-	05S06E18R02S	193.40	2018	2/14/2018	209.60	2018
CVWD	-	05S06E18R02S	193.40	2018	6/6/2018	208.70	2018
CVWD	-	05S06E20A02S	201.10	2017	10/13/2017	225.10	2018
CVWD	-	05S06E20A02S	201.10	2018	3/6/2018	220.60	2018
CVWD	-	05S06E20A02S	201.10	2018	6/12/2018	222.90	2018
CVWD	-	05S06E20F03S	200.10	2017	12/21/2017	221.70	2018
CVWD	-	05S06E20F03S	200.10	2018	3/6/2018	223.60	2018
CVWD	-	05S06E20F03S	200.10	2018	6/12/2018	229.90	2018
CVWD	-	05S06E22B02S	150.90	2017	10/25/2017	192.10	2018
CVWD	-	05S06E22B02S	150.90	2018	3/12/2018	185.60	2018
CVWD	-	05S06E22B02S	150.90	2018	6/20/2018	190.80	2018
CVWD	-	05S06E24G01S	110.90	2017	10/25/2017	183.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S06E24G01S	110.90	2018	3/8/2018	176.20	2018
CVWD	-	05S06E24G01S	110.90	2018	6/20/2018	182.30	2018
CVWD	-	05S06E24M01S	115.30	2017	10/25/2017	182.30	2018
CVWD	-	05S06E24M01S	115.30	2018	3/8/2018	175.50	2018
CVWD	-	05S06E24M01S	115.30	2018	6/20/2018	180.20	2018
CVWD	-	05S06E29C01S	335.60	2017	10/10/2017	361.20	2018
CVWD	-	05S06E29C01S	335.60	2018	2/13/2018	356.60	2018
CVWD	-	05S06E29C01S	335.60	2018	6/6/2018	363.70	2018
CVWD	-	05S07E02E01S	100.80	2018	7/18/2018	188.90	2018
CVWD	-	05S07E03D01S	62.20	2018	1/10/2018	119.30	2018
CVWD	-	05S07E03D01S	62.20	2018	3/22/2018	120.50	2018
CVWD	-	05S07E03D01S	62.20	2018	7/18/2018	125.90	2018
CVWD	-	05S07E03D02S	62.20	2018	1/10/2018	119.70	2018
CVWD	-	05S07E03D02S	62.20	2018	3/22/2018	119.60	2018
CVWD	-	05S07E03D02S	62.20	2018	7/18/2018	125.40	2018
CVWD	-	05S07E04A01S	47.90	2017	10/12/2017	107.60	2018
CVWD	-	05S07E04A01S	47.90	2018	3/22/2018	104.60	2018
CVWD	-	05S07E04A01S	47.90	2018	7/19/2018	107.70	2018
CVWD	-	05S07E04A03S	54.30	2017	10/12/2017	114.10	2018
CVWD	-	05S07E04A03S	54.30	2018	3/22/2018	111.50	2018
CVWD	-	05S07E04A03S	54.30	2018	7/19/2018	117.50	2018
CVWD	-	05S07E04A04S	54.30	2017	10/12/2017	110.80	2018
CVWD	-	05S07E04A04S	54.30	2017	10/12/2017	110.70	2018
CVWD	-	05S07E04A04S	54.30	2018	3/22/2018	105.30	2018
CVWD	-	05S07E04A04S	54.30	2018	7/19/2018	113.90	2018
CVWD	-	05S07E06B04S	111.40	2017	11/6/2017	160.90	2018
CVWD	-	05S07E06B04S	111.40	2018	3/15/2018	159.40	2018
CVWD	-	05S07E06B04S	111.40	2018	7/17/2018	177.80	2018
CVWD	-	05S07E06J01S	88.40	2017	11/3/2017	160.90	2018
CVWD	-	05S07E06J01S	88.40	2018	3/15/2018	157.60	2018
CVWD	-	05S07E06J01S	88.40	2018	7/17/2018	169.80	2018
CVWD	-	05S07E08Q01S	54.40	2017	12/8/2017	128.00	2018
CVWD	-	05S07E08Q01S	54.40	2018	4/12/2018	126.70	2018
CVWD	-	05S07E08Q01S	54.40	2018	7/20/2018	127.40	2018
CVWD	-	05S07E09D01S	51.50	2017	11/7/2017	136.70	2018
CVWD	-	05S07E09D01S	51.50	2018	3/22/2018	129.50	2018
CVWD	-	05S07E09D01S	51.50	2018	7/19/2018	148.70	2018
IWA	8	05S07E11M03S	10.00	2018	3/14/2018	109.13	2018
IWA	8	05S07E11M03S	10.00	2018	5/14/2018	114.74	2018
IWA	8	05S07E11M03S	10.00	2018	7/12/2018	121.01	2018
IWA	8	05S07E11M03S	10.00	2018	9/20/2018	119.70	2018
IWA	Y	05S07E12D02S	34.00	2018	3/14/2018	115.10	2018
IWA	Y	05S07E12D02S	34.00	2018	5/14/2018	115.15	2018
IWA	Y	05S07E12D02S	34.00	2018	7/12/2018	115.17	2018
IWA	Y	05S07E12D02S	34.00	2018	9/20/2018	115.37	2018
IWA	X	05S07E12M01S	-1.00	2018	3/14/2018	101.81	2018
IWA	X	05S07E12M01S	-1.00	2018	5/14/2018	109.06	2018
IWA	X	05S07E12M01S	-1.00	2018	7/12/2018	115.55	2018
IWA	X	05S07E12M01S	-1.00	2018	9/20/2018	114.58	2018
IWA	7	05S07E14K02S	-4.00	2018	3/14/2018	73.51	2018
IWA	7	05S07E14K02S	-4.00	2018	5/14/2018	74.73	2018
IWA	7	05S07E14K02S	-4.00	2018	7/12/2018	75.05	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
IWA	7	05S07E14K02S	-4.00	2018	9/20/2018	75.08	2018
CVWD	-	05S07E17E03S	82.30	2017	11/7/2017	169.60	2018
CVWD	-	05S07E17E03S	82.30	2018	4/12/2018	168.30	2018
CVWD	-	05S07E17E03S	82.30	2018	7/20/2018	182.30	2018
CVWD	-	05S07E19A01S	89.60	2017	11/7/2017	202.70	2018
CVWD	-	05S07E19A01S	89.60	2018	3/28/2018	183.60	2018
CVWD	-	05S07E19A01S	89.60	2018	7/20/2018	197.90	2018
CVWD	-	05S07E19D01S	141.20	2017	11/6/2017	211.30	2018
CVWD	-	05S07E19D01S	141.20	2018	3/22/2018	208.20	2018
CVWD	-	05S07E19D01S	141.20	2018	7/20/2018	214.40	2018
CVWD	-	05S07E19D02S	136.40	2017	11/6/2017	214.20	2018
CVWD	-	05S07E19D02S	136.40	2018	3/22/2018	206.60	2018
CVWD	-	05S07E19D02S	136.40	2018	7/20/2018	211.50	2018
CVWD	-	05S07E20A02S	52.60	2017	11/6/2017	157.50	2018
CVWD	-	05S07E20A02S	52.60	2018	3/28/2018	149.70	2018
CVWD	-	05S07E20A02S	52.60	2018	7/24/2018	162.10	2018
CVWD	-	05S07E20C01S	76.90	2017	11/7/2017	187.80	2018
CVWD	-	05S07E20C01S	76.90	2018	3/28/2018	179.30	2018
CVWD	-	05S07E20C01S	76.90	2018	7/24/2018	186.40	2018
CVWD	-	05S07E20F02S	81.40	2017	11/7/2017	200.20	2018
CVWD	-	05S07E20F02S	81.40	2018	3/28/2018	184.70	2018
CVWD	-	05S07E20F02S	81.40	2018	7/24/2018	197.40	2018
CVWD	-	05S07E20G01S	74.10	2017	11/7/2017	193.60	2018
CVWD	-	05S07E20G01S	74.10	2018	3/28/2018	190.60	2018
CVWD	-	05S07E20G01S	74.10	2018	7/24/2018	199.70	2018
CVWD	-	05S07E20H01S	48.93	2017	11/8/2017	164.30	2018
CVWD	-	05S07E20H01S	48.93	2018	3/28/2018	155.00	2018
CVWD	-	05S07E20H01S	48.93	2018	7/24/2018	166.40	2018
CVWD	-	05S07E20P04S	61.10	2017	11/6/2017	173.30	2018
CVWD	-	05S07E20P04S	61.10	2018	3/28/2018	163.00	2018
CVWD	-	05S07E20P04S	61.10	2018	7/24/2018	173.50	2018
CVWD	-	05S07E27B01S	16.50	2017	11/17/2017	102.10	2018
CVWD	-	05S07E27B01S	16.50	2018	4/11/2018	101.80	2018
CVWD	-	05S07E27B01S	16.50	2018	8/15/2018	102.20	2018
CVWD	-	05S07E27L01S	20.60	2017	11/17/2017	138.10	2018
CVWD	-	05S07E27L01S	20.60	2018	4/11/2018	135.70	2018
CVWD	-	05S07E27L01S	20.60	2018	8/3/2018	149.00	2018
CVWD	-	05S07E28E01S	46.30	2017	11/8/2017	137.40	2018
CVWD	-	05S07E28E01S	46.30	2018	4/3/2018	136.40	2018
CVWD	-	05S07E28E01S	46.30	2018	7/31/2018	137.80	2018
CVWD	-	05S07E28E03S	46.40	2017	11/8/2017	171.70	2018
CVWD	-	05S07E28E03S	46.40	2018	4/3/2018	169.90	2018
CVWD	-	05S07E28E03S	46.40	2018	7/31/2018	171.40	2018
CVWD	-	05S07E30A01S	76.30	2017	11/7/2017	178.30	2018
CVWD	-	05S07E30A01S	76.30	2018	3/22/2018	171.10	2018
CVWD	-	05S07E30A01S	76.30	2018	7/25/2018	179.70	2018
CVWD	-	05S07E30J01S	69.50	2017	11/8/2017	173.80	2018
CVWD	-	05S07E30J01S	69.50	2018	4/3/2018	167.60	2018
CVWD	-	05S07E30J01S	69.50	2018	7/31/2018	174.70	2018
CVWD	-	05S07E31A02S	59.60	2017	11/8/2017	181.10	2018
CVWD	-	05S07E31A02S	59.60	2017	11/8/2017	182.30	2018
CVWD	-	05S07E31A02S	59.60	2018	4/3/2018	177.00	2018
CVWD	-	05S07E31A02S	59.60	2018	7/31/2018	185.40	2018
CVWD	-	05S07E31P01S	46.90	2017	11/9/2017	147.40	2018
CVWD	-	05S07E31P01S	46.90	2018	4/3/2018	149.60	2018
CVWD	-	05S07E31P01S	46.90	2018	7/31/2018	150.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	05S07E32B01S	53.70	2017	11/8/2017	176.70	2018
CVWD	-	05S07E32B01S	53.70	2018	4/3/2018	168.40	2018
CVWD	-	05S07E32B01S	53.70	2018	7/31/2018	180.80	2018
CVWD	-	05S07E32H01S	43.70	2017	11/16/2017	166.90	2018
CVWD	-	05S07E32H01S	43.70	2017	11/16/2017	167.90	2018
CVWD	-	05S07E32H01S	43.70	2018	4/4/2018	156.90	2018
CVWD	-	05S07E32H01S	43.70	2018	8/3/2018	178.40	2018
CVWD	-	05S07E35F04S	0.30	2017	11/21/2017	120.80	2018
CVWD	-	05S07E35F04S	0.30	2018	4/12/2018	128.50	2018
CVWD	-	05S07E35F04S	0.30	2018	8/3/2018	143.20	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	3/14/2018	160.72	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	5/14/2018	169.28	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	7/12/2018	160.66	2018
IWA	CITRUS RANCH 5	05S08E05L01S	249.00	2018	9/20/2018	160.74	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	3/14/2018	134.52	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	5/14/2018	134.54	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	7/12/2018	134.48	2018
IWA	CITRUS RANCH 3	05S08E05P01S	269.00	2018	9/20/2018	134.56	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	3/14/2018	127.80	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	5/14/2018	133.86	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	7/12/2018	140.65	2018
IWA	TERRA LAGO G.C.	05S08E18G01S	21.00	2018	9/20/2018	143.82	2018
CVWD	-	05S08E28A01S	54.00	2017	12/21/2017	41.70	2018
CVWD	-	05S08E28A01S	54.00	2018	4/6/2018	42.90	2018
CVWD	-	05S08E28A01S	54.00	2018	8/3/2018	40.50	2018
CVWD	-	05S08E28M01S	-40.50	2017	11/17/2017	74.60	2018
CVWD	-	05S08E28M01S	-40.50	2018	4/11/2018	71.00	2018
CVWD	-	05S08E28M01S	-40.50	2018	8/3/2018	78.20	2018
CVWD	-	05S08E28M02S	-40.50	2017	11/17/2017	43.70	2018
CVWD	-	05S08E28M02S	-40.50	2018	4/11/2018	43.20	2018
CVWD	-	05S08E28M02S	-40.50	2018	8/3/2018	44.30	2018
CVWD	-	05S08E29G01S	-26.80	2017	11/17/2017	53.70	2018
CVWD	-	05S08E29G01S	-26.80	2018	8/16/2018	55.10	2018
CWA	10	05S08E33D01S	-57.10	2017	10/19/2017	23.10	2018
CVWD	-	05S08E33D01S	-57.20	2017	11/17/2017	34.10	2018
CVWD	-	05S08E33D01S	-57.20	2018	4/11/2018	30.60	2018
CWA	10	05S08E33D01S	-57.10	2018	5/18/2018	25.10	2018
CVWD	-	05S08E33D01S	-57.20	2018	8/3/2018	31.70	2018
CVWD	-	06S06E01Q01S	53.30	2017	11/9/2017	171.90	2018
CVWD	-	06S06E01Q01S	53.30	2018	4/3/2018	169.70	2018
CVWD	-	06S06E01Q01S	53.30	2018	7/31/2018	172.50	2018
CVWD	-	06S06E12G01S	91.20	2017	11/9/2017	209.20	2018
CVWD	-	06S06E12G01S	91.20	2018	4/3/2018	206.00	2018
CVWD	-	06S06E12G01S	91.20	2018	7/31/2018	209.30	2018
CVWD	-	06S06E17K01S	958.40	2017	10/13/2017	215.50	2018
CVWD	-	06S06E17K01S	958.40	2018	3/9/2018	321.00	2018
CVWD	-	06S06E17K01S	958.40	2018	6/8/2018	301.70	2018
CVWD	-	06S07E02D02S	-1.20	2017	11/16/2017	79.30	2018
CVWD	-	06S07E02D02S	-1.20	2018	4/13/2018	79.50	2018
CVWD	-	06S07E02D02S	-1.20	2018	8/3/2018	79.70	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	3/14/2018	117.52	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	5/14/2018	127.29	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	7/12/2018	132.56	2018
IWA	LA HACIENDA	06S07E03H02S	-1.00	2018	9/20/2018	132.15	2018
CVWD	-	06S07E04H01S	-22.60	2017	10/26/2017	128.30	2018
CVWD	-	06S07E04H01S	-22.60	2017	12/1/2017	123.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	1/5/2018	122.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	1/31/2018	119.10	2018
CVWD	-	06S07E04H01S	-22.60	2018	2/26/2018	115.50	2018
CVWD	-	06S07E04H01S	-22.60	2018	3/29/2018	115.60	2018
CVWD	-	06S07E04H01S	-22.60	2018	4/27/2018	115.80	2018
CVWD	-	06S07E04H01S	-22.60	2018	5/24/2018	120.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	6/26/2018	123.20	2018
CVWD	-	06S07E04H01S	-22.60	2018	7/26/2018	128.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	8/30/2018	130.30	2018
CVWD	-	06S07E04H01S	-22.60	2018	9/27/2018	124.40	2018
CVWD	-	06S07E04N01S	36.60	2017	11/14/2017	160.90	2018
CVWD	-	06S07E04N01S	36.60	2018	4/5/2018	149.40	2018
CVWD	-	06S07E04N01S	36.60	2018	7/31/2018	167.30	2018
CVWD	-	06S07E05H01S	33.40	2017	11/17/2017	151.70	2018
CVWD	-	06S07E05H01S	33.40	2018	4/4/2018	147.70	2018
CVWD	-	06S07E05H01S	33.40	2018	8/2/2018	157.00	2018
CVWD	-	06S07E06B01S	40.30	2017	11/9/2017	157.20	2018
CVWD	-	06S07E06B01S	40.30	2018	4/3/2018	153.70	2018
CVWD	-	06S07E06B01S	40.30	2018	7/31/2018	159.30	2018
CVWD	-	06S07E06J01S	39.30	2017	11/9/2017	157.50	2018
CVWD	-	06S07E06J01S	39.30	2018	4/3/2018	151.70	2018
CVWD	-	06S07E06J01S	39.30	2018	7/31/2018	156.80	2018
CVWD	-	06S07E10A02S	-14.20	2017	12/7/2017	119.70	2018
CVWD	-	06S07E10A02S	-14.20	2017	12/7/2017	120.30	2018
CVWD	-	06S07E10A02S	-14.20	2018	4/6/2018	108.00	2018
CVWD	-	06S07E10A02S	-14.20	2018	8/3/2018	123.80	2018
CVWD	-	06S07E13M02S	-57.50	2017	11/16/2017	30.80	2018
CVWD	-	06S07E13M02S	-57.50	2018	4/5/2018	30.10	2018
CVWD	-	06S07E13M02S	-57.50	2018	8/3/2018	29.80	2018
CVWD	-	06S07E13M04S	-61.10	2017	11/16/2017	67.60	2018
CVWD	-	06S07E13M04S	-61.10	2018	4/5/2018	63.70	2018
CVWD	-	06S07E13M04S	-61.10	2018	8/3/2018	71.30	2018
CVWD	-	06S07E16A02S	-5.50	2017	11/14/2017	120.10	2018
CVWD	-	06S07E16A02S	-5.50	2018	4/5/2018	117.20	2018
CVWD	-	06S07E16A02S	-5.50	2018	8/2/2018	119.00	2018
CVWD	-	06S07E16D02S	1.00	2017	11/14/2017	112.50	2018
CVWD	-	06S07E16D02S	1.00	2018	4/4/2018	108.70	2018
CVWD	-	06S07E16D02S	1.00	2018	8/2/2018	117.30	2018
CVWD	-	06S07E16R02S	-17.80	2017	11/14/2017	101.20	2018
CVWD	-	06S07E16R02S	-17.80	2018	4/5/2018	99.70	2018
CVWD	-	06S07E16R02S	-17.80	2018	8/2/2018	111.50	2018
CVWD	-	06S07E22B02S	-64.00	2017	11/15/2017	94.60	2018
CVWD	-	06S07E22B02S	-64.00	2018	4/5/2018	78.20	2018
CVWD	-	06S07E22B02S	-64.00	2018	8/2/2018	98.10	2018
CVWD	-	06S07E23F01S	-54.90	2017	11/16/2017	68.10	2018
CVWD	-	06S07E23F01S	-54.90	2018	4/6/2018	66.60	2018
CVWD	-	06S07E23F01S	-54.90	2018	8/2/2018	70.30	2018
CVWD	-	06S07E26Q01S	-83.80	2017	11/16/2017	33.20	2018
CVWD	-	06S07E26Q01S	-83.80	2018	4/5/2018	32.80	2018
CVWD	-	06S07E26Q01S	-83.80	2018	8/2/2018	42.60	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S07E29B01S	23.60	2017	12/7/2017	118.30	2018
CVWD	-	06S07E29B01S	23.60	2018	4/27/2018	117.60	2018
CVWD	-	06S07E29B01S	23.60	2018	8/2/2018	122.80	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2017	10/26/2017	104.70	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2017	12/1/2017	109.10	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	1/5/2018	118.30	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	1/31/2018	128.60	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	2/26/2018	118.00	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	3/29/2018	111.40	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	4/27/2018	112.60	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	5/24/2018	112.30	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	6/26/2018	118.40	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	7/26/2018	119.10	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	8/30/2018	117.00	2018
CVWD	TEL (NEW)	06S07E33G01S	39.90	2018	9/27/2018	112.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2017	10/26/2017	102.50	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2017	12/1/2017	108.00	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	1/5/2018	115.80	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	1/31/2018	128.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	2/26/2018	116.70	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	3/29/2018	109.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	4/28/2018	110.80	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	5/24/2018	110.60	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	6/26/2018	117.30	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	7/26/2018	118.10	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	8/30/2018	115.20	2018
CVWD	TEL (NEW)	06S07E33G02S	39.90	2018	9/27/2018	109.80	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2017	10/26/2017	107.60	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2017	12/1/2017	108.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	1/5/2018	120.20	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	1/31/2018	127.50	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	2/26/2018	117.20	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	3/29/2018	113.50	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	4/27/2018	114.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	5/24/2018	114.00	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	6/26/2018	117.80	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	7/26/2018	118.30	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	8/31/2018	115.40	2018
CVWD	TEL (NEW)	06S07E33J01S	39.10	2018	9/27/2018	114.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2017	10/26/2017	102.50	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2017	12/1/2017	107.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	1/5/2018	120.00	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	1/31/2018	127.30	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	2/26/2018	116.20	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	3/29/2018	112.40	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	4/27/2018	113.10	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	5/24/2018	112.90	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	6/26/2018	116.80	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	7/26/2018	117.40	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	8/30/2018	114.50	2018
CVWD	TEL (NEW)	06S07E33J02S	39.10	2018	9/27/2018	113.00	2018
CVWD	-	06S07E34A01S	-77.50	2017	10/26/2017	6.40	2018
CVWD	-	06S07E34A01S	-77.50	2017	12/1/2017	5.80	2018
CVWD	-	06S07E34A01S	-77.50	2018	1/5/2018	12.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	1/31/2018	16.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	2/26/2018	13.50	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S07E34A01S	-77.50	2018	3/29/2018	12.60	2018
CVWD	-	06S07E34A01S	-77.50	2018	4/27/2018	12.30	2018
CVWD	-	06S07E34A01S	-77.50	2018	5/24/2018	11.70	2018
CVWD	-	06S07E34A01S	-77.50	2018	6/26/2018	12.80	2018
CVWD	-	06S07E34A01S	-77.50	2018	7/26/2018	12.90	2018
CVWD	-	06S07E34A01S	-77.50	2018	8/30/2018	12.00	2018
CVWD	-	06S07E34A01S	-77.50	2018	9/27/2018	11.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2017	10/26/2017	23.60	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2017	12/1/2017	23.40	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	1/5/2018	23.20	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	1/31/2018	23.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	2/26/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	3/29/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	4/27/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	5/24/2018	23.00	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	6/21/2018	22.60	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	7/26/2018	22.80	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	8/30/2018	22.90	2018
CVWD	TEL (NEW)	06S07E34A02S	-76.30	2018	9/27/2018	22.40	2018
CVWD	-	06S07E34D01S	-15.50	2017	10/26/2017	58.60	2018
CVWD	-	06S07E34D01S	-15.50	2017	12/1/2017	59.90	2018
CVWD	-	06S07E34D01S	-15.50	2018	1/5/2018	69.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	1/31/2018	74.70	2018
CVWD	-	06S07E34D01S	-15.50	2018	2/26/2018	69.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	3/29/2018	65.90	2018
CVWD	-	06S07E34D01S	-15.50	2018	4/27/2018	65.10	2018
CVWD	-	06S07E34D01S	-15.50	2018	5/24/2018	64.70	2018
CVWD	-	06S07E34D01S	-15.50	2018	6/26/2018	67.80	2018
CVWD	-	06S07E34D01S	-15.50	2018	7/26/2018	68.10	2018
CVWD	-	06S07E34D01S	-15.50	2018	8/30/2018	67.20	2018
CVWD	-	06S07E34D01S	-15.50	2018	9/27/2018	65.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2017	10/26/2017	58.70	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2017	12/1/2017	59.90	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	1/5/2018	67.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	1/31/2018	70.60	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	2/26/2018	70.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	3/29/2018	66.00	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	4/27/2018	65.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	5/24/2018	63.30	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	6/26/2018	68.40	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	7/26/2018	69.20	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	8/30/2018	67.60	2018
CVWD	TEL (NEW)	06S07E34D02S	-14.30	2018	9/27/2018	65.40	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2017	10/26/2017	69.30	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2017	12/1/2017	65.60	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	1/5/2018	77.10	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	1/31/2018	81.50	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	2/26/2018	79.60	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	3/29/2018	75.70	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	4/27/2018	72.80	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	5/24/2018	70.90	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	6/26/2018	74.00	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	7/26/2018	72.10	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	8/30/2018	71.20	2018
CVWD	TEL (OLD)	06S07E34N01S	-5.90	2018	9/27/2018	72.90	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2017	10/26/2017	92.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (NEW)	06S07E34N02S	13.20	2017	12/1/2017	89.30	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	1/5/2018	98.20	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	1/31/2018	102.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	2/26/2018	99.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	3/29/2018	97.60	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	4/27/2018	98.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	5/24/2018	96.40	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	6/26/2018	100.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	7/26/2018	94.10	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	8/30/2018	93.80	2018
CVWD	TEL (NEW)	06S07E34N02S	13.20	2018	9/27/2018	106.00	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2017	10/26/2017	91.70	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2017	12/1/2017	88.00	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	1/5/2018	97.40	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	1/31/2018	101.80	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	2/26/2018	99.10	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	3/29/2018	96.90	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	4/27/2018	97.20	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	5/24/2018	95.20	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	6/26/2018	99.30	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	7/26/2018	93.30	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	8/30/2018	92.50	2018
CVWD	TEL (NEW)	06S07E34N03S	13.20	2018	9/27/2018	105.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2017	10/26/2017	9.60	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2017	12/1/2017	8.70	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	1/5/2018	13.80	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	1/31/2018	17.40	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	2/26/2018	16.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	3/29/2018	15.20	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	4/27/2018	15.00	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	5/24/2018	14.90	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	6/26/2018	15.40	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	7/26/2018	14.60	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	8/30/2018	13.90	2018
CVWD	TEL (NEW)	06S07E34R01S	-76.40	2018	9/27/2018	13.60	2018
CVWD	-	06S07E35L02S	-84.30	2018	1/5/2018	3.80	2018
CVWD	-	06S07E35L02S	-84.30	2018	1/31/2018	7.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	2/27/2018	5.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	3/29/2018	5.10	2018
CVWD	-	06S07E35L02S	-84.30	2018	4/27/2018	5.00	2018
CVWD	-	06S07E35L02S	-84.30	2018	5/24/2018	4.40	2018
CVWD	-	06S07E35L02S	-84.30	2018	6/26/2018	4.30	2018
CVWD	-	06S07E35L02S	-84.30	2018	7/26/2018	4.60	2018
CVWD	-	06S07E35L02S	-84.30	2018	8/30/2018	3.50	2018
CVWD	-	06S07E35L02S	-84.30	2018	9/27/2018	2.30	2018
CVWD	-	06S08E03D01S	-82.60	2017	11/17/2017	18.90	2018
CVWD	-	06S08E03D01S	-82.60	2018	4/11/2018	16.60	2018
CVWD	-	06S08E03D01S	-82.60	2018	8/2/2018	20.50	2018
CVWD	-	06S08E05R02S	-82.10	2017	11/28/2017	18.20	2018
CVWD	-	06S08E05R02S	-82.10	2018	4/11/2018	19.00	2018
CVWD	-	06S08E05R02S	-82.10	2018	8/3/2018	18.60	2018
CVWD	-	06S08E05R03S	-80.30	2017	11/28/2017	28.90	2018
CVWD	-	06S08E05R03S	-80.30	2018	4/11/2018	22.70	2018
CVWD	-	06S08E05R03S	-80.30	2018	8/3/2018	29.80	2018
CVWD	-	06S08E12Q01S	61.30	2017	12/7/2017	176.30	2018
CVWD	-	06S08E12Q01S	61.30	2018	4/13/2018	184.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	06S08E12Q01S	61.30	2018	8/7/2018	185.50	2018
CVWD	-	06S08E19C02S	-94.90	2017	11/16/2017	41.00	2018
CVWD	-	06S08E19C02S	-94.90	2018	4/6/2018	35.60	2018
CVWD	-	06S08E19C02S	-94.90	2018	8/2/2018	55.40	2018
CVWD	-	06S08E19D05S	-87.60	2017	11/16/2017	46.20	2018
CVWD	-	06S08E19D05S	-87.60	2018	4/6/2018	39.00	2018
CVWD	-	06S08E19D05S	-87.60	2018	8/2/2018	55.70	2018
CVWD	-	06S08E19R01S	-105.70	2018	4/13/2018	27.20	2018
CVWD	-	06S08E19R01S	-105.70	2018	8/7/2018	41.30	2018
CVWD	-	06S08E20H01S	-114.50	2017	11/21/2017	24.00	2018
CVWD	-	06S08E20H01S	-114.50	2018	4/13/2018	20.40	2018
CVWD	-	06S08E20H01S	-114.50	2018	8/7/2018	32.00	2018
CVWD	-	06S08E22D02S	-119.80	2017	11/21/2017	19.80	2018
CVWD	-	06S08E22D02S	-119.80	2018	4/13/2018	16.10	2018
CVWD	-	06S08E22D02S	-119.80	2018	8/7/2018	25.70	2018
CVWD	-	06S08E25P04S	-140.90	2017	11/21/2017	20.30	2018
CVWD	-	06S08E25P04S	-140.90	2018	4/13/2018	14.50	2018
CVWD	-	06S08E25P04S	-140.90	2018	8/7/2018	12.40	2018
CVWD	-	06S08E25Q01S	-125.70	2017	11/21/2017	27.90	2018
CVWD	-	06S08E25Q01S	-125.70	2018	4/13/2018	27.10	2018
CVWD	-	06S08E25Q01S	-125.70	2018	8/7/2018	27.40	2018
CVWD	-	06S08E31L01S	-116.70	2017	10/27/2017	19.90	2018
CVWD	-	06S08E31L01S	-116.70	2017	12/1/2017	19.40	2018
CVWD	-	06S08E31L01S	-116.70	2018	1/5/2018	18.60	2018
CVWD	-	06S08E31L01S	-116.70	2018	1/31/2018	22.30	2018
CVWD	-	06S08E31L01S	-116.70	2018	2/26/2018	15.80	2018
CVWD	-	06S08E31L01S	-116.70	2018	4/27/2018	17.30	2018
CVWD	-	06S08E31L01S	-116.70	2018	6/27/2018	23.00	2018
CVWD	-	06S08E31L01S	-116.70	2018	8/30/2018	23.70	2018
CVWD	-	06S08E31P01S	-117.40	2017	10/27/2017	24.70	2018
CVWD	-	06S08E31P01S	-117.40	2017	12/1/2017	19.70	2018
CVWD	-	06S08E31P01S	-117.40	2018	1/5/2018	17.20	2018
CVWD	-	06S08E31P01S	-117.40	2018	1/31/2018	15.40	2018
CVWD	-	06S08E31P01S	-117.40	2018	2/26/2018	15.70	2018
CVWD	-	06S08E31P01S	-117.40	2018	3/29/2018	16.20	2018
CVWD	-	06S08E31P01S	-117.40	2018	4/27/2018	19.60	2018
CVWD	-	06S08E31P01S	-117.40	2018	5/25/2018	20.30	2018
CVWD	-	06S08E31P01S	-117.40	2018	6/27/2018	22.50	2018
CVWD	-	06S08E31P01S	-117.40	2018	7/27/2018	23.30	2018
CVWD	-	06S08E31P01S	-117.40	2018	8/30/2018	25.80	2018
CVWD	-	06S08E31P01S	-117.40	2018	9/28/2018	25.80	2018
CVWD	-	06S08E35A01S	-147.90	2017	12/7/2017	12.90	2018
CVWD	-	06S08E35A01S	-147.90	2018	4/13/2018	8.60	2018
CVWD	-	06S08E35A01S	-147.90	2018	8/7/2018	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2017	12/6/2017	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2018	4/20/2018	8.80	2018
CVWD	-	06S08E36M01S	-152.90	2018	8/15/2018	10.20	2018
CVWD	-	06S09E32Q01S	-102.80	2017	11/21/2017	36.90	2018
CVWD	-	06S09E32Q01S	-102.80	2018	4/13/2018	31.20	2018
CVWD	-	06S09E32Q01S	-102.80	2018	8/9/2018	38.20	2018
CVWD	-	06S09E33K01S	29.40	2017	11/22/2017	169.30	2018
CVWD	-	06S09E33K01S	29.40	2018	4/13/2018	164.30	2018
CVWD	-	06S09E33K01S	29.40	2018	8/9/2018	178.80	2018
CVWD	-	07S07E01C01S	-111.60	2017	10/27/2017	12.50	2018
CVWD	-	07S07E01C01S	-111.60	2017	12/1/2017	11.30	2018
CVWD	-	07S07E01C01S	-111.60	2018	1/5/2018	11.20	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	07S07E01C01S	-111.60	2018	1/31/2018	10.90	2018
CVWD	-	07S07E01C01S	-111.60	2018	2/26/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	3/29/2018	10.60	2018
CVWD	-	07S07E01C01S	-111.60	2018	4/27/2018	10.30	2018
CVWD	-	07S07E01C01S	-111.60	2018	5/25/2018	10.40	2018
CVWD	-	07S07E01C01S	-111.60	2018	6/27/2018	10.50	2018
CVWD	-	07S07E01C01S	-111.60	2018	7/27/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	8/30/2018	10.70	2018
CVWD	-	07S07E01C01S	-111.60	2018	9/28/2018	10.50	2018
CVWD	-	07S07E01M01S	-110.10	2017	10/27/2017	4.20	2018
CVWD	-	07S07E01M01S	-110.10	2017	12/1/2017	2.30	2018
CVWD	-	07S07E01M01S	-110.10	2018	1/5/2018	2.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	1/31/2018	3.60	2018
CVWD	-	07S07E01M01S	-110.10	2018	2/26/2018	4.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	3/29/2018	5.00	2018
CVWD	-	07S07E01M01S	-110.10	2018	4/27/2018	4.70	2018
CVWD	-	07S07E01M01S	-110.10	2018	5/25/2018	6.10	2018
CVWD	-	07S07E01M01S	-110.10	2018	6/27/2018	7.60	2018
CVWD	-	07S07E01M01S	-110.10	2018	7/27/2018	7.50	2018
CVWD	-	07S07E01M01S	-110.10	2018	8/30/2018	7.70	2018
CVWD	-	07S07E01M01S	-110.10	2018	9/28/2018	6.30	2018
CVWD	-	07S07E02G02S	-98.90	2017	10/27/2017	-6.90	2018
CVWD	-	07S07E02G02S	-98.90	2017	12/1/2017	-4.60	2018
CVWD	-	07S07E02G02S	-98.90	2018	1/5/2018	-2.30	2018
CVWD	-	07S07E02G02S	-98.90	2018	2/2/2018	-4.60	2018
CVWD	-	07S07E02G02S	-98.90	2018	2/26/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	3/30/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	4/27/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	5/25/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	6/27/2018	-0.40	2018
CVWD	-	07S07E02G02S	-98.90	2018	7/27/2018	-2.70	2018
CVWD	-	07S07E03A01S	-72.00	2017	10/27/2017	13.60	2018
CVWD	-	07S07E03A01S	-72.00	2017	12/1/2017	13.00	2018
CVWD	-	07S07E03A01S	-72.00	2018	1/5/2018	17.40	2018
CVWD	-	07S07E03A01S	-72.00	2018	1/31/2018	20.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	2/26/2018	19.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	3/29/2018	18.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	4/27/2018	19.10	2018
CVWD	-	07S07E03A01S	-72.00	2018	5/25/2018	18.60	2018
CVWD	-	07S07E03A01S	-72.00	2018	6/26/2018	18.80	2018
CVWD	-	07S07E03A01S	-72.00	2018	7/27/2018	18.00	2018
CVWD	-	07S07E03A01S	-72.00	2018	8/30/2018	17.50	2018
CVWD	-	07S07E03A01S	-72.00	2018	9/27/2018	17.20	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2017	10/27/2017	42.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2017	12/1/2017	40.20	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	1/5/2018	46.50	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	1/31/2018	50.60	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	2/26/2018	48.80	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	3/29/2018	47.40	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	4/27/2018	48.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	5/25/2018	46.80	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	6/26/2018	47.10	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	7/27/2018	46.00	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	8/30/2018	43.40	2018
CVWD	TEL (OLD)	07S07E03C01S	-39.20	2018	9/27/2018	45.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2017	10/27/2017	41.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2017	12/1/2017	39.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	1/5/2018	45.50	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	1/31/2018	49.60	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	2/26/2018	48.10	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	3/29/2018	46.70	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	4/27/2018	47.10	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	5/25/2018	46.20	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	6/26/2018	46.40	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	7/27/2018	45.20	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	8/30/2018	43.30	2018
CVWD	TEL (OLD)	07S07E03C02S	-39.20	2018	9/27/2018	44.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2017	10/26/2017	87.40	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2017	12/1/2017	87.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	1/5/2018	92.80	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	1/31/2018	97.30	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	2/26/2018	94.30	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	3/29/2018	92.80	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	4/27/2018	93.10	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	5/24/2018	91.70	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	6/26/2018	91.20	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	7/26/2018	89.90	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	8/30/2018	89.10	2018
CVWD	TEL (OLD)	07S07E03D01S	10.10	2018	9/27/2018	90.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2017	10/26/2017	88.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2017	12/1/2017	89.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	1/5/2018	94.40	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	1/31/2018	98.30	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	2/26/2018	95.10	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	3/28/2018	93.70	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	4/27/2018	94.10	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	5/24/2018	92.30	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	6/26/2018	92.00	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	7/26/2018	90.20	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	8/31/2018	89.20	2018
CVWD	TEL (OLD)	07S07E03D02S	9.70	2018	9/27/2018	90.90	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2017	10/26/2017	123.20	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2017	12/1/2017	121.20	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	1/5/2018	127.30	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	1/31/2018	131.70	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	2/26/2018	130.40	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	3/29/2018	128.80	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	4/27/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	5/24/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	6/26/2018	128.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	7/26/2018	127.10	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	8/30/2018	125.40	2018
CVWD	TEL (OLD)	07S07E03D03S	44.90	2018	9/27/2018	126.50	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2017	10/26/2017	108.30	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2017	12/1/2017	105.10	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	1/5/2018	113.00	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	1/31/2018	118.90	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	2/26/2018	115.10	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	3/29/2018	113.50	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	4/27/2018	113.90	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	5/24/2018	112.30	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	6/28/2018	112.90	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	7/26/2018	110.00	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	8/30/2018	109.20	2018
CVWD	TEL (OLD)	07S07E03D04S	32.20	2018	9/27/2018	110.60	2018
CVWD	-	07S07E03G02S	-46.20	2017	10/27/2017	40.90	2018
CVWD	-	07S07E03G02S	-46.20	2017	12/1/2017	39.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	1/5/2018	45.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	1/31/2018	48.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	2/26/2018	38.30	2018
CVWD	-	07S07E03G02S	-46.20	2018	3/29/2018	44.80	2018
CVWD	-	07S07E03G02S	-46.20	2018	4/27/2018	45.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	5/25/2018	44.60	2018
CVWD	-	07S07E03G02S	-46.20	2018	6/26/2018	46.40	2018
CVWD	-	07S07E03G02S	-46.20	2018	7/27/2018	45.70	2018
CVWD	-	07S07E03G02S	-46.20	2018	8/30/2018	43.10	2018
CVWD	-	07S07E03G02S	-46.20	2018	9/27/2018	42.80	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2017	10/29/2017	128.40	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2017	12/1/2017	125.50	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	1/5/2018	134.90	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	1/31/2018	139.60	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	2/26/2018	135.40	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	3/29/2018	133.50	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	4/27/2018	134.20	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	5/24/2018	133.30	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	6/26/2018	134.00	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	7/26/2018	134.70	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	8/31/2018	129.90	2018
CVWD	TEL (OLD)	07S07E04A01S	52.40	2018	9/27/2018	130.70	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2017	10/26/2017	128.20	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2017	12/1/2017	125.50	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	1/5/2018	135.00	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	1/31/2018	139.40	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	2/26/2018	135.20	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	3/29/2018	133.30	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	4/27/2018	133.90	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	5/24/2018	132.40	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	6/26/2018	133.80	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	7/26/2018	134.30	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	8/30/2018	129.50	2018
CVWD	TEL (OLD)	07S07E04A02S	52.30	2018	9/27/2018	130.60	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	11/6/2017	0.20	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	12/1/2017	1.00	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2017	12/6/2017	0.20	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2018	4/20/2018	-0.90	2018
CVWD	ARTESIAN	07S08E02L03S	-164.10	2018	8/15/2018	2.70	2018
CVWD	-	07S08E07R03S	-89.30	2017	12/6/2017	62.70	2018
CVWD	-	07S08E07R03S	-89.30	2018	4/19/2018	62.00	2018
CVWD	-	07S08E07R03S	-89.30	2018	8/14/2018	62.90	2018
CVWD	-	07S08E09N01S	-135.30	2017	12/6/2017	19.20	2018
CVWD	-	07S08E09N01S	-135.30	2017	12/6/2017	19.60	2018
CVWD	-	07S08E09N01S	-135.30	2018	4/20/2018	19.70	2018
CVWD	-	07S08E09N01S	-135.30	2018	8/14/2018	19.70	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2017	10/26/2017	-6.20	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2017	12/1/2017	-1.80	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	1/5/2018	-4.60	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	1/31/2018	-1.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	2/26/2018	-2.30	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	3/29/2018	-1.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	4/27/2018	-9.00	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	5/24/2018	-8.00	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	6/26/2018	-2.70	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	7/26/2018	-2.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	8/31/2018	-2.30	2018
CVWD	ARTESIAN	07S08E10P01S	-168.60	2018	9/27/2018	-1.80	2018
CVWD	-	07S08E14N01S	-175.00	2017	12/5/2017	6.20	2018
CVWD	-	07S08E14N01S	-175.00	2018	4/20/2018	6.40	2018
CVWD	-	07S08E14N01S	-175.00	2018	8/15/2018	6.90	2018
CVWD	-	07S08E17A04S	-119.00	2017	12/6/2017	38.70	2018
CVWD	-	07S08E17A04S	-119.00	2018	4/19/2018	39.70	2018
CVWD	-	07S08E17A04S	-119.00	2018	8/14/2018	38.80	2018
CVWD	-	07S08E17G01S	-81.10	2017	12/7/2017	76.80	2018
CVWD	-	07S08E17G01S	-81.10	2018	4/19/2018	73.90	2018
CVWD	-	07S08E17G01S	-81.10	2018	8/14/2018	74.10	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2017	11/29/2017	17.00	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2018	4/17/2018	19.20	2018
CVWD	ARTESIAN	07S08E25H01S	-208.50	2018	8/9/2018	12.80	2018
CVWD	-	07S08E26H02S	-188.50	2017	12/5/2017	10.20	2018
CVWD	-	07S08E26H02S	-188.50	2018	4/20/2018	17.10	2018
CVWD	-	07S08E26H02S	-188.50	2018	8/15/2018	13.80	2018
CVWD	-	07S08E29G01S	81.10	2017	12/7/2017	245.90	2018
CVWD	-	07S08E29G01S	81.10	2018	4/19/2018	245.60	2018
CVWD	-	07S08E29G01S	81.10	2018	8/21/2018	247.10	2018
CVWD	-	07S08E29P01S	167.30	2017	12/12/2017	330.40	2018
CVWD	-	07S08E29P01S	167.30	2018	4/20/2018	329.60	2018
CVWD	-	07S08E29P01S	167.30	2018	8/21/2018	330.90	2018
CVWD	-	07S08E29P02S	155.00	2017	12/12/2017	315.80	2018
CVWD	-	07S08E29P02S	155.00	2018	4/20/2018	316.80	2018
CVWD	-	07S08E29P02S	155.00	2018	8/21/2018	319.40	2018
CVWD	-	07S08E29P03S	175.60	2017	12/12/2017	336.80	2018
CVWD	-	07S08E29P03S	175.60	2018	4/20/2018	338.80	2018
CVWD	-	07S08E29P03S	175.60	2018	8/21/2018	340.20	2018
CVWD	-	07S08E29P04S	162.90	2017	12/12/2017	328.30	2018
CVWD	-	07S08E29P04S	162.90	2018	4/20/2018	326.70	2018
CVWD	-	07S08E29P04S	162.90	2018	8/21/2018	329.10	2018
CVWD	-	07S08E31R01S	236.20	2017	12/6/2017	288.70	2018
CVWD	-	07S08E31R01S	236.20	2018	4/19/2018	288.70	2018
CVWD	-	07S08E31R01S	236.20	2018	8/13/2018	288.80	2018
CVWD	-	07S08E32A01S	88.70	2017	12/12/2017	257.90	2018
CVWD	-	07S08E32A01S	88.70	2018	4/20/2018	257.20	2018
CVWD	-	07S08E32A01S	88.70	2018	8/21/2018	259.90	2018
CVWD	-	07S08E33B01S	21.80	2017	12/6/2017	202.80	2018
CVWD	-	07S08E33B01S	21.80	2018	4/19/2018	201.20	2018
CVWD	-	07S08E33B01S	21.80	2018	8/14/2018	203.90	2018
CVWD	-	07S08E35D01S	-130.90	2017	12/5/2017	45.10	2018
CVWD	-	07S08E35D01S	-130.90	2018	4/19/2018	43.10	2018
CVWD	-	07S08E35D01S	-130.90	2018	8/14/2018	44.80	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2017	11/29/2017	-1.60	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2018	4/17/2018	-1.80	2018
CVWD	ARTESIAN	07S08E36B01S	-204.80	2018	8/9/2018	-0.60	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2017	11/22/2017	-5.00	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2018	4/13/2018	-3.20	2018
CVWD	ARTESIAN	07S09E07J01S	-185.40	2018	8/9/2018	-7.30	2018
CVWD	ARTESIAN	07S09E08R01S	-166.40	2017	11/21/2017	-1.80	2018

Return to Agenda

Open Bookmarks

Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	ARTESIAN	07S09E08R01S	-166.40	2018	4/13/2018	-0.40	2018
CVWD	ARTESIAN	07S09E08R01S	-166.40	2018	8/8/2018	-1.80	2018
CVWD	-	07S09E14C01S	-64.60	2017	11/28/2017	93.80	2018
CVWD	-	07S09E14C01S	-64.60	2018	4/13/2018	93.20	2018
CVWD	-	07S09E14C01S	-64.60	2018	8/8/2018	93.50	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2017	11/28/2017	0.80	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2017	11/28/2017	1.80	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2018	4/13/2018	2.60	2018
CVWD	ARTESIAN	07S09E16M03S	-191.40	2018	8/8/2018	5.30	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2017	11/28/2017	-1.80	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2018	4/17/2018	-1.80	2018
CVWD	ARTESIAN	07S09E18H01S	-197.90	2018	8/9/2018	-6.40	2018
CVWD	-	07S09E23N01S	-187.70	2017	11/28/2017	8.30	2018
CVWD	-	07S09E23N01S	-187.70	2018	4/17/2018	5.90	2018
CVWD	-	07S09E23N01S	-187.70	2018	8/8/2018	6.60	2018
CVWD	ARTESIAN	07S09E30R01S	-203.20	2018	4/17/2018	-28.80	2018
CVWD	ARTESIAN	07S09E30R01S	-203.20	2018	8/9/2018	-20.70	2018
CVWD	ARTESIAN	07S09E30R02S	-203.10	2018	4/17/2018	-13.60	2018
CVWD	ARTESIAN	07S09E30R02S	-203.10	2018	8/9/2018	-15.20	2018
CVWD	-	07S09E30R03S	-203.00	2017	10/4/2017	10.40	2018
CVWD	-	07S09E30R03S	-203.00	2017	12/5/2017	11.60	2018
CVWD	-	07S09E30R03S	-203.00	2018	4/17/2018	10.90	2018
CVWD	-	07S09E30R03S	-203.00	2018	8/9/2018	10.00	2018
CVWD	-	07S09E30R04S	-203.00	2017	10/4/2017	11.80	2018
CVWD	-	07S09E30R04S	-203.00	2017	12/15/2017	12.40	2018
CVWD	-	07S09E30R04S	-203.00	2018	4/17/2018	10.20	2018
CVWD	-	07S09E30R04S	-203.00	2018	8/9/2018	8.50	2018
CVWD	-	08S08E01N01S	-173.30	2017	12/5/2017	10.30	2018
CVWD	-	08S08E01N01S	-173.30	2018	4/19/2018	9.70	2018
CVWD	-	08S08E01N01S	-173.30	2018	8/13/2018	9.60	2018
CVWD	-	08S08E03L01S	-58.60	2017	12/5/2017	122.30	2018
CVWD	-	08S08E03L01S	-58.60	2018	4/19/2018	123.50	2018
CVWD	-	08S08E03L01S	-58.60	2018	8/13/2018	123.10	2018
CVWD	-	08S08E24A01S	-155.20	2017	12/5/2017	59.90	2018
CVWD	-	08S08E24A01S	-155.20	2018	4/18/2018	58.70	2018
CVWD	-	08S08E24A01S	-155.20	2018	8/10/2018	57.40	2018
CVWD	-	08S08E24L01S	-110.80	2017	12/5/2017	107.30	2018
CVWD	-	08S08E24L01S	-110.80	2018	4/18/2018	104.90	2018
CVWD	-	08S08E24L01S	-110.80	2018	8/10/2018	102.80	2018
CVWD	-	08S09E07M01S	-205.60	2017	12/5/2017	0.00	2018
CVWD	-	08S09E07M01S	-205.60	2018	4/18/2018	0.00	2018
CVWD	-	08S09E07M01S	-205.60	2018	8/10/2018	0.00	2018
CVWD	-	08S09E07N01S	-206.30	2017	11/22/2017	4.30	2018
CVWD	-	08S09E07N01S	-206.30	2018	4/18/2018	3.70	2018
CVWD	-	08S09E07N01S	-206.30	2018	8/10/2018	2.40	2018
CVWD	-	08S09E07N02S	-206.30	2017	11/22/2017	5.60	2018
CVWD	-	08S09E07N02S	-206.30	2018	4/18/2018	4.20	2018
CVWD	-	08S09E07N02S	-206.30	2018	8/10/2018	3.80	2018
CVWD	-	08S09E07N03S	-206.90	2018	8/10/2018	-3.20	2018
CVWD	-	08S09E07N04S	-206.90	2018	4/18/2018	-0.50	2018
CVWD	-	08S09E07N04S	-206.90	2018	8/10/2018	-3.60	2018
CVWD	-	08S09E30A01S	-152.30	2017	11/29/2017	71.80	2018
CVWD	-	08S09E30A01S	-152.30	2018	4/18/2018	72.10	2018
CVWD	-	08S09E30A01S	-152.30	2018	8/9/2018	69.40	2018
CVWD	-	08S09E31Q03S	2.00	2017	11/29/2017	243.70	2018
CVWD	-	08S09E31Q03S	2.00	2018	4/18/2018	244.10	2018

Return to Agenda

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Owner	Well Name/ Number	State Well No.	GSE (Grd. Surf. Elev.)	Calendar Year	Reading Date	Reading BGS (Below Grd. Srf.)	Water Year
CVWD	-	08S09E31Q03S	2.00	2018	8/10/2018	255.50	2018
CVWD	-	08S09E31Q04S	14.00	2017	11/29/2017	247.40	2018
CVWD	-	08S09E31Q04S	14.00	2018	4/18/2018	247.90	2018
CVWD	-	08S09E31Q04S	14.00	2018	8/10/2018	246.80	2018
CVWD	-	08S09E31R01S	-17.80	2017	11/29/2017	207.40	2018
CVWD	-	08S09E31R01S	-17.80	2018	4/18/2018	207.30	2018
CVWD	-	08S09E31R01S	-17.80	2018	8/10/2018	209.00	2018
CVWD	-	08S09E31R03S	-9.00	2017	11/29/2017	223.80	2018
CVWD	-	08S09E31R03S	-9.00	2018	4/18/2018	223.80	2018
CVWD	-	08S09E31R03S	-9.00	2018	8/10/2018	222.90	2018
CVWD	-	08S09E32C01S	-145.30	2017	10/26/2017	80.70	2018
CVWD	-	08S09E32C01S	-145.30	2017	12/1/2017	81.20	2018
CVWD	-	08S09E32C01S	-145.30	2018	1/5/2018	82.00	2018
CVWD	-	08S09E32C01S	-145.30	2018	1/31/2018	86.50	2018
CVWD	-	08S09E32C01S	-145.30	2018	2/26/2018	86.60	2018
CVWD	-	08S09E32C01S	-145.30	2018	3/29/2018	82.60	2018
CVWD	-	08S09E32C01S	-145.30	2018	4/27/2018	81.10	2018
CVWD	-	08S09E32C01S	-145.30	2018	5/25/2018	80.90	2018
CVWD	-	08S09E32C01S	-145.30	2018	6/26/2018	80.50	2018
CVWD	-	08S09E32C01S	-145.30	2018	7/26/2018	80.10	2018
CVWD	-	08S09E32C01S	-145.30	2018	8/31/2018	79.40	2018
CVWD	-	08S09E32C01S	-145.30	2018	9/27/2018	79.20	2018
CVWD	-	08S09E32G01S	-148.50	2017	10/26/2017	77.20	2018
CVWD	-	08S09E32G01S	-148.50	2017	12/1/2017	72.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	1/5/2018	77.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	1/31/2018	77.90	2018
CVWD	-	08S09E32G01S	-148.50	2018	2/26/2018	77.30	2018
CVWD	-	08S09E32G01S	-148.50	2018	3/29/2018	77.10	2018
CVWD	-	08S09E32G01S	-148.50	2018	4/27/2018	76.70	2018
CVWD	-	08S09E32G01S	-148.50	2018	5/25/2018	76.50	2018
CVWD	-	08S09E32G01S	-148.50	2018	6/26/2018	76.00	2018
CVWD	-	08S09E32G01S	-148.50	2018	7/26/2018	75.70	2018
CVWD	-	08S09E32G01S	-148.50	2018	8/31/2018	75.00	2018
CVWD	-	08S09E32G01S	-148.50	2018	9/27/2018	74.70	2018
CVWD	-	08S09E32G02S	-142.40	2017	10/26/2017	79.40	2018
CVWD	-	08S09E32G02S	-142.40	2017	12/1/2017	79.20	2018
CVWD	-	08S09E32G02S	-142.40	2018	1/5/2018	79.80	2018
CVWD	-	08S09E32G02S	-142.40	2018	1/31/2018	79.70	2018
CVWD	-	08S09E32G02S	-142.40	2018	2/26/2018	79.50	2018
CVWD	-	08S09E32G02S	-142.40	2018	3/29/2018	79.30	2018
CVWD	-	08S09E32G02S	-142.40	2018	4/27/2018	78.80	2018
CVWD	-	08S09E32G02S	-142.40	2018	5/25/2018	78.90	2018
CVWD	-	08S09E32G02S	-142.40	2018	6/26/2018	78.50	2018
CVWD	-	08S09E32G02S	-142.40	2018	7/26/2018	78.00	2018
CVWD	-	08S09E32G02S	-142.40	2018	8/31/2018	78.40	2018
CVWD	-	08S09E32G02S	-142.40	2018	9/27/2018	77.50	2018
CVWD	-	08S09E33N01S	-133.60	2017	11/29/2017	92.60	2018
CVWD	-	08S09E33N01S	-133.60	2018	4/18/2018	92.40	2018
CVWD	-	08S09E33N01S	-133.60	2018	8/10/2018	92.70	2018

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Attachment B

Comments Received on the Draft Indio Subbasin Annual Report for Water Year 2017-2018

#	Date Received	Commenter	Report Section	Page Number	Comment	Response
1	3/7/2019	Bureau of Indian Affairs	Section 3.3, Figure 3-3	Page 3-7	In 2017, the Colorado River Exchange Water Delivered to Whitewater River Groundwater Replenishment Facility was published by CVWD as 385,994 ac-ft. In Figure 3-3 the amount appears to be over 100,000 ac-ft less. Please explain the difference.	The recharge amount for calendar year 2017 was 385,994 acre-feet, as reported in CVWD's 2018-2019 Engineer's Report. SGMA requires annual reporting based on the water year, which is from October 1 to September 30. As noted in Figure 3-3, upper left corner, beginning with the start of Water Year 2017 (October 1, 2016-September 30, 2017), the first water year for which an Indio Subbasin Annual Report was required by SGMA, water data is reported for the water year. The amounts delivered to the Whitewater River Groundwater Recharge Facility during Water Year 2017 and 2018 were 305,232 acre-feet and 278,654 acre-feet, respectively. CVWD also delivered additional water to other recharge facilities during that time.
2	3/7/2019	Bureau of Indian Affairs	Section 8.7	Page 8-17	The summary does not contain the potential impact of the Advanced Delivery water of approximately 300,000 ac-ft from the State Water Project on the aquifer. Please explain the impact.	CVWD and DWA each have fixed State Water Project (SWP) Table A Allocations that total to 194,100 acre-feet. Each year, DWR decides the percentage of the Table A Allocations of all their SWP Contractors that they will be able to deliver based on the conditions of the snowpack and supply reservoirs, environmental constraints in the Sacramento Delta, and operational constraints, among other considerations. For example, in calendar year 2017 and 2018 the percentages were 85% and 35%, respectively. The Advanced Delivery agreement with Metropolitan Water District of Southern California (MWD) does not affect the allocation of SWP water that is available to CVWD and DWA for recharge of the Indio Subbasin; it only affects the timing of those deliveries. The timing of annual deliveries does not impact aquifer recharge using SGMA objectives that consider the long-term sustainability of groundwater basins.
3	3/7/2019	Bureau of Indian Affairs	Section 8.5	Page 8-8	Section 8.5 does not address the impact of using different water qualities for recharge on the groundwater system. Please clarify and elaborate.	SGMA, State Water Code, and GSP Regulations released by the DWR, dictate the content of the Annual Reports. Section 8 of the Annual Report is intended to meet the requirement to provide "a description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous report." Section 8.5, more specifically, is intended to provide an update on projects or management actions related to water quality improvements. There were no updates on management or project actions related to this topic to report in the Annual Report for Water Year 2018. Refer to Table 8-2. The SGMA Alternative Plan for the Indio Subbasin discussed utilization of imported Colorado River water to meet the subbasin's water demands while preventing long-term overdraft, and groundwater quality supports a full range of beneficial uses, including drinking water. Moreover, the available evidence indicates that Colorado River recharge is a protective source with regard to arsenic, and has and will continue to reduce detectable hexavalent chromium in the basin, both of which naturally occur in the Coachella Valley.
4	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 1.1.1	Page 1-1 and 1-3	The Tribe understands that since the last Report the Subbasin has moved from a low priority to a medium priority designation under the Sustainable Groundwater Management Act ("SGMA"). While the Report acknowledges the medium priority status in Section 1.1.1, the Report fails to explain why the State moved the Subbasin to a higher priority, and importantly, how the agencies specifically intend to manage the resource given this change. The Tribe does not see any discussion of this significant development, and believes that the State and all parties in the Coachella Valley are keenly interested in seeing effective management strategies.	The Indio Subbasin has never been designated a low priority subbasin by DWR. The Indio Subbasin was designated a medium priority basin by DWR in both the finalized 2014 and 2018 SGMA Basin Prioritizations.
5	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 4.0	Page 4-1	At page 4-1, for instance, it is stated that "Every water sector showed an increase in groundwater extraction during WY 2017-2018, with the greatest increase of 17,912 AF for additional urban sector groundwater production. In addition, the Groundwater Sustainability Agencies (GSAs) estimate there could be about 1,500 AFY of unreported pumping by minimal producers and tribal producers whose use is unknown." Our understanding is that one reason for the move of the Subbasin from low to medium priority was the effect increased population and urban water usage would have on the aquifer. The Tribe fails to see a discussion of effective strategies to curb increased urban sector production in the draft Report. Indeed, discussion of sustainability strategies from the 2016- 2017 to the 2017-2018 Water Year Reports reflects no significant changes.	Conservation is an important element of the SGMA Alternative Plan for the Indio Subbasin. The Alternative Plan provides a discussion of the role of conservation for meeting the Indio Subbasin's long-term water needs and identifies conservation targets for different water sectors. The GSAs continue to work with the different water sectors to meet these conservation targets, and as reported in section 8.1.1 the local water agencies are on track to achieve their 20% by 2020 (SBx 7-7) savings requirements for urban per capita use ahead of schedule. Section 8.1.1 also provides updates on some of the key efforts by the local agencies to help meet the conservation targets established in the Alternative Plan. Please see response to comment #4 - The Indio Subbasin has never been designated a low priority subbasin by DWR.

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6	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section ES.3	Page ES-3	The Indio Subbasin has 5 subareas: Palm Springs, Thermal, Thousand Palms, Oasis, Garnet Hill Each subarea has its own groundwater storage capacity shown in Table 2-1. The report notes on page ES-3: "Average groundwater levels are presented because the Indio Subbasin generally does not exhibit strong seasonal trends. "The report also describes the geology for each subarea and suggest that each subarea has its own unique set of formations that restrict lateral groundwater flow, some more than others. In contrast, the Indio Subbasin does exhibit strong use trends that differ subarea to subarea, affecting groundwater levels on a daily, monthly and annual basis.	In accordance with the SGMA, State Water Code, and GSP Regulations released by DWR, the Annual Report provides a comprehensive look at the entirety of the Indio Subbasin as identified and defined in DWR Bulletin 118. DWR Bulletin 118 does not identify or define subareas for the Indio Subbasin. As discussed in Section 2 of the Annual Report, only the Garnet Hill Subarea has a formation that partially restricts lateral groundwater flow. The Banning Fault section of the Garnet Hill Subarea is a partially effective barrier to lateral groundwater movement. DWR Bulletin 118 includes the Garnet Hill Subarea as part of the Indio Subbasin.
7	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section ES.4, Table ES-2	Page ES-4	Table ES-2 and Section ES.4 estimate tribal groundwater use. Please explain how the 3,800 AF of water production that derived--what is it based on? Our understanding is that the tribes have provided the water districts with complete reservation groundwater production information.	The estimated, unmetered production, of 3,800 acre-feet is based on the following: 1) 1,500 acre-feet estimated to be pumped by Minimal Pumpers who are not required to report production to CVWD or DWA. Minimal Pumpers are defined by State Water Code as pumping 25 acre-feet or less within CVWD's boundary or 10 acre-feet or less within DWA's boundary. 2) A combined estimated 2,300 acre-feet for tribal uses in the East Valley that do not report their production.
8	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section ES.6, Figure ES-1 Section ES.7, Figure ES-2	Page ES-6 and ES-7 Page ES-7 and ES-8	Revise Figures ES-1 and ES-2 to show Supply and Demand and Groundwater Balance by subarea. The Tribe believes this will show a more accurate picture of how water is managed in the Indio Subbasin.	Please refer to response for comment #6
9	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 3.1, Table 3-1	Page 3-2	Section 3.1: Please expand Table 3-1 to show the wells monitored in each subarea. Also, please add a figure for each subarea that shows the groundwater elevation contours.	Please refer to response for comment #6
10	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 3.2, Figure 3-2	Page 3-5	Section 3.2 and Figure 3-2: the Tribe recommends that the GSA include more wells with hydrographs in locations that are not influenced by artesian conditions or in the immediate vicinity of groundwater replenishment facilities. Currently, over half of the selected wells are influenced by artesian conditions or in the immediate vicinity of groundwater replenishment facilities. Such wells do not represent the general groundwater conditions within the Indio Subbasin as a whole. Specifically, the Tribe would like to see more wells included in the northern, central, and southern areas of Palm Springs, Cathedral City, Rancho Mirage, and the northern areas of Thermal and Coachella. Including mapping of all wells that are included in the analysis would also assist the State and interested parties in understanding your analysis.	The hydrographs for two wells near replenishment facilities are included to illustrate the fluctuations in groundwater levels in response to recharge. Additionally, due to the confined characteristics of most of the East Valley coupled with rising groundwater levels, artesian wells are representative of the conditions over a significant portion of the Indio Subbasin. The wells included in the Water Year 2018 Annual Report were selected based on the professional judgment of the certified hydrogeologist who prepared the Annual Report. However, to enhance and complement the GSA's ongoing work of providing useful and relevant information to all stakeholders in the basin, the GSAs intend to explore including additional hydrographs in the Water Year 2019 Annual Report.
11	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 3.3, Figure 3-2	Page 3-5 and 3-6	Section 3.3: Hydrographs are provided for 11 wells "selected on the basis of having been consistently monitored over a relatively long time period and on their location in different regions within the Indio Subbasin. Please elaborate on the scientific and/or engineering methodology for selecting these wells. Do these wells provide a comprehensive look at each subarea of the basin? Figure 3-2 should also include as an overlay the Agua Caliente Reservation lands.	Please refer to response for comment #6 and comment #10. The wells included in the Annual Report were selected based on the professional judgement of the certified hydrogeologist who prepared the report.
12	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 5.2.2	Page 5-7	Section 5.2.2: Page 5-7 states that the current storage in MWD's advance delivery account is 302,959 AF, representing "over two years of SWP exchange at the current average reliability of 62 percent of CVWD's and DWA's combined Table A amounts." It is the Tribe's understanding that the cited 62% reliability figure for SWP Table A amounts is based on long-term historical data that is not reflective of recent trends and does not account for the likely effects of climate change on the future reliability of SWP water supplies. A more thorough explanation of the basis for this figure, specifically including a discussion of whether it reflects recent trends, would be helpful to readers.	We have included a description and citation for the source of the 62% long-term reliability figure, which is the 2017 SWP Delivery Capability Report (DWR 2018).
13	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 7.2, Figure 7-5	Page 7-13	Section 7.2: Figure 7-5 shows the 10-year change in groundwater elevation in the Indio Subbasin. The report should accurately show how the MWD Advance Deliveries contributed to the increases in groundwater elevations and the substantial impact of such temporary Advance Delivery water on the Subbasin. Pre-deliveries of water from MWD are not permanent water and should not be counted as contributing to a permanent reduction in overdraft. Pre-deliveries mask the impacts of excessive groundwater pumping.	Please see response to comment #2. As explained in that response, predelivered SWP water that is recharged to the basin is permanent and is therefore included in the groundwater balance.
14	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 8.5	Page 8-8	Section 8.5: The discussion in this section focuses exclusively on water quality improvements, specifically those relating to efforts to reduce chromium-6 levels. A disclosure of other aspects of water quality, specifically including changes in TDS measurements, would paint a more comprehensive picture.	Please see response to comment #3 for a description of the SGMA requirements fulfilled by this section of the Annual Report.

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15	3/7/2019	Agua Caliente Band of Cahuilla Indians	Section 8.6, Table 8-2	Page 8-9 to 8-16	Section 8.6: Please explain why there are many action items related to improved data and increased transparency that have been on this Implementation Status Table since at least 2010 that continue to be deferred due to lack of funds. Per a recent Press-Enterprise investigation published February 18, 2019 there ought to be ample funds: CVWD: Cash & Investments: $529,004,864 DWA: Cash & Investments: $134,644,970	The SGMA Alternative Plan for the Indio Subbasin included several projects related to monitoring and data management. In the Monitoring and Data Management section of Table 8-2, the GSAs provide an update on these projects. To date, the GSAs have achieved 10 out of the 11 projects. None of the projects have been deferred due to lack of funds. The "2019 Planned Activities" for the development of a centralized database will be corrected in the final Annual Report to read: "Deferred pending DWR decision on the Alternative Plan."
16	3/7/2019	Agua Caliente Band of Cahuilla Indians	Appendix B	Page B-1 to B-27	Appendix B - Groundwater Elevation Data, The Tribe appreciates the GSA's attempt to be transparent with its groundwater elevation data. However, the Tribe recommends that the GSA include a map within Appendix B which shows the location of each well and its associated State Well ID number. This will allow each stakeholder to easily correlate the data provided to a location. See comment to Section 3.3, above.	The locations of the wells monitored in the Indio Subbasin are shown in Figure 3-1, Figure 3-2, Figure 7-4, and Figure 7-5. There were 311 wells monitored. Placing such a voluminous list of State Well ID numbers on these maps, or creating an entirely new map including all 311 numbers, would be impractical and would hinder usability. State Well ID numbers are readily available in Appendix B of the Annual Report.
17	3/7/2019	Agua Caliente Band of Cahuilla Indians	Appendix B	Page B-1 to B-27	Appendix B - Groundwater Elevation Data, Many of the selected wells in Appendix B are only monitored twice a year (i.e. DWA Well Number 18, page "Appendix B-6"). Please provide a reasoning as to why some wells are monitored on a monthly basis, and others on a biannual basis.	Each GSA has its own protocols for the frequency of collecting water level measurements for each well depending on the location of the well, purpose of the well, and monitoring program under which the wells is monitored. CVWD's objective, for example, is to measure water levels at least 3 times a year in a network of monitoring wells that provide thorough coverage of the Subbasin. CVWD monitors water levels at a higher spatial density and frequency than recommended by DWR's CASGEM program; CASGEM requires only biannual monitoring (spring and fall). Water levels in monitoring wells associated with groundwater replenishment facilities are measured monthly to closely track the local response of the groundwater levels to recharge activities.
18	3/8/2019	Bureau of Indian Affairs	Section 7.1.3, Table 7-4	Page 7-7	Table 7-4 states there is "Infiltration of applied irrigation water" of 151,721 acre feet. As part of the ground water balance "Infiltration of applied irrigation water" is in layman's terms "deep percolation" or excess water applied above ET that travels past the root zone. Then combine this with the information in Figure 6.1.	Figure 6-1 provides a comparison of supply and demand for direct use for the Indio Subbasin during Water Year 2018. It is unclear to us what the reviewer is requesting; follow-up clarification will be needed to respond to this comment. As noted in Section 7.1.1.3, Appendix B of CVWD's Engineer's Report on Water Supply and Replenishment Assessment for 2017-2018 provides a description of the methodology used to calculate return flows.
19	3/8/2019	Bureau of Indian Affairs	Section 6.0, Figure 6-1	Page 6-3	Figure 6-1 shows an Agriculture Demand of 309,859 AF. Best case this is the net ET for crop use in the basin. Worst case scenario is half the ag demand was deep percolation. More thought and a clear explanation of "Infiltration of applied irrigation water" and Agriculture Demand needs to be include in this report. (Also make sure it agrees with the numerous other report that reference these term and the quantities correctly.	The Agriculture Demand of 309,859 acre-feet is based on metered groundwater production and metered Coachella Canal water for agricultural uses. As noted in Section 7.1.1.3, a relatively rigorous calculation of irrigation return flows was utilized that considers types of water use, irrigation efficiency, and water conservation impacts. The methodology is presented in Appendix B of CVWD's Engineer's Report on Water Supply and Replenishment Assessment for 2017-2018.
20	3/8/2019	Bureau of Indian Affairs	Section 5.2.2	Page 5-7	Section 5.2.2. ".....for a total delivery to the Coachella Valley of 255,707 AF. Of this amount, 43,738 AF was credited to the Advanced Delivery Account. As of the end of WY 2017-2018, there were 302,959 AF stored in MWD's advanced delivery account in the Coachella Valley." The report does not make any reference or explanation as to how the Basin will conditions would change if MWD called on the 300,000 ac-ft of water and no deliveries were made in the basin under the arrangement with MWD. Or if this amount grows to the full 800,000 ac-ft as stated, what are the management actions to be taken and how would this impact the basin?	Please see response to comment #2.

Item 12b

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: Public Works Department

SUBJECT: Ratification of the final site selection for a temporary platform for a Special Events Train as well as the ultimate location for a Multi-Modal Hub.

RECOMMENDED MOTION: Ratify Site 13 as the final site selection for a temporary platform for a Special Events Train as well as the ultimate location for a Multi-Modal Hub.

SUMMARY: Over the past several years, staff has been diligently pursuing a potential site to develop a Multi-Modal Hub to interconnect mass transit, active transportation, ride share, and other forms of transportation in the City of Indio. In addition, staff has been approached by the Riverside County Transportation Commission (RCTC) to suggest a platform location for a "Special Events Train" which is planned to be implemented during the 2020 Music Festivals. With the support of a Transportation Planning Grant from the California Department of Transportation (Caltrans), the City Council awarded a contract to KOA Corporation (KOA) to analyze potential site locations and prepare a possible implementation plan. As a result of this analysis, staff has narrowed down potential sites to the most feasible location and recommends the City Council ratify this selection to move forward with final layout and implementation plans for the Special Events Train platform and ultimate Multi-Modal Hub.

(Continued on the next page)

Prepared By: Timothy T. Wassil
Public Works Director

FINANCIAL DATA				
	Cost associated with this action:	$0	In current year budget:	N/A
	Current F.Y. general fund cost:	$0	Budget adjustment:	N/A
	Future F.Y. cost:	$0	For fiscal year:	18/19

Source of funds: N/A	Current account balance: N/A
Account number: N/A	Balance remaining if approved: N/A

Legal Review:	Department Review:	Financial Review:
Roxanne M. Diaz City Attorney	Timothy T. Wassil, P.E. Public Works Director	Rob Rockwell Assistant City Manager & Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
Approve	Mark Scott

BACKGROUND: In December 2017, the City was awarded a Caltrans Transportation Planning Grant to prepare a Multi-Modal Feasibility Study (Study) and on October 3, 2018, a contract was awarded to KOA to lead the analysis.

The Multi-Modal Feasibility Study will identify and evaluate potential site locations for the construction of a multi-modal transportation facility within the City of Indio. The Study will also analyze the best way to connect transportation services that include commuter and intercity rail, bus rapid transit, regional and local buses, and active transportation elements at a single location for Indio residents and visitors. The Study will consider connectivity to all points of interest including Downtown, College of the Desert, County Fairgrounds, and the Polo Fields.

The first part of the Study included the identification and evaluation of potential Multi-Modal Hub locations. Besides connecting transit and active transportation services, one of the primary purposes identified for the Multi-Modal Hub is to provide a facility for future passenger rail service should it be developed. As such, staff directed KOA to analyze potential sites along the 3.2-mile corridor adjacent to the existing Union Pacific rail corridor.

A total of 15 locations were filtered through two levels of site selection criteria. The first level of site selection eliminated eight (8) locations due to size or shape limitations. The second level of site selection evaluated the remaining seven (7) sites based on functionality, safety, economic development potential, and implementation. A detailed map of the sites is provided in Attachment A.

As a result, of these two evaluations, Site 13, which is the current location of the Greyhound Bus Station along Indio Boulevard, was found to provide the best functional space for the Multi-Modal Hub. It has adequate access and is close to downtown as well as current transit facilities. The Site is currently owned by the City and has a parking lot already constructed for use. Level 1 and Level 2 Site Selection Memoranda's are included in Attachment B.

On top of the City's planning efforts, in February 2019, RCTC was awarded $5.9 million from the California State Transportation Agency to construct a temporary train station platform in Indio. This temporary platform is intended to support the Special Events Train with service planned to begin with the 2020 Coachella and Stagecoach Music Festivals. The Special Events Train was developed through coordination between RCTC and the Los Angeles-San Diego-San Luis Obispo Rail Corridor Agency (LOSSAN). RCTC has reached out to the City to help identify the location of this temporary platform.

Staff recommends Council ratify Site 13 as the location of the temporary rail platform for the Special Events Train as well as the ultimate location of the Multi-Modal Hub. In the next phase of the Study, KOA will analyze potential site layouts for temporary and ultimate conditions and identify any other infrastructure and planning improvements necessary to support a Multi-Modal Hub.

FINANCIAL ANALYSIS: There are no financial impacts associated with the ratification of this site selection.

ALTERNATIVES:

1. Reject Site 13 as the location for the temporary platform and ultimate location of the Multi-Modal Hub and direct staff to continue evaluating sites based on additional criteria.

ATTACHMENTS:

A. Aerial Map of analyzed sites.
B. Level 1 and Level 2 Site Selection Memoranda.

Return to Agenda

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ATTACHMENT A

1

Site Map

Legend

- 1 Potential Site
- Destinations
- Rail Line

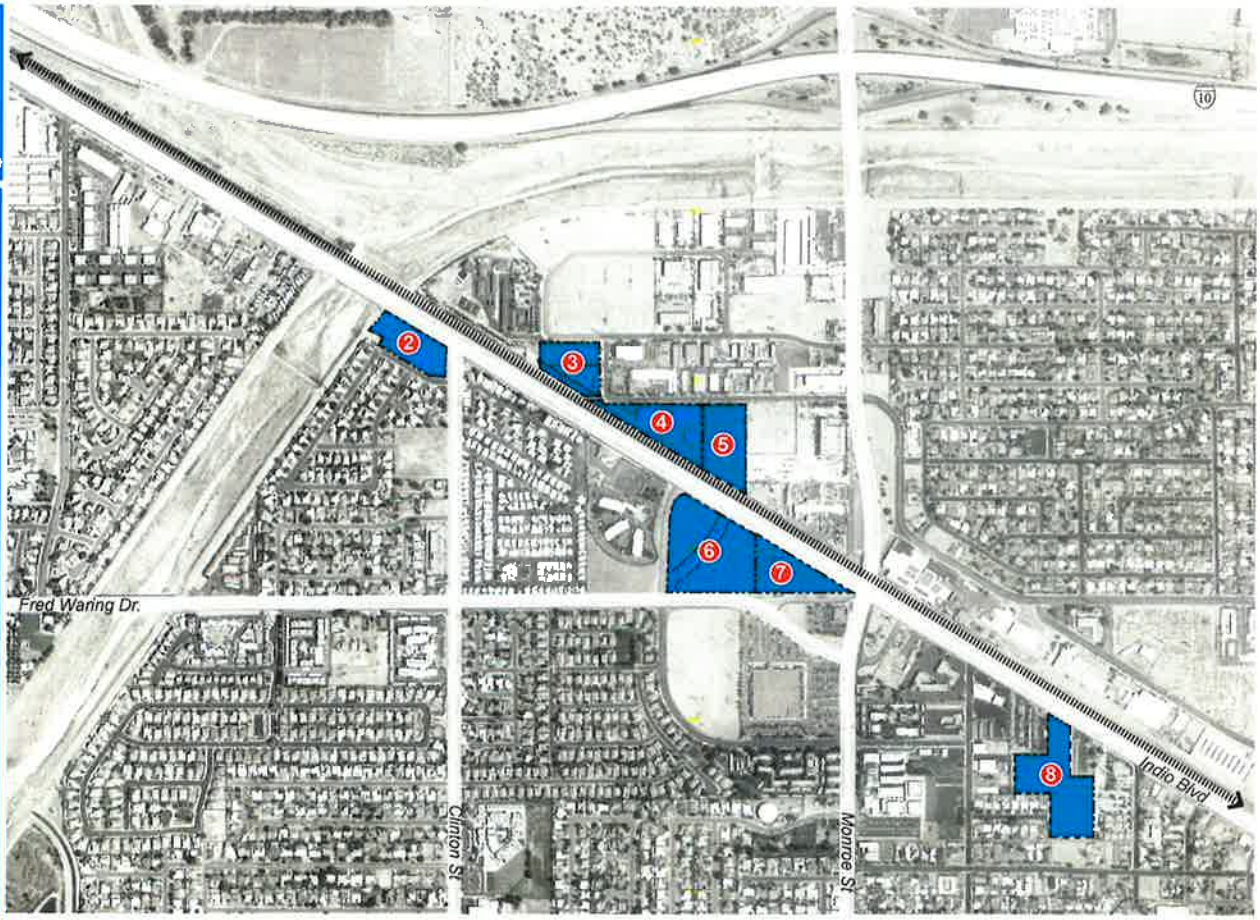
Key Map

Scale: 1000 ft

N

2

Site Map



Legend

1 Potential Site

Destinations

Rail Line

Key Map

Scale: 1000 ft

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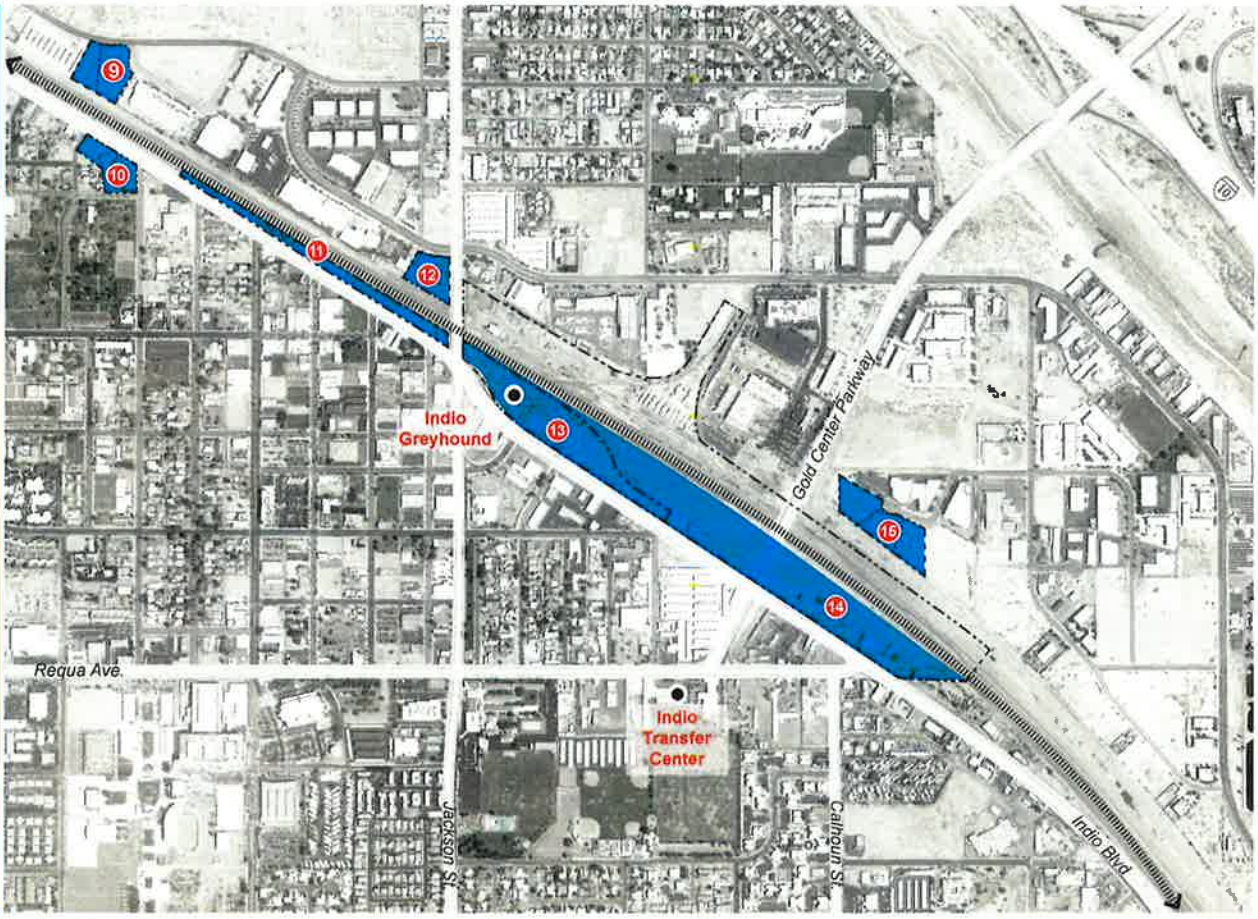
Return to Agenda

Open Bookmarks

3

Site Map



Legend

- Potential Site
- Destinations
- Rail Line

Key Map

Scale: 1000 ft

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ATTACHMENT B

5095 Murphy Canyon Road, Suite 330, San Diego, CA 92123
T: (619) 683-2533 | F: (619) 683-2942 | www.koacorp.com
MONTEREY PARK ORANGE ONTARIO SAN DIEGO

Date: February 12, 2019

To: Mr. Tim Wassil
Public Works Director
City of Indio

From: KOA Corporation

RE: Indio Multi-Modal Hub Site Selection Initial Draft Evaluation

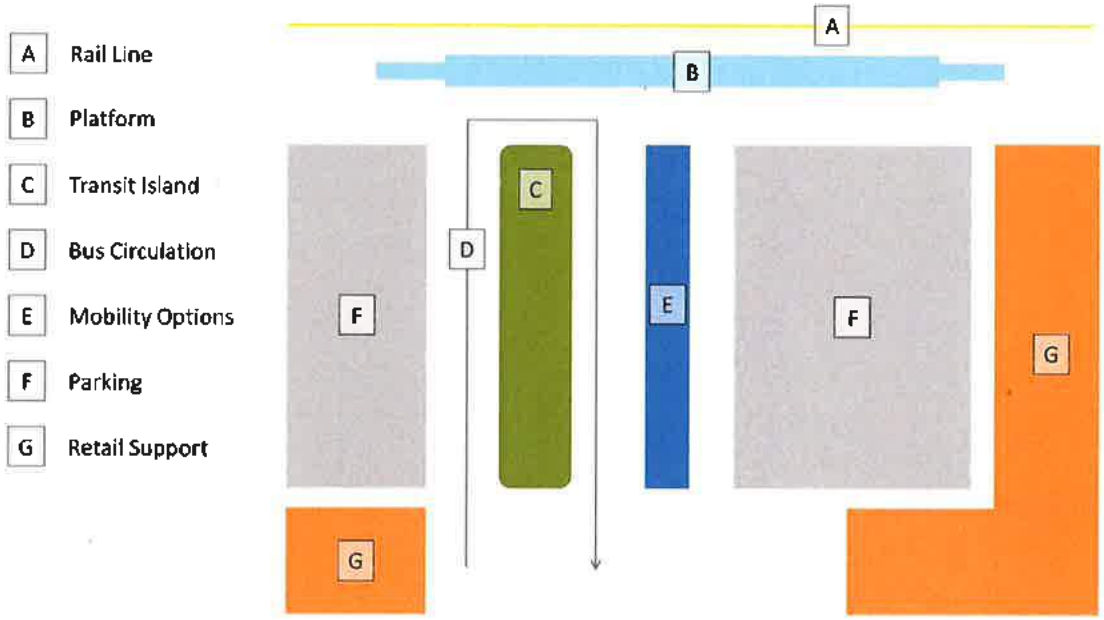
The purpose of this memorandum is to provide background information and an overview of the site selection process to evaluate potential sites for the location of a Multi-Modal Hub (MMH) in Indio as well as to request other information about the sites, previous development projects or site issues that City staff may be aware of that could influence the site selection process.

The goal of the study is to address a growing interest in providing improved passenger rail services within the Coachella Valley. The two efforts underway to examine increased passenger rail services include designating a stop for current Amtrak service and secondly, to provide a separate intercity passenger rail service between Los Angeles Union Station and Indio. The initial alternatives evaluated for intercity rail service have identified Indio as the eastern terminus of this service.

A MMH is envisioned to provide a rail station for both Amtrak and future intercity rail as well as provide connections to bus transit, people on bicycles, people walking intercity, local and shuttle buses, transportation network companies and the community at large. Other communities have experienced increased transit oriented and/or joint development opportunities with the development of MMH facilities. This will also be examined as part of the feasibility study.

Multi-modal hubs are places where people can make connections between public transit and other travel options. Multi-modal hubs are designed to make it easier for residents, employees, and visitors to use transit to travel from home to work and a wide variety of destinations in between. A multi-modal hub area includes not just the transit station itself but all those services and destinations that are accessible within a 5-minute walk, bike, or drive to/from a high quality transit service like intercity passenger rail or high frequency inter-community transit service including bus or light rail transit. The general layout of a multi-modal hub could include the features shown in Figure 1.

Figure 1 Features of a Multi-Modal Hub



The features provided at a multi-modal hub can include:

- Transit amenities – enhanced transit waiting areas, passenger zone loadings, real-time traveler information
- Pedestrian amenities – improved walkways and street crossings
- Bike amenities – bikeways, bike parking and bikeshare
- Motorized service amenities – dedicated transit lanes, electric bike and scootershare, carshare, on-demand rideshare, parking
- Support services and information – wayfinding

INITIAL SITE IDENTIFICATION

This initial site evaluation looked for potential station sites along an approximately 3.2-mile corridor adjacent to the existing Union Pacific rail corridor. The corridor extended from Jefferson Street to Date Avenue. 15 sites were identified located along the rail corridor to be evaluated with the Level 1 criteria. These sites are shown in the attached figures. To be included in this initial level of analysis, sites had to have limited vertical improvements. Vacant lots, surface parking, or sites with a small number of low-rise buildings were considered as candidate sites. Blocks with complete coverage by structures, high-rise buildings, high-value buildings or historically significant buildings (that could not be reused) were not considered. The sites are shown in the attached figures.

Site Descriptions

In the descriptions below, parcel size is taken from county assessor's records and does not include the railroad-owned land between the parcel and existing track. Parcel depth has been measured from aerial photographs. A graphic of the site locations is provided at the end of this document.

Site 1

Size:	17.4 ac
Depth:	460'
Location:	Indio Blvd, west side
Address:	not available
No. of parcels:	3
No. Of Owners:	1

Site 1 is the western-most of the parcels and is located three quarters of a mile west of the river channel. It is large site composed of three parcels, all controlled by a single owner. Each of the parcels is big enough to be used alone as a transit center; the three parcels share similar characteristics and are aggregated into a single parcel for this evaluation.

The site would be accessed from I-10, and from Jefferson Street, which becomes Indio Blvd as it enters the core city area. The site has approximately three quarters of a mile of frontage on this roadway, and about 3,500 feet of frontage on the existing, adjacent rail corridor. It is approximately a quarter mile from the highway interchange, including east- and westbound on/off ramps and an elevated vehicular crossing of the rail corridor.

The site is currently vacant, as are all adjacent parcels. Closest active uses are industrial along Indio Blvd, and single family residential to the west. The site is close to the Bermuda Dunes airport, which could impact building height.

Site 2

Size:	2.96 ac
Depth:	210'
Location:	Indio Blvd, west side
Address:	81450 Jonquil Ave
No. of parcels:	1
No. of owners:	1

Site 2 directly abuts the west side of Indio Boulevard and the south side of the Whitewater River. It offers a fairly rectilinear and efficient shape, with access from three sides. The station building, parking and other amenities would be built on this site, with the actual platform build across the roadway. There appears to be approximately 25-30 feet of land between the existing rail corridor and the edge of Indio Blvd; this edge is uncurbed, and includes a nearly full-lane width shoulder at this location.

Adjacent uses include single family residential homes as well as a manufactured housing park. Assessor's records indicate a single owner, and the lot is currently vacant. The southern half is surrounded by a construction fence (first seen in May 2009 aerial imagery); an uncompleted concrete slab is evident in subsequent, June 2011 aerial imagery.

Site 3

Size: 2.99 ac

Depth: 400'
Location: Tracks, east side
Address: 43549 Wheel Rd, plus two adjacent parcels
No. of parcels: 3
No. of owners: 2

Site 3 directly abuts the north side of the existing freight tracks, and would require acquisition of three (3) separate parcels. Two of the parcels, 0.95 and 0.52 acres, are owned by O'Connell Landscape Maintenance in Margarita CA; these parcels are occupied by a single-story office building. The third, largest parcel is approximately 1.52 acres occupied by a small office/commercial building and a large fenced storage yard/parking area; this parcel is owned by an unidentified party in Tulsa, OK.

Together, the three parcels form a triangle, and although it meets the minimum depth, this shape is not likely to provide efficient layout options than more rectangular or square sites and requires the preparation of a conceptual layout to ensure the parcel can accommodate the desired site program.

The site could be accessed from two sides of this triangular shape, from Oleander Ave and Wheel Rd., and is approximately one-third mile west of a signalized intersection with Monroe Street, which offers grade-separate access over the tracks to downtown Indio. Adjacent uses include industrial, vacant land, and the campus of the Coachella Valley Mosquito and Vector Control District.

Site 4
Size: 3.67 ac
Depth: 425'
Location: Tracks, east side
Address: 81495 and 81501 Industrial Drive
No. of parcels: 2
No. of owners: 2

Site 4 directly abuts the north side of the existing freight tracks, and would require acquisition of two (2) separate parcels. The first parcel is approximately 1.59 acres and is currently home to Hertz Equipment Rental. The property includes one, single-story industrial-type building and the property owner is listed in La Quinta CA. The second, larger parcel is approximately 2.08 acres and is owned and occupied by Claremont Equipment; the owner's address is given in San Diego CA. The property includes two single-story industrial buildings.

The site can be accessed from only from one side, off of Industrial Place, and is approximately a quarter mile from a signalized intersection with Monroe Street, which provides access to an existing overpass over the rail corridor and to downtown Indio. All adjacent uses are industrial.

Site 5
Size: 3.45 ac
Depth: 425'
Location: Tracks, east side
Address: 81531 Industrial Drive
No. of parcels: 1
No. of owners: 1

Site 5 abuts the east side of the existing rail corridor. The 3.45-acre site has a single owner, and offers a roughly rectangular shape (although the rail-edge of the site is diagonal). The majority of the site is occupied by parking/storage, with a single-story industrial building and adjacent trailer in the middle of the site. The site is occupied by Pauley Construction, with the owner's address given in Brawley CA.

The site provides access from only one site, off Industrial place; the parcel currently has two curb cuts along this frontage. The site is approximately 0.15 mile from the signalized intersection with Monroe St, which provides existing overpass access over the rail corridor. Adjacent uses are all industrial in nature.

Site 6

Size:	6.9 ac (10.38)
Depth:	425'
Location:	Indio Blvd, west side
Address:	not available (SE corner of Hoover St & Indio Blvd)
No. of parcels:	3
No. of owners:	1

Site 6 directly abuts the south side of Indio Boulevard, such that the station building, parking, and other amenities would be built on this site, with the actual platform being built across the roadway. There appears to be approximately 25-30 feet of land between the existing rail corridor and the edge of Indio Blvd. which has no curb and gutter and includes a nearly full-lane width shoulder at this location.

This site is composed of three (3) separate sites with a single owner. in Indian Wells CA. The shape, size and location of the smallest parcel suggest that this parcel may have been intended as a roadway. Hoover Street bisects two of the parcels, although the one parcel has only a very small portion on the other side of the roadway. The three parcels total 10.38 acres, although the portion which could be a potential transit site—the portion east of Hoover St—is approximately 6.9 acres.

The site could be accessed from three sides, from Indio Blvd, Hoover St and Fred Waring Dr. Adjacent uses include multi- and single-family residential to the west, small-scale retail (restaurant) to the east, and a vacant lot to the south.

Site 7

Size:	2.63 ac
Depth:	400'
Location:	Indio Blvd, west side
Address:	81929 Indio Blvd

Site 7 is immediately east and abutting Site 6, also abutting the west side of Indio Boulevard. Station and other amenities would occupy this parcel, with the actual passenger platform across the roadway. Similar to Site 6, the rail corridor is offset from Indio Blvd approximately 25-30 feet, with a lane-width shoulder on Indio Blvd.

The parcel is 2.63 acres and has a single owner in Oakland CA. The parcel offers access from Indio Blvd and a southern access road. The parcel is roughly triangular in shape with the 'long' side abutting Indio Blvd. Current uses include two small commercial/retail structures, one of which appears to be a restaurant and the other a solid-sided/no window storage shed. There is a large, approximately 40-foot long above-ground storage tank on the site. Adjacent uses include vacant land, a restaurant, and Riverside County Veterans Services and Social Services.

Site 8

Size:	4.9 ac
Depth:	790'
Location:	Indio Blvd, west side
Address:	44374 Palm St
No. of parcels:	1
No. of owners:	1

Site 8 would utilize approximately half of this 10-acre parcel, which is under the control of a single owner. The site has approximately 210' of frontage on the west side of Indio Blvd, as well as access to a mid-block alley, but is a largely mid-block parcel surrounded by other developed uses. Adjacent parcels are a mix of hotel, commercial and residential uses including both single- and multi-family homes.

Site 9

Size:	2.53 ac
Depth:	295'
Location:	Tracks, east side
Address:	not available (SW corner of Market St & Fleming Way)
No. of parcels:	2
No. of owners:	1

Site 9 abuts the north side of the rail corridor. The 2.63-acre site comprises two parcels (0.66 ac and 1.87 ac) with a single owner, Triangle Distributing, and is currently vacant. The site fronts Market St. and Fleming Way, but access from Fleming Way could be challenging due to roadway geometry along that frontage. Market St. frontage is approximately 230 feet. The site is approximately a half-mile from the signalized intersection with Jackson St., which offers an existing overpass of the rail corridor. Adjacent uses include vacant land, a for-rent storage unit facility and multi-tenant, single-story commercial land uses.

Site 10

Size:	1.65 ac
Depth:	140'
Location:	Indio Blvd, west side
Address:	not available (Indio Blvd between Deglet Noor and Arabia St)
No. of parcels:	4
No. of owners:	3

This is site abuts the south side of Indio Blvd and could be accessed from 3 sides: Indio Blvd, Deglet Noor and Arabia St). It is a combination of four sites, with three owners. Three of the parcels are vacant while the remaining central parcel houses two one-story commercial structures. Adjacent block uses are single family residential.

Site 11

Size:	3.78 ac
Depth:	75' max
Location:	Tracks, west side
Address:	n/a

No. of parcels: 7
No. of owners: Multiple

The site is a narrow strip of land between Indio Boulevard and the railroad. This width is insufficient, for passenger parking to also be located between the roadway and platform; available width would require the siding and platform (1800' linear feet) to be arranged north of/beside the passenger parking (~900', assuming one double-loaded row of parking for 200 cars. At a half-mile long, this linear arrangement of platform and parking would also require excessive walk distances for many patrons.

Site 12

Size: 1.85 ac
Depth: 590'
Location: Tracks, east side
Address: 44925 Jackson St, plus additional land wrapping tracks in a 'C' configuration
No. of parcels: 2
No. of owners: 2

This site offers good access to the Jackson St. overpass and a suitable ratio of land value to improvement value for consideration at this level. Recorded parcel size is just over an acre, so the site includes additional land between the recorded parcel and railroad tracks which appears to be owned by freight rail. Even with this land, however, the site is only 1.85 acres which does not meet the minimum size requirement.

Site 13

Size: 6.21 ac
Depth: 270'
Location: Tracks, west side
Address: 83100 Indio Blvd
No. of parcels: 1
No. of owners: 1

Site 13 is approximately 6.21 acres and is owned by the City of Indio. The parcel has an irregular shape while the southern portion of the parcel narrows and abuts an existing spur track. To the north, the site appears to extend under the Jackson St overpass. The site is approximately 0.6 miles from the existing Flower St transfer center. A Greyhound Bus trailer serves as a passenger station and a surface parking lot occupies the northern portion of the site. The southern portion of the site is vacant land. Adjacent uses are vacant land and single-story retail/commercial.

Site 14

Size: Approximately6.6 acres
Depth: 200'
Location: Tracks, west side
Address: unknown
no. of parcels: 1 (potentially inaccurate)
# of owners: 1 (potentially inaccurate)

Parcel details for this site are unclear. The assessor's records show this area to be a single parcel that includes the existing rail corridor, but existing land uses and fencing suggest that this information may not be correct. Existing uses include a

tire/smog check shop, a muffler shop, a lumber yard and a vacant gas station/auto shop. Parcel depth varies from approximately 160 feet to 300 feet deep, measured from a consistent fence line along the rail corridor. Adjacent uses include single-story commercial/retail and motel.

Site 15

Size:	~4.2 ac
Depth:	300'
Location:	Tracks, east side
Address:	83633 Citrus Ave, plus 2 adjacent
No. of parcels:	3
No. of owners:	3

Site 15 abuts the north side of the existing rail corridor and offers grade-separated access to downtown Indio via the existing Golf Center Parkway overpass. The site comprises three parcels with three separate owners and approximately 870 feet of rail frontage. All three parcels are currently undeveloped, as is one additional parcel directly to the southeast. Adjacent uses include two light industrial/warehouse buildings and a vacant lot.

SITE SELECTION PROCESS

The site evaluation will follow a three-level process, with each level becoming more detailed and specific. Sites will be assessed using three broad categories of criteria: functional, land use & community, and implementation. This remainder of this memo describes the initial Level 1 Evaluation. The Level 2 and 3 Evaluations will follow in a separate memo.

The potential locations for a MMH were determined by looking at the individual parcels located in close proximity to the rail lines.

All three levels of evaluation use data and other relevant information available from the City and the County Assessor's on-line database. A comparison of Assessor's information (particularly ownership) and on-the-ground land uses suggest that there may be some measure of discrepancy in this data, and for this reason the right-of-way boundaries and potential parcel impacts identified in this document are considered broad, conceptual assessments only. Additional information describing the existing transportation system and characteristics of Indio residents is provided in a separate document, *Overview of Indio's Transportation System*.

Level 1 Evaluation

Level 1 uses a simple pass/fail analysis, and any site that fails one or more of the criteria will be eliminated from further consideration. This level of analysis is intended to quickly and efficiently eliminate any sites with potential 'fatal flaws' that could significantly delay the design, approval and construction process, so that the project could focus on more promising sites.

Level 2 Evaluation

The Level 2 evaluation will use comparative criteria that rates sites relative to each other. Criteria are not weighted, and every effort is made to combine criteria that were asking only slightly different version of the same essential question, to ensure that one particular site aspect did not become inadvertently weighted due to multiple versions of the same question.

At this level, criteria focused not on the question "Does this site provide 'X'?", but rather "Does this site provide 'X' better or worse than the other sites?" Use of this comparative approach provided a meaningful metric that ranked sites relative to each other, rather than against an arbitrary 'ideal' site.

Level 3 Evaluation

The Level 3 evaluation will create conceptual-level layouts and rough order of magnitude (ROM) cost estimates for each of the final group of sites under consideration. These site plans identify opportunities and challenges of each site at the parcel level, and evaluate the pros and cons of different site layouts relative to site access, patron circulation and existing and potential land uses.

LEVEL 1 CRITERION

Functional

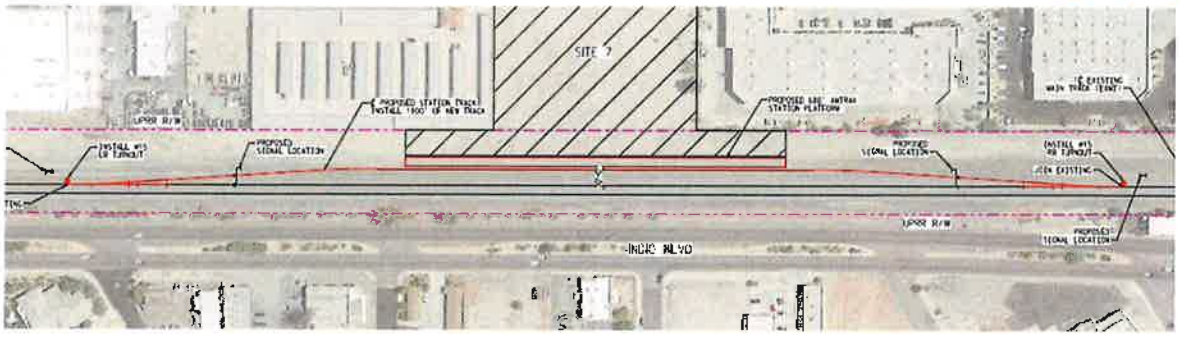
This group of criteria looks at site size, potential circulation to and within the site, multi-modal connectivity to downtown destinations, and environmental issues.

1.1 Is the site a minimum of 2.5 acres in size?

This site size would be able to contain the general features of a multi-modal hub, including 200 parking spaces (70,000 SF), a dedicated 12-shuttle/bus/taxi lot (18,000 SF), a 3,500 SF station structure, a 7,500 SF plaza, and provide buffer from the roadway. While the specific site elements have not been identified, this conceptual program served as a high-level starting point to seek potential parcels and preserve some level of site flexibility.

1.2a For a site is adjacent to the existing rail corridor, does the site provide sufficient depth for rail siding, platform, station building and parking?

It has been determined that the UP Railroad would likely require a rail siding to be provided for passenger access. This arrangement would require a depth of approximately 300 feet (from track to roadway) to provide a buffer (10'), parking (60'), a drop-off roadway (25'), a plaza (40'), the station (100') then the platform and siding (60').



1.2b If the site is on the west side of Indio Blvd, does the area immediately across the roadway have sufficient depth to accommodate the rail siding and platform?

While parking and other operations could be moved a short distance from the rail line, a minimum width is still needed for the track siding and platform. As noted in the preceding criterion, the tangent track needed for the platform would require a minimum 30' offset from centerline of existing track, plus an approximately 20' wide passenger platform, plus a minimum 10' sidewalk between platform and roadway.

1.3 Will the site have sufficient length to accommodate the rail siding and platform?

In order to avoid disruption of freight service, it is assumed that the passenger platform will need to be located on an approximately 1800-foot long siding. This length represents an approximately 680' passenger platform, plus joining track at both ends of the platform. If Indio were to be the end of the line, it may be possible to reduce this distance by joining track at only the north – instead of both – ends; for conceptual purposes and future flexibility, however, the greater length is assumed.

1.4 Does the site offer (or can it offer in the future) at least two full-movement access points to the multi-modal facility?

The station is anticipated to provide up to 200 parking spaces; for efficiency and safety, at least two access points are desired.

1.5 Is the site located to provide close connections with the existing Greyhound service, connections to Sunline Transit?

Multi-modal connections are important. This measures the degree that the site would provide convenient transfer to transit, or the degree in which existing routes would need to be modified.

1.6 Does the site have convenient access to I-10

This measures the ease in which park and ride access from I-10 can be provided.

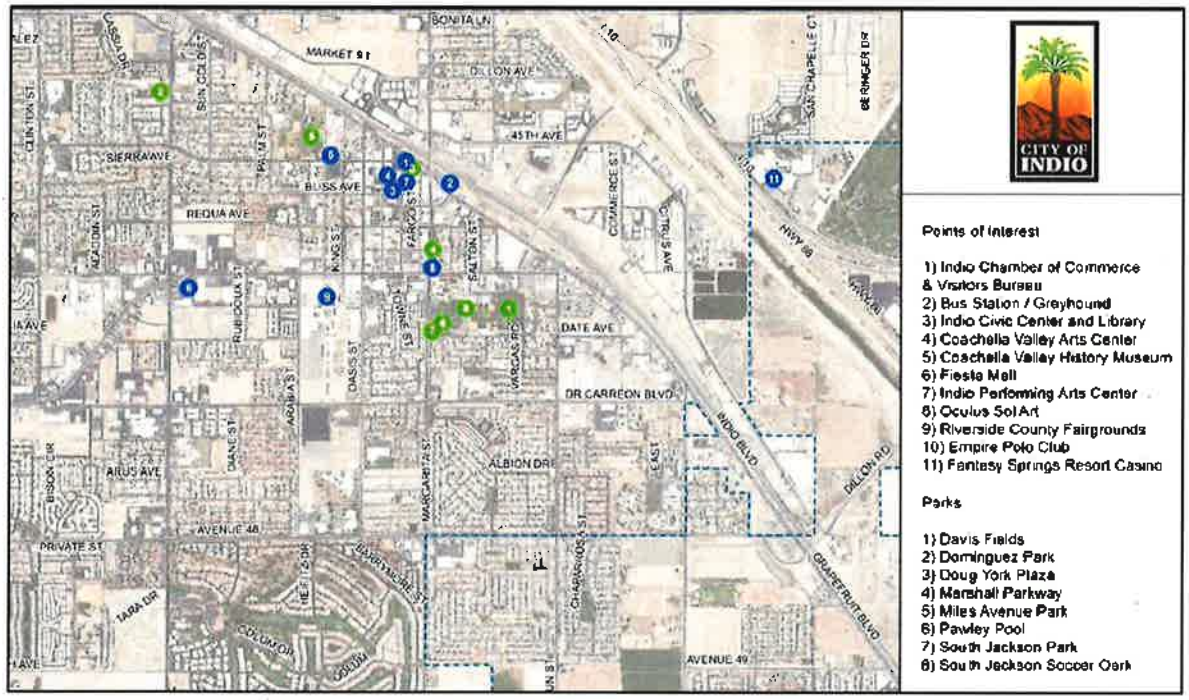
1.7 Does the site have adequate pedestrian connections to downtown Indio and other city destinations?

This question is seeking to identify any major barriers such as superblocks, waterways, or highways that would make it difficult for pedestrians to reach downtown or other key destinations, either because the barrier cannot be crossed

or because it would require a lengthy or circuitous route to do so. Distance between the existing rail corridor and significant community destinations and origins are as follows (distances measured directly, not actual pedestrian route):

- Riverside County Superior Court: 0.5 miles
- Indio Library: 0.3 miles
- JFK Memorial Hospital: 1.4 miles
- Fantasy Springs Casino & Resort: 0.7 miles
- Empire Polo Club: 2.7 miles
- Riverside County Fairgrounds: 0.6 miles
- College of the Desert: 0.4 miles

Major Destinations



1.8 Is the site free of any known environmental problems, including but not limited to hazardous materials, floodplain, contamination, air quality or historic resources?

These types of issues could result in significant delays and/or cost increases in site development. As with many (National Environmental Policy Act) NEPA-related issues, concerns of this type can also be mitigated through technical or design means, but this question seeks to eliminate sites with an overwhelming number or extent of such issues.

Land Use & Community

This group of criterion seeks to flag any known issues related to policy, community support, and urban design integration. This level of evaluation relies largely on prior planning documents and City input.

1.9 Does the City believe that adjacent owners would be amenable to a new transit station on the site?
Community support is critical to any development project, and this question seeks to identify any known or potential opposition to a transit station. Opposition may be for many reasons, including increase in traffic, noise or light pollution, or due to concerns about neighborhood character, building scale, or a variety of other reasons. Most likely sources of information regarding this criterion are likely to be prior studies, during which owners or residents may have stated opposition for similar proposed uses during a previous study, or from City staff knowledge of the individuals or the neighborhood.

Implementation

This set of criterion looks for any issues related to land acquisition or lease, site preparation or cost that could make it difficult to design and construct a new transit station within a timely manner.

1.10 Does the City believe that the property owner(s) would be amenable or neutral regarding potential property sale or long-term lease?
This question assumes that the City will not use eminent domain to acquire property. While it is not possible to know the disposition of a property owner at an unidentified point in the future when the City decides to move forward with the project, this question does seek to identify properties that are likely to be unavailable, whether because the owner has or is in the process of exploring other development options, has turned down previous offers to purchase or lease, or for some other reason.

1.11 Is the site believed to be free of existing uses with higher-than-average relocation costs, such as specialized mechanical equipment?
This question seeks to identify any existing uses that may increase acquisition and relocation costs.

1.12 Can the site be developed without the relocation of any major trunk utilities?
This question seeks to identify any sites that may have significant overhead or underground facilities crossing the site. This question is very high-level; additional utility research may be undertaken during Level 2 evaluation.

1.13 Is the site free of any known factors that would preclude it from eligibility for federal funding?
This site assumes that the City may apply for federal funding in the future. This includes environmental activities related to hazardous was and toxics. Types of sites protected under Section 4(f) of the USDOT Act of 1966 include public parks, recreation areas, wildlife refuges and historic. Development of these sites would require extensive documentation that there is 'no feasible and prudent alternative' that avoids impacts to the property in question.

LEVEL 1 EVALUATION

The evaluation of the initial 15 sites is shown in Table X. A full description of this evaluation will be developed and will be included in this section of the memo. The evaluation can be summarized as follows:

The following sites are eliminated from consideration due to size or shape limitations:

Site 2 – lacks sufficient depth to provide platform and track siding adjacent to the tracks.
Site 6 – lacks sufficient depth to provide platform and track siding adjacent to the tracks.
Site 7– lacks sufficient depth to provide platform and track siding adjacent to the tracks.
Site 8 – lacks sufficient depth to provide platform and track siding adjacent to the tracks.
Site 10– lacks sufficient depth to provide platform and track siding adjacent to the tracks. Site not sufficient size to provide for needed MMH features.
Site 11– lacks sufficient depth to provide platform and track siding adjacent to the tracks.
Site 12– Site not sufficient size to provide for needed MMH features. Lacks size for sufficient access and internal circulation.
Site 14 is eliminated over environmental concerns related to two establishments located on this site listed in the EPA data base for hazardous materials.

Remaining sites for consideration that would be carried into the Level 2 Evaluation:

Site 1
Size/Shape: This site has sufficient parcel size for rail operations.

Site Circulation and Access:
It has good access to I-10. It provides for good access to west-side Indio residents located near Jefferson Street.

Connectivity:
Site would not provide walk/bike access to downtown.
This site would require significant modification to existing transit routes and Greyhound service.

Environmental:
No identified issues.

Land Use and Community Support:
Site is in airport landing zone area which may impact building height.

Sites 3, 4 and 5
Size/Shape:
These sites are located on the north side of the rail corridor. Each parcel has existing development, which may result in concerns related to the process of site acquisition.

Site Circulation and Access:
Access to I-10 is good. Less direct access to the portion of Indio south of the railroad tracks.

Connectivity:

These sites would require significant modification to existing transit routes and Greyhound service.
Site would not provide walk/bike access to downtown.

Environmental:
No identified issues.

Land Use and Community Support:
Sites 3 and 4 have multiple owners. Each site is currently developed with industrial buildings. Adjacent land use is industrial.

Site 9
Size/Shape:

The site size is not wide enough for the platform so that the platform located on railroad right-of-way would be located along adjacent properties. Located north of the railroad tracks, the site would provide good access to I-10, but poor access to downtown and to residents located south of the railroad tracks. These sites would require significant modification to existing transit routes and Greyhound service.

Site Circulation and Access:
Access to I-10 is good. Less direct access to the portion of Indio south of the railroad tracks.

Connectivity:
These sites would require significant modification to existing transit routes and Greyhound service.
Site would not provide walk/bike access to downtown

Environmental:
No identified issues.
Land Use and Community Support:
The site has one owner and it is currently vacant.

Site 13

Size/Shape:
The size of this parcel is sufficient to accommodate MMH operations. Additional parking area is also available across Indio Boulevard. This site was previously identified as a potential site for the MMH.

Site Circulation and Access:
Access to I-10 is not direct but can be made using the Jackson Street or Golf Center Parkway overpasses of the rail corridor.

Connectivity:
This site would require minimal or no modification to existing transit routes and Greyhound service.
Site provides walk/bike access to downtown.

Environmental:
No identified issues.

Land Use and Community Support:
The site is owned by the City of Indio. The development of the site is consistent with current planning documents.

Site 15
This site is located north of the railroad tracks. Combining the three parcels, the site is large enough to support multi-modal hub activities.

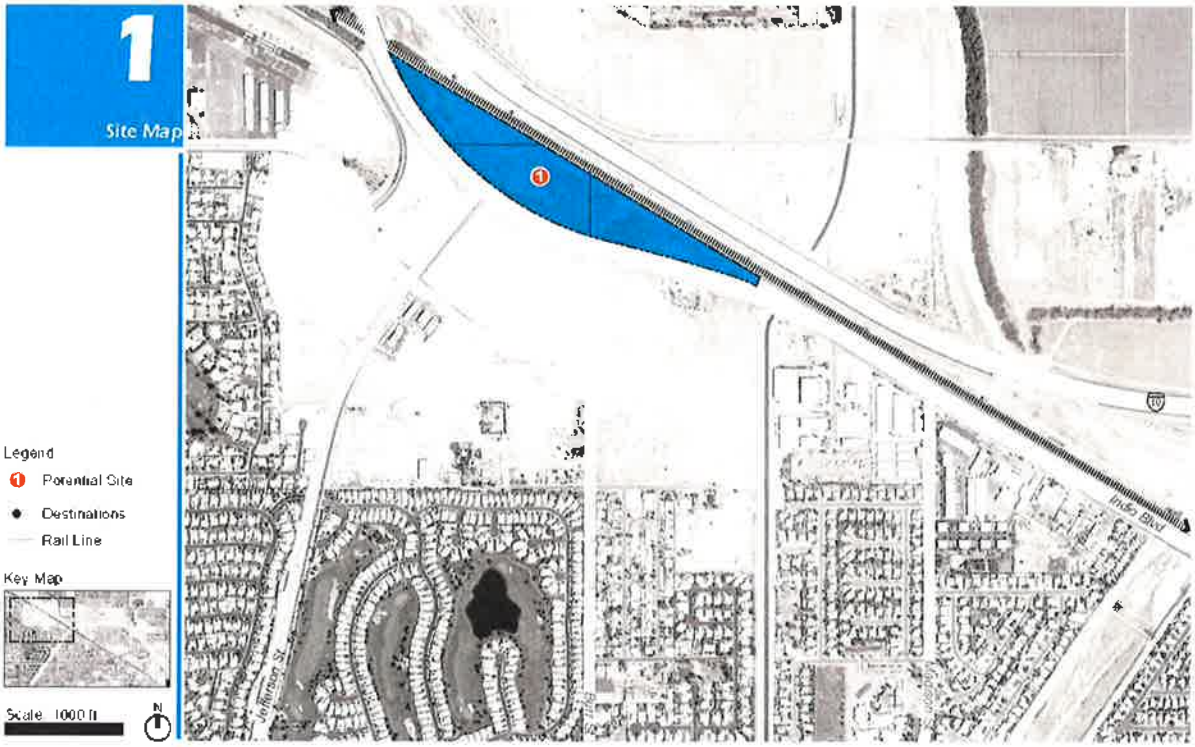
Site Circulation and Access:
The site has good access to I-10. The access to downtown and activities south of the railroad would require travel over the railroad tracks on Golf Center Drive.

Connectivity:
This site would require modification to an existing transit route and Greyhound service to access the site.

Environmental:
No identified issues.

Land Use and Community Support:
With three parcels and different ownership, property acquisition may be more difficult.

Site Map 1


1
Site Map
Legend
Potential Site
Destinations
Rail Line
Key Map
Scale 1000 ft
N
Jefferson St
Indio Blvd
10

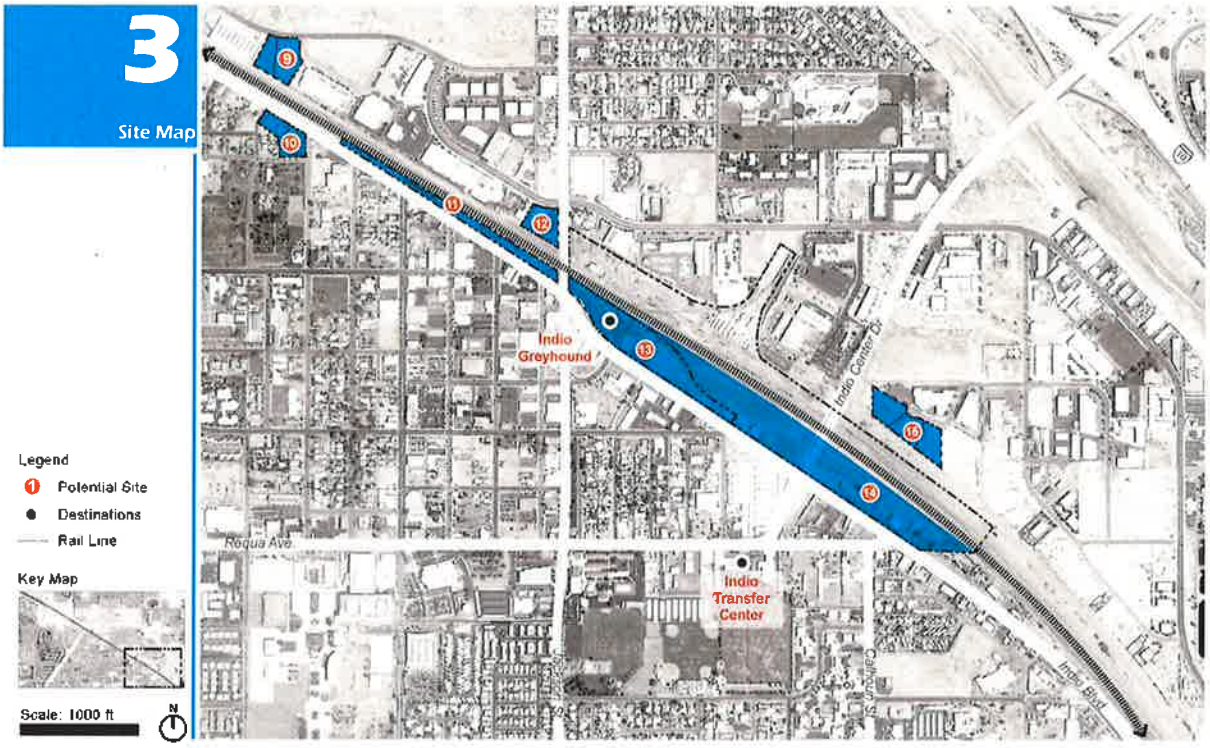
Site Map 2-8


2
Site Map
Legend
Potential Site
Destinations
Rail Line
Key Map
Scale: 1000 ft
N
Fred Warning Dr.
Monroe St
Indio Blvd

Return to Agenda

Open Bookmarks

Site Map 9-15



Return to Agenda

Open Bookmarks

	First Screen (pass/fail) *(Intended up to 10 locations)*	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14	Site 15
FUNCTIONAL																
Size/Shape																
1.1	Is the site a minimum of 2.5 acres in size?	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y
1.2a	If the site is adjacent to the existing rail corridor, does the site provide sufficient depth for rail siding, platform, station building and parking?	Y	n/a	Y	Y	Y	n/a	n/a	n/a	Y	n/a	N	Y	Y	Y	Y
1.2b	If the site is on the west side of Indio Blvd, does the area immediately across the roadway have sufficient depth to accommodate the rail siding and platform?	n/a	N	n/a	n/a	n/a	N	N	N	n/a	N	n/a	n/a	n/a	n/a	n/a
1.3	Will the site have sufficient length to accommodate the rail siding and platform?	Y	Y	Y	Y	Y[1]	Y	Y	Y	Y[2]	Y	Y	Y	Y	Y	Y
Site Circulation & Access																
1.4	Does the site offer (or can it offer in the future) at least two full-movement access points to the multi-modal facility?	Y	Y	Y	Y	Y	Y	Y	N	Y[3]	Y	Y	N	Y	Y	Y[4]
Connectivity																
1.5	Does the site abut the west side of Indio Boulevard or the rail corridor itself (east or west)?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1.6	Does the site have adequate pedestrian connections to downtown Indio (defined as Highway 111), or can such connections be constructed with reasonable levels of funding and effort?	Y[5]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Environmental																
1.7	Is the site believed to be free of any known environmental problems, including but not limited to floodplain, contamination, air quality or historic resources?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
Land Use / Community																
Land Use, Policy and Community Support																
1.8	Does the City believe that adjacent owners would be amenable or neutral regarding a new transit station on the site?	Y[6]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Safety																
No Level 1 criteria																
Economic Development Potential																
No Level 1 criteria																
Implementation																
Land Acquisition/Displacement																
1.9	Does the City believe that the property owner(s) would be amenable or neutral regarding potential property sale or long-term lease? (no existing development plans or opposition in prior studies)	Y[7]	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
1.10	Does the site appear to be free of existing uses with higher-than-average relocation costs, such as specialized mechanical equipment?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Site Preparation																
1.11	Can the site be developed without the relocation of any major trunk utilities?	Y[8]	Y[8,9]	Y	Y	Y	Y[8]	Y[8]	Y[8]	Y	Y[8]	Y[8]	Y	Y[8]	Y[8]	Y
Cost																
1.12	Is the site free of any known factors that would preclude it from eligibility for federal funding?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		PASS	FAIL	PASS	PASS	PASS	FAIL	FAIL	FAIL	PASS	PASS	FAIL	FAIL	PASS	PASS	PASS

Notes

1 Approx 325' frontage on rail; at 680', half the rail platform would be beyond the site.

2 Approx 360' frontage on rail; at 680', half the rail platform would be beyond the site.

3 With slightly over 200' frontage to the north, and short curved geometry to the east, parcel access is questionable.

4 Site has approx 300' frontage on a low-use cul-de-sac; creating an alternate roadway may be a better option.

5 The site is 3+ miles from downtown Indio, well outside a typical 5 to 10 minute walk.

6 Land use restrictions could be possible due to proximity of airport and runway.

7 Development was previously planned on this site.

8 A fiber optic line (4" line, owned by MCI now Verizon) and a high pressure gas line (20", owned by Kinder Morgan) both occupy individual easements on the west side of the existing tracks. Both easements are wholly contained within the rail right-of-way, but more study is needed to determine the parameters of constructing a new rail siding on this side of the tracks.

9 There is a standpipe visible in the center of Site 2; suggesting it is likely that a Bureau of Reclamation Irrigation line runs through the site; would be very difficult to relocate.

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MONTEREY PARK ORANGE ONTARIO SAN DIEGO

Date: April12, 2019

To: Mr. Tim Wassil
Public Works Director
City of Indio

From: KOA Corporation

RE: Indio Multi-Modal Hub Site Selection Draft Level 2 Evaluation

The purpose of this memorandum is to describe the second level site selection process used to evaluate potential sites for the location of a Multi-Modal Hub (MMH) in the City of Indio. Based upon this evaluation, the site located adjacent to the Union Pacific tracks at Indio Boulevard and Civic Center Mall is the recommended site for the MMH.

The selection of a preferred site has been completed in two parts. The Level 1 evaluation was completed and described in a separate memorandum. The Level 1 evaluation was presented to the City of Indio, Sunline Transit and the Riverside County Transportation Commission (RCTC) staff in March, 2019. It described the process used to identify 15 potential multi-modal hub station sites located in proximity to the Union Pacific rail lines that are understudy by the RCTC for passenger rail services. Based on the discussions at that meeting, the 15 sites that were identified in Level 1 Evaluation were reduced to seven sites.

The evaluation of the remaining seven sites is described in this memorandum. The evaluation of these sites follows the direction provided by the City, Sunline Transit and the RCTC staff at our March, 2019 meeting. That direction included:

- A site near downtown is desired, and a multi-modal hub would be consistent with the planning being completed by the City with the Downtown Specific Plan.

- A site close to existing transit routes and near the Flower Transfer Center is desired as this would minimize any needed changes to the transit system to coordinate service with the new site.

- All of the sites provide similar proximity to access from Interstate 10 and to-and-from the City of Indio major festival event locations.

This input is reflected in the Level 2 Evaluation described in this memorandum. A preferred site has been identified as a result of this Level 2 evaluation.

LEVEL 2 EVALUATION (Criteria)

Each of the remaining seven sites shown on Figures 1, 2 and 3 were evaluated based on four following criteria, Functional, Safety, Economic Development Potential and Implementation. Scores were then assigned for each site as described in the next section of this memo. Finally, a summary of that evaluation is shown on Table1.

The following describes the Level 2 Criteria.

Functional

The functional criteria looks more critically at how well the site could provide space for additional modes, such as buses or private shuttles, provide modal separation and mitigate multi-modal conflict. It also considers how easily patrons can connect between the site and other existing origins and destinations.

2.1 Transit access - How much space does the site offer to accommodate local buses and regional buses on site?

This highlights whether bus bays can be included within the site itself. This is measured by the overall area of the site.

2.2 Vehicle access – Level of directness to vehicle access points from major arterial routes?

This measures the level of access and the capacity for vehicle movement in and out of the site. Measured in distance to an arterial route from each site.

2.3 Pedestrian access – Degree of pedestrian access as measured by distance to major employment and retail nodes downtown or along SR-111.

A half mile (approximately a 10-minute walk) is considered to be the typical pedestrian catchment area for transit-oriented development and transit stations. Distance from the potential sites to activities located along SR-111 is measured.

2.4 Does site provide sufficient length for passenger rail platform?

This identifies if the site has sufficient width to be able to accommodate a passenger loading/unloading platform. Measured in width of the site, with a minimum 680 feet needed for the platform.

2.5 How much impact will the site have on existing bus operations?

Even small changes to routes can have large-scale impacts to the overall transit system. With this criterion, the distance from the potential MMH site and the Flower Street transit center is measured.

2.6 Proximity to Interstate 10 – what is the distance for park and ride access?

Some rail passenger riders will come from outside the city of Indio, and many may use Interstate 10 to travel to the MMH. This criterion measures the distance of the MMH from thel-10 Freeway for regional commuters accessing the site.

2.7 Proximity to CV Link - Is the site within 3 miles of the Coachella Valley (CV) Link trail?
This measures the distance from the proposed CV Link alignment to each potential site.

Safety

These criteria measure the degree of safe access for vehicles, pedestrians and bicyclists.

2.8 Location in relation to high collision locations
Is the site located in close proximity to high collision locations? This criterion is measured by the number of collisions on roadway and intersections located adjacent to each potential site.

2.9 Measure of bicycle and pedestrian level of comfort on adjacent and connecting roadways.
Is the site connected to a network or a route that provides good bicycle and pedestrian service? This criterion measures the availability of sidewalk and bicycle facilities connect the potential site to destinations.

Economic Development Potential

These criteria consider how well a new station would be compatible with adjacent land uses and how it might work as a catalyst to future development or neighborhood enhancement around a particular site.

2.10 Would a transit station on the site align with or promote City goals for the site and adjacent area, as identified in existing, adopted plans including the *2009 Indio Boulevard Study* or the on-going Downtown Specific Plan?
This question compares how well potential sites fit into the larger community vision, as recorded in planning documents.

2.11 Does the site offer the potential for a transit center to act as a community gateway?
Transit stations represent a significant investment of public money and can often provide enhanced benefit as a piece of community character and placemaking. If the potential MMH site is located on a major arterial, it is considered to provide a gateway location.

2.12 Would a transit station integrate with adjacent land uses, existing or planned?
A transit station offers many important community benefits, but can also come with increases in traffic, noise, light and other impacts. It is important that the transit station blend with adjacent uses, both in scale and use patterns. If the potential site was located adjacent to commercial or office land uses, it was rated as a positive. If located adjacent to residential land uses, it was rated as a negative. Site compatibility with adjacent industrial and airport land uses were determined to be neutral.

2.13 If the site were developed as a transit station, what is the possible impact on identified environmental justice communities?

Will the site provide service to benefit EJ populations, or will there be disproportionate environmental impacts? While many EJ impacts can be mitigated through layout and design (such as selecting a different routing for vehicles), some very high-level location decisions may be difficult to mitigate. Each site was rated positive, neutral or negative based upon the percentage EJ population located near the potential site.

Implementation

Level 2 criteria focus on hard and soft costs associated with each site, including business relocation and property value.

2.14 What is the likely, (comparative) (order of magnitude) cost of business relocation?

This question ranks (but does not provide a specific dollar figure) likely business relocation costs, based on size, number and type of existing buildings.

2.15 What is the likely, (comparative) (order of magnitude) cost of property acquisition?

This question ranks likely property acquisition costs, using assessor's records.

LEVEL 2 EVALUATION (Scores)

The seven sites were evaluated. Scores were given for each site based on either positive (1 point), neutral (0 points) or negative (negative point). The Level 2 evaluation scores are summarized in Table 1.

Site 13

Summary: Site 13 provides the best functional space for a MMH site of those sites evaluated. The access is good, and the site is close to current transit and to downtown. The site is currently owned by the City and has a parking lot already constructed for use. The site is not close to the CV Link, and access to I-10 is also not direct. Site 13 is the recommended site for the location of the MMH.

Positive

Size of site sufficient width for platform, depth for platform, and contain MMH activities
Would provide a gateway for city
Less impact to bus operations and to the CV Link is the farthest distance than any other alternative site
Site has good vehicular access
Better located for bicycle and pedestrian access
No cost to acquire site or to relocate businesses
Does not impact environmental justice populations
Consistent with downtown plans and economic development

Neutral
Proximity of site to existing collisions

Negative
Access from I-10 is the farthest distance of the sites evaluated.
Longest distance to CV Link

Other Site Evaluations:

Site 1
Summary: Site 1 has sufficient size to accommodate rail and multi-modal services. The site is near I-10 and at Jefferson Street which provides good access for regional travel and for many Indio residents. The site is the farthest from downtown, existing transit routes, and Greyhound. Given the location near I-10, the site has strong commercial development potential and a proposal to develop this site as a commercial node has been presented to the City for review. As such, this site may be difficult to obtain. Given issues related to the availability of the site, distance to existing transit and other activities, and consistency with current plans, this site is not recommended.

Positive
Size of site sufficient width for platform, depth for platform, and contain MMH activities
Would provide a gateway for city

Neutral
Safety – good access, low number of collisions in vicinity

Negative
Not close to downtown, existing transit, CV Link
Cost of property acquisition

Site 3
Summary: Site 3 is a small site that will be difficult to develop in order to accommodate rail and multi-modal services. The site is south of Oleander Ave in a warehouse/service industrial area. The site is not close to downtown, existing transit routes, and Greyhound. There are existing buildings and businesses in operation on the site which would require relocation if this site is developed. This site is in closer proximity to the CV Link and to I-10. Based on the Level 2 evaluation, this site is not recommended.

Positive
Close proximity to CV Link
Close proximity to I-10

Neutral
Compatibility with adjacent land use
Impact to EJ population
Cost of property acquisition

Negative
Requires business relocation
A smaller site, with difficulty providing platform space and space for MMH activities.
Access is not direct, and collision experience higher
Not close to downtown, existing transit

Site 4

Summary: With similar characteristics of Site 3, Site 4 is a small site that will be difficult to develop all of the potential rail and multi-modal services. The site is south of Oleander Ave in a warehouse/service industrial area. The site is not close to downtown, existing transit routes, and Greyhound. There are existing buildings and businesses in operation on the site which would require relocation if this site is developed. This site is in closer proximity to the CV Link and to I-10. Based on the Level 2 evaluation, this site is not recommended.

Positive
Close proximity to CV Link
Close proximity to I-10

Neutral
Compatibility with adjacent land use
Impact to EJ population

Negative
Requires business relocation
A smaller site, with difficulty providing platform space and space for MMH activities
Access is not direct, and collision experience higher
Cost of property acquisition
Not close to downtown, existing transit

Site 5

Summary: Site 5 is also a small site that will be difficult to develop in order to accommodate all of the potential rail and multi-modal services. The site is south of Oleander Ave in a warehouse/service industrial area. The site is not close to downtown, existing transit routes, and Greyhound. There are existing buildings and businesses in operation on the site which would require relocation if this site is developed. This site is in closer proximity to the CV Link and to I-10. Based on the Level 2 evaluation, this site is not recommended.

Positive
Close proximity to CV Link
Close proximity to I-10

Neutral
Compatibility with adjacent land use
Impact to EJ population

Negative
Requires business relocation
A smaller site, with difficulty providing platform space and space for MMH activities.
Access is not direct, and collision experience higher
Cost of property acquisition
Not close to downtown, existing transit

Site 9

Summary: Site 9 is a small site, but there are adjacent vacant parcels that can be combined to make a larger site. The primary site issue is the width of the site is not wide enough for a 680 foot long platform. Located on the north side of the railroad tracks, the site does not provide short distance connections to downtown, current transit routes or Greyhound. The property is undeveloped, and the assessed value is relatively low. Based on the Level 2 evaluation, this site is not recommended.

Positive
Access to the site is adequate
Safety impacts

Neutral
Access to I-10
Compatibility with adjacent land use
Cost of property acquisition

Negative
A smaller site, with difficulty providing platform space and space for MMH activities.
Impact to EJ population
Not close to existing bus operations

Site 15

Summary: This site provides sufficient size and width to support a MMH. The site provides good access to both I-10 and to the CV Link. The access to the site is on a local roadway through an industrial park. The site is located on the north side of the tracks away resulting in some distance to connect to the downtown area or to existing transit

services. There would be an acquisition cost to obtain this site for MMH use. Based on the Level 2 evaluation, this site is not recommended.

Positive
Sufficient size and width
Close proximity to I-10
Safety of access

Neutral
Size and shape of site
Connectivity with CV Link

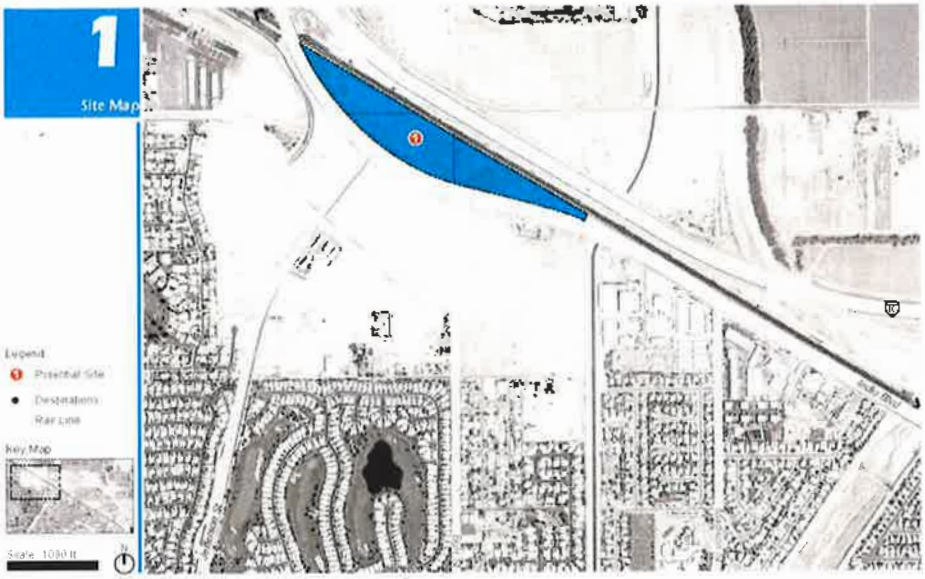
Negative
Site access from local roads in industrial park
On north side of tracks away from downtown and current bus service
Poor pedestrian and bicycle access to site
Cost of property acquisition

Table 1 – Level 2 Evaluation

Second Screen	Unit	Site 1	Site 3	Site 4	Site 5	Site 9	Site 13	Site 15
IONAL								
Amount or space and shape of lot to accommodate local buses and regional buses on site or on adjacent roadways?	Acre							
Level of directness to vehicle access points from major arterial routes?	Miles							
Degree of pedestrian access as measured by distance major employment and retail nodes downtown or along SR-111.	Miles							
Will the site have sufficient length to accommodate the rail siding and platform?	Feet							
Impact to bus operation (distance to existing bus transfer sites)?	Miles							
Is the site located in close proximity for park-and -ride access from I-10.	Miles							
Proximity to CV Link?	Miles							
y								
Location in relation to high collision locations	Collisions							
Measure of bicycle and pedestrian level of comfort.	Sidewalk and connect							
omic Development Potential								
Consistency with existing corridor study or Downtown Specific Plan.	Yes / No							
Potential for site to provide community gateway.	On arterail							
Integration or compatibility with adjacent land uses	Land Use Review							
Impact to environmental justice populations?	% of Disadvantaged Pop							
Preparation								
Cost of business relocation.	Current business (Y/N)							
Cost of property acquisition.	Need to acquire (Y/N)							
Status	**Score**	2	-6	-7	-7	-4	11	3

	Possitive	1
	Neutral	0
	Negative	-1

Figure 1 Potential Site Locations

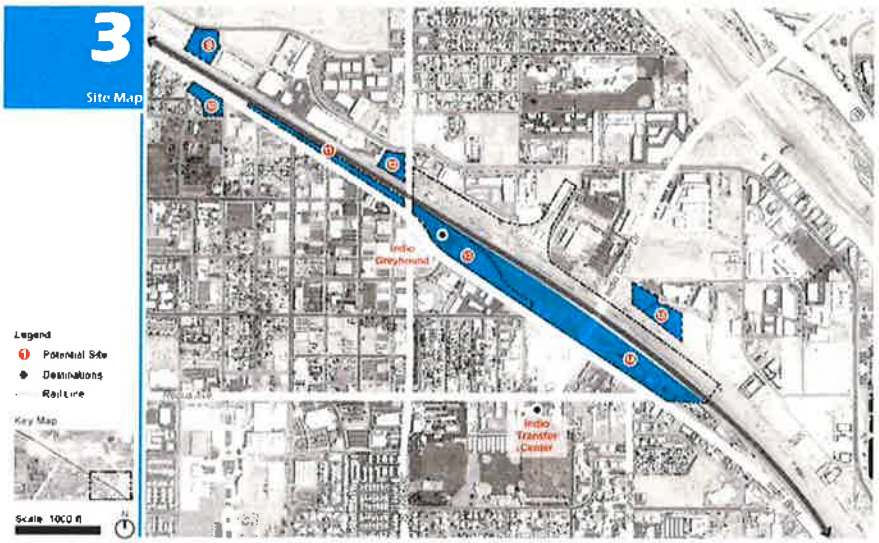


Stantec

Figure 2

Stantec

Figure 3



Stantec

Item 12ci

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: Public Works Department

SUBJECT: Authorize the increase of the construction contingency in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. ST503K, due to delays and additional work outside of the contactor's control, and budget adjustments.

RECOMMENDED MOTION: Approve and authorize the increase of the construction contingency in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, due to delays and additional work outside of the contactor's control, and direct the Finance Director to adjust appropriations and revenue as reflected in Financial Analysis section of this report.

SUMMARY: On June 20, 2018, the City Council awarded a construction contract to Granite Construction Company to widen Madison Street from Avenue 50 to Avenue 52, as well as a 10% contingency. Since that time, delays due to permitting, utility relocations, concurrent construction, and legal issues, have driven up the construction costs. As such, an additional $1,500,000 contingency is necessary to complete the project.

(Continued on the next page)

Prepared By: Tom Rafferty, P.E.
Principal Civil Engineer

FINANCIAL DATA				
	Cost associated with this action:	$1,500,000	In current year budget:	Partial
	Current F.Y. general fund cost:	$187,500	Budget adjustment:	Yes
	Future F.Y. cost:	$0	For fiscal year:	18/19

Source of funds: City Measure X, CVAG, and La Quinta	Current account balance: N/A
Account number: Various	Balance remaining if approved: N/A

Legal Review:	Department Review:	Financial Review:
Roxanne M. Diaz City Attorney	Timothy Wassil, P.E. Public Works Director	Rob Rockwell Assistant City Manager & Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
Approve	Mark Scott

Authorize the increase of the constructio in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. ST503K, due to delays and additional work outside of the contactor's control, and budget adjustments.
May 1, 2019
Page 2

BACKGROUND: The Project will improve Madison Street approximately 300 feet south of Avenue 52 to approximately 800 feet north of Avenue 50; Avenue 52 approximately 480 feet west of Madison Street, and 500 feet east of Madison Street; and Avenue 50 approximately 600 feet west of Madison Street and 550 feet east of Madison Street (see Attachment A "Location Map"). The improvements include:

- Widening Madison Street to a four-lane highway with a two-way center left turn lane.
- Overlaying the existing pavement within the project limits with new asphalt.
- Installing traffic signals at the intersections of Madison Street and Avenue 50 and Avenue 52.
- Constructing sidewalk, access ramps, and other improvements within the right-of-way to meet current access and ADA requirements.
- Installing buffered bike lanes along the pavement and a ten-foot wide multipurpose trail behind the sidewalk on the east side of Madison Street.
- Constructing underground drainage improvements.

The original construction contract for this project was awarded to Granite construction for $6,922,296 at the June 20, 2018, City Council Meeting. A 10% ($692,229.60) construction contingency was also approved as part of the project at that meeting.

Originally, construction was planned to begin July 9, 2018, and to be completed prior to the 2019 music festivals. The start date of July 9, 2018, for the City's Contractor to begin work was chosen to give time to clear the public right-of-way between the time the 2018 music festivals ended in early May, 2018, to when construction needed to start on the City's Project so that it could be finished before the 2019 music festivals were to begin in April, 2019. This would give time for utility companies, such as IID, Spectrum, Frontier, and CVWD, along with private property owners, to remove/relocate existing improvements that were in conflict with the planned improvements before the City's work began. These initial delays resulted in the Notice to Proceed being pushed from July 9, 2018 per the project specifications to July 30, 2018.

In addition to the work that the utility companies were required to do themselves, this project required multiple approvals and permits by a number of utility companies including CVWD, IID, Spectrum, and Frontier for other work to be done during the planned construction by the City's Contractor. Some of these approvals and permits were received later than anticipated which altered the sequence and timing of the Contractor's work.

While the roadwork was occurring, Goldenvoice scheduled their contractor to install sewer connections at three locations in Madison Street, at their own cost. Although it was beneficial to schedule this work before the road being paved, it was not initially planned within the original project schedule. This work also required permitting and negatively impacted the sequencing and timing of the work being performed by the City's Contractor.

Authorize the increase of the constructio in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. ST503K, due to delays and additional work outside of the contactor's control, and budget adjustments.

The majority of the east side of Madison Street, including parkway improvements and driveways, could not be built until the private property owners completed constructing over one mile of retaining wall. Per the project specifications, these improvements were scheduled to be completed in October 2018, making all work on the east side of Madison Street available for the Contractor to construct. However, not all areas of the retaining wall were complete until the end of February 2019. This delay limited the Contractor's access to the work and required re-scheduling and re-sequencing of the project. Private property owners also asked for design changes to the driveways and sidewalk layout during construction. The Contractor could not install driveways until all design changes were resolved.

Sidewalk on the west side of Madison Street was eliminated by the City of La Quinta and they are now proposing decomposed granite (DG). The area was already graded per contract for the sidewalk, so additional grading is necessary to accommodate this change.

Traffic Signal poles were ordered and originally scheduled to arrive on-site in mid-February 2019. Due to manufacturer delays, the poles were not delivered until early April 2019. This did not allow enough time to install the poles prior to the start of the 2019 music festivals.

In addition to delays in the construction coordination, the multiple property owners on the west side of Madison Street in La Quinta are opposed to the work and engaged legal counsel seeking not only changes to the project scope but also filed for a temporary restraining order (which was denied) to stop the work. They recently have filed a complaint against the various parties involved in this project. As a result, substantial work has been added to the project.

These delays became critical, as the entire project could not be completed prior to the start of the 2019 music festivals. It was necessary to have the road paved, striped, and all improvements on the east side of Madison Street completed so that thousands of festivalgoers would not be entering an active construction site.

It needs to be noted, that this is an ongoing construction project that, has been temporarily suspended for the music festivals. Construction will resume on Monday, May 6, 2019. Staff is comfortable that the additional contingency amount requested to complete the project is sufficient and believes that the entire amount requested will not be needed. However, construction work is ongoing and staff is still negotiating costs with the Contractor. It was important to get this item to this City Council Meeting at this time so completion of the project is not delayed.

FINANCIAL ANALYSIS: The City has an existing funding agreement with the Coachella Valley Association of Governments and a pending funding agreement with the City of La Quinta to cover 75% and 12.5% of the project costs, respectively. Amendments to these agreements to consider these additional costs have been discussed with each Agency and will be presented to Indio's City Council for approval at a later date. As such, the extra $1,500,000 results in $187,500 of additional cost to the City of Indio, which is 12.5% of the total additional contingency amount. This $187,500 is budgeted, and is reflected in the Fiscal Year 19/20

Authorize the increase of the constructic in the amount of $1,500,000, and authorize the City Manager to approve contract change orders up to the new contingency amount for the construction contract of the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. ST503K, due to delays and additional work outside of the contactor's control, and budget adjustments.
May 1, 2019
Page 4

Capital Improvement Program, using Measure X funds. Following is the recommended budget adjustment:

Increase appropriations:

300-0000-400-22-25	Construction	$1,312,500

Increase estimated revenue:

300-0000-324-2000	Intergovernmental	$1,312,500

ALTERNATIVES:

No valid alternatives are recommended.

ATTACHMENTS:

A. Location Map

Sources: County of Riverside GIS, 2012; Eagle Aerial, April 2010.

0 500 1,000 1,500 Feet

Attachment A – Location Map

Madison Street Improvement Project
from Avenue 50 to Avenue 52

Albert A. WEBB Associates

Return to Agenda

Open Bookmarks

Item 12cii

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
May 1, 2019

FROM: Public Works Department

SUBJECT: Amendment No. 2 to the Professional Services Agreement with Albert A. Webb and Associates in the amount of $176,000 for construction management and inspection services for the Madison Street Improvement Project from Avenue 50 to Avenue 52, Project No. STS503K, and budget adjustments.

RECOMMENDED MOTION: Approve Amendment No. 2 to the Professional Services Agreement with Albert A. Webb and Associates in the amount of $176,000 for construction management and inspection services for the Madison Street Improvement Project from Avenue 50 to Avenue 52, and direct the Finance Director to adjust appropriations and revenue as reflected in Financial Analysis section of this report.

SUMMARY: On June 20, 2018, the City Council approved Amendment No. 1 to a Professional Services Agreement with Albert A. Webb and Associates (Webb) for $724,355 to include construction support and construction management and inspection services for the Madison Street Improvement Project from Avenue 50 to Avenue 52. Since this time, the construction has experienced considerable delays resulting in additional work. This additional work requires the same level of construction inspection to assure quality of the work and management construction contract.

(Continued on the next page)

Prepared By: Tom Rafferty, P.E.
Principal Civil Engineer

FINANCIAL DATA	Cost associated with this action:	$176,000	In current year budget:	Partial
	Current F.Y. general fund cost:	$22,000	Budget adjustment:	Yes
	Future F.Y. cost:	$0	For fiscal year:	18/19

Source of funds: City Measure X, CVAG, La Quinta	Current account balance: N/A
Account number: Various	Balance remaining if approved: N/A

Legal Review:	Department Review:	Financial Review:
Roxanne M. Diaz City Attorney	Timothy Wassil, P.E. Public Works Director	Rob Rockwell Assistant City Manager & Finance Director

CITY MANAGER'S RECOMMENDATION:	CITY MANAGER'S SIGNATURE:
Approve	Mark Scott

BACKGROUND: Originally, construction was planned to be completed by April 1, 2019. Due to delays in permitting, utility relocations, concurrent construction with adjacent property owners, and legal issues, the construction has been delayed until summer, 2019.

These construction delays have also increased construction management and inspection costs. Delays beyond City and contractor control include utility relocations, which were expected to be completed prior to the City's construction project, were not all completed. Instead, the relocation work was scheduled by the utility companies concurrent with the contract work, which required the contractor to reschedule and re-sequence project activities. In order to keep construction moving, the City's contractor had to complete some of the work.

Additionally, there were delays in concurrent work related to the construction of a one-mile long retaining wall by an adjacent private property owner. The contractor could not construct sidewalks and driveways until this work was completed. Traffic signal poles were originally expected to be delivered mid-February 2019; however, they were actually delivered on site at the beginning of April 2019, due to manufacturer delays.

These delays became critical because the entire project could not be completed prior to the start of the music festivals. However, it was necessary to have the road paved, striped, and all improvements on the east side of Madison Street completed so that hundreds of thousands of festivalgoers would not be entering an active construction site. In order to complete the required improvements prior to the hard deadline, the contractor was forced to re-sequence the schedule, perform additional work, and expedite work activities. This has resulted in additional construction management and inspection costs to complete the project.

FINANCIAL ANALYSIS: The City has an existing funding agreement with the Coachella Valley Association of Governments and a pending funding agreement with the City of La Quinta to cover 75% and 12.5% of the project costs, respectively. Amendments to these agreements to consider these additional costs have been discussed with each Agency and will be presented to Indio's City Council for approval at a later date. As such, the extra $176,000 results in $22,000 of additional cost to the City of Indio. Following is the recommended budget adjustment:

Increase appropriations:		
300-0000-400-22-25	Construction	$154,000
Increased estimated revenue:		
300-0000-324-20-00	Intergovernmental	$154,000

ALTERNATIVES:

No valid alternatives are recommended.

ATTACHMENTS:

A. Project Location Map
B. Amendment No. 2 to the Professional Services Agreement with Albert A. Webb and Associates

Sources: County of Riverside GIS, 2012; Eagle Aerial, April 2010.

0 500 1,000 1,500 Feet

Attachment A – Location Map

Madison Street Improvement Project from Avenue 50 to Avenue 52

Albert A. WEBB Associates

AMENDMENT B

AMENDMENT NO. 2 TO THE PROFESSIONAL SERVICES AGREEMENT BY AND BETWEEN THE CITY OF INDIO AND ALBERT A. WEBB ASSOCIATES FOR MADISON STREET IMPROVEMENTS (AVENUE 50 TO AVENUE 52)

This Amendment No. 2 ("Amendment No. 2") is entered into on this 1st day of May, 2019 by and between the City of Indio, a California municipal corporation ("City"), and Albert A. Webb Associates ("Consultant") and is to that certain professional services agreement by and between the City and Consultant dated February 7, 2018.

RECITALS

A. Consultant currently provides the City with engineering services for the preparation of the Plans, Specifications, and Engineer's Estimate of probable construction costs for the Madison Street Improvements (Avenue 50 to Avenue 52) pursuant to a Professional Services Agreement entered into by the parties dated February 7, 2018, and Amendment No. 1 dated June 20, 2018 ("Agreement").

B. City desires to amend the Agreement to provide for the continuation of services for the Madison Street Improvements (Avenue 50 to Avenue 52) and increase the compensation for those services.

C. Consultant is qualified and agrees to provide the additional services pursuant to the terms of this Amendment No. 2 to the Agreement and City agrees to the amendments contained herein.

NOW, THEREFORE, for good and valuable consideration, the parties agree as follows:

Section 1. Consultant shall provide the City with additional services as is more particularly described in Exhibit A-1 to this Second Amendment ("Additional Services"). The Additional Services shall be provided pursuant to the term of the Agreement.

Section 2. For the Additional Services under this Amendment No. 2, City agrees to compensate Consultant, and Consultant agrees to accept in full satisfaction for said services, the sum of $176,000, as more particularly described in Exhibit B-1 to this Amendment. Said amount shall constitute reimbursement of Consultant's fee for the services as well as the actual cost of any staff time, other direct or indirect costs or fees, including the work of employees, consultants and subcontractors, equipment, materials, and supplies necessary to provide the services (including all labor, materials, delivery, tax, assembly, and installation, as applicable). In no event shall the Consultant be paid more than $1,086,593 during the term of the Agreement for services under the Agreement.

Section 3. Except as specifically amended by this Amendment No. 2, the remaining terms of the Agreement shall remain in full force and effect. In the event of a conflict between the provisions of this Amendment No. 2 and the provisions of the Agreement, the provisions of this Amendment No. 2 shall control.

Return to Agenda

Open Bookmarks

In witness whereof the parties have executed this Amendment No. 2 on the date set forth above.

CITY OF INDIO
A Municipal Corporation

MARK SCOTT
City Manager

ATTEST:

CYNTHIA HERNANDEZ
City Clerk

APPROVED AS TO FORM:

ROXANNE M. DIAZ
City Attorney

CONSULTANT
ALBERT A. WEBB ASSOCIATES

DILESH R. SHETH, P.E./T.E.
Vice-President

Return to Agenda

Open Bookmarks

EXHIBIT A-1

Scope of Services for Additional Work

Return to Agenda

Open Bookmarks

EXHIBIT A-1

SCOPE OF SERVICES FOR ADDITIONAL WORK

Construction Management and Inspection Services

WEBB will provide additional Construction Management, Inspection, and Engineering Support services for the following additional work:

- Driveway improvement on the La Quinta side
- Replacement of driveway pavers
- Repair of sink hole around 24-inch storm drain pipe
- Traffic signal improvements
- Removal of 4:1 taper behind curb and installation of D.G. in the parkway on the La Quinta side
- Surface treatment for striping and pavement marking removal areas
- Giannini property frontage improvements
- Additional striping and pavement markings

1. WEBB's inspectors will monitor the daily construction operations by providing daily labor, equipment and material reports, extra work reports, and disputed work reports.
2. WEBB will schedule ongoing weekly meetings. Attendees will include consultants, contractor, inspector(s), applicable utility companies, geotechnical/materials testing representative, as well as other interested parties. Meetings will consist of a review of contractor problems, scheduling, cost items, etc. Meeting notes shall document all "action items", responsible party to follow up on action items, and a target completion date for the completion of action items. WEBB will prepare and distribute meeting notes to all attendees.
3. WEBB will prepare and process Construction Change Orders (CCO's).
4. Review and verify contractor's monthly progress estimates and payments made therein and prepare progress payments.
5. Coordinate review of contractor's RFIs/RFCs (request for information)/(request for clarification).
6. Monitor the contractor's traffic control and safety provisions.
7. Cooperate with the City and contractor in dealings with the various local agencies and with the utility companies performing work on the project.
8. Maintain orderly project files for correspondence, reports of job conferences, shop drawings and other submittals, reproductions or original contract documents including all addenda, change orders, and additional drawings issued subsequent to the award of contract, inspection reports, test reports, progress reports, and other project-related documents. Provide the City with copies of all correspondence to and from the contractor.

9. WEBB's inspector and the City's oversight representative will prepare a list of incomplete or unsatisfactory items ("punch list") and supply this list to the contractor. Following corrections and completion of the punch list and contractor giving notice to the inspector that the work is ready for inspection, the inspector will inspect the work for final compliance.
10. Perform final contract reconciliation including:
    - Letter recommending acceptance of the project
    - Final contract amount with percentage of change orders with brief explanation of each change order
    - Coordinate approvals of any other affected agencies
11. WEBB will provide an executed Conditional Release Form to the City.
12. WEBB will make a copy of and coordinate transfer of record drawings ("as-builts") to the design engineer who in turn will provide revised Mylars to the City.

Geotechnical Observation and Testing Services

1. Provide observation and geotechnical testing services on a part-time basis for the remainder of the project.
2. Perform laboratory testing which is anticipated to include maximum dry density and optimum moisture content and Hveem density. The actual laboratory test program will be as needed to support the construction process.
3. Prepare a final report documenting results of observation and testing during site improvements.
4. Perform QA/QC laboratory conformance testing to evaluate if aggregate base and asphaltic concrete meets City standards and project requirements.

Survey Staking Services

1. Provide construction staking services for additional work on an as-needed basis for additional work.

Construction Support Services

1. Prepare legal and plats for IID and Spectrum conduits installed within BOR/CVWD right-of-way.
2. Provide assistance to IID and Spectrum to obtain BOR/CVWD easements.
3. Respond to project related questions, address issues, etc. during the course of construction through the construction manager.
4. Prepare detail on an as-needed basis as requested by the contractor.
5. Provide clarifications and/or explanations of the contract documents.

6. Review and provide comments for contractor submittals relating to the technical specifications. WEBB will review the contractor submittals for named sections for compliance with the contract documents and design intent. Reviewed submittals will be returned to the construction administrator, along with associated submittal review forms, for appropriate distribution to the contractor and project team members.
7. Maintain an in house tracking system for tracking and logging submittals and RFIs.
8. Provide responses for contactor RFIs on an as needed basis.

Return to Agenda

Open Bookmarks

EXHIBIT B-1

COMPENSATION FOR ADDITIONAL WORK

Return to Agenda

Open Bookmarks

EXHIBIT B-1

COMPENSATION FOR ADDITIONAL WORK

BUDGET AMENDMENT REQUEST

Construction Management, Engineering Support, and Inspection, Services

Task Description	Principal II	Construction Manager (Senior I)	Associate III	Assistant V	Inspector	Project Coordinator	Total Hours	Labor	Sub consultants	Reimbursable	Total
Construction Management, Engineering Support, and Inspection Services											
A - Construction Stage											
Engineering Support			180				180	$ 29,700			$ 29,700
Construction Management	80	240		120		120	560	$ 85,400			$ 85,400
Inspection (Assume 8 weeks Full Time)		8		8	320	10	346	$ 45,900			$ 45,900
B - Geotechnical Observation and Testing								$ -	$ 15,000		$ 15,000
Total	**80**	**248**	**180**	**128**	**320**	**130**	**1086**	**$ 161,000**		**$ -**	**$ 176,000**

Notes:

1. There shall be no mileage, transportation, travel, per diem, and/or related charges for traveling to and from, or within, the City of Indio.
2. It is the intent of the City of Indio that only actual time spent on Indio's projects shall be charged (i.e. there shall be no minimum times, etc.) It is the understood that it may not be practical to avoid minimums in certain situations. This will be evaluated on a project-by-project basis and will be agreed upon by the City and Consultant. There shall also not be miscellaneous charges such as incidental charges, postage, telephone, prints delivery except if performed by a third party in which case the City will pay cost plus a maximum of 10% surcharge.
3. The maximum markup for any sub-consultants, or related work, shall be 10%.
4. The rates contained within this Agreement shall remain in effect for the term of the Agreement except if otherwise changed by City Council by an amendment to this Agreement or if such wage is controlled by the Prevailing Wage Law (see #5 below). Prevailing wage rates shall only apply to staff performing field work within the City of Indio.
5. Agreement rates for on-site work that is covered under prevailing wage law (such as inspection, surveying, soil technician, ect.) is subject to change based on changes in the State prevailing wage rate for that work classification. Contract rates shall be benchmarked to the State prevailing wage rate in effect at the date of this Agreement. Agreement rates shall be adjusted at the same percentage as the percentage change in the State prevailing wage rate for that work classification. The Consultant shall be responsible and shall notify the Director of Public Works/City Engineer in writing, whenever the State prevailing rate changes, and what the new Agreement rate is for the affected work classification.
6. All work to be performed on a time basis, unless approved otherwise in writing ahead of time between the City of Indio and the Consultant.

Return to Agenda

Open Bookmarks

Item 13a

SUBMITTAL TO THE WATER AUTHORITY AND CITY COUNCIL CITY OF INDIO, CALIFORNIA May 1, 2019

FROM: INDIO WATER AUTHORITY

SUBJECT: Resolution to adopt the 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resource Plan.

RECOMMENDED MOTION: That the City Council/Indio Water Authority Board approve the Joint Resolution adopting the 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resource Plan.

SUMMARY: Indio Water Authority is a member of the Coachella Valley Regional Water Management Group (CVRWMG), which developed the first Coachella Valley Integrated Regional Water Management (IRWM) Plan pursuant to Senate Bill 1672 of the State of California. The original plan was adopted in 2010 and updated in 2014. Passage of Proposition 1, Water Quality, Supply and Infrastructure Improvement Act of 2014 (Assembly Bill 1471) requires that the IRWM Plan be updated to be eligible for funding through the Proposition 1 IRWM Grant Program. As such, CVRWMG members prepared updates to the 2014 IRWM Plan through a stakeholder process that incorporated the 2016 IRWM Plan Standards and 2015 Stormwater Grant Guidelines; the process was funded in part by a $211,982 State grant. It is recommended that the City Council/IWA Board approve the attached resolution adopting the 2018 Plan.

Adekunle Ojo
Principal Management Analyst

FINANCIAL DATA				
	Cost associated with this action:	$ 0	In current year budget:	n/a
	Current F.Y. general fund cost:	$ 0	Budget adjustment:	n/a
	Future FY. cost:	$ 0	For fiscal year:	n/a

Source of funds: n/a Account number: n/a	Current account balance: Balance remaining if approved:

Legal Review:	Department Head Review:	Financial Review:
Roxanne Diaz General Counsel	Gary Lewis Interim General Manager	Brian M. Kinder Manager of Finance and Customer Service

EXECUTIVE DIRECTOR'S/CITY MANAGER'S RECOMMENDATION:	EXECUTIVE DIRECTOR'S/CITY MANAGER'S SIGNATURE:
APPROVE	Mark Scott

BACKGROUND: Water is a key resource for sustaining the economy that allows the Coachella Valley region to thrive. Significant investments in water, sewer, recycled water, and stormwater infrastructure have been made over the past several years to bolster local water reliability for long-term sustainability. Integrated regional water management (IRWM) planning seeks to meet regional planning and investment needs through integration and collaboration of local stakeholders. The IRWM program is a local water resource management approach directed by the California Department of Water Resources (DWR).

Indio Water Authority is a member of the Coachella Valley Regional Water Management Group (CVRWMG), which was formed in September 2008 for the purpose of IRWM planning. The Coachella Valley was approved as an IRWM region by DWR in 2009, making the Coachella Valley Region eligible for state funding through Proposition 84. The CVRWMG is comprised of five public water agencies and one wastewater agency of the Coachella Valley: Coachella Water Authority, Coachella Valley Water District, Desert Water Agency, Indio Water Authority, Mission Springs Water District, and Valley Sanitary District. The CVRWMG is supported by the Planning Partners, a stakeholder platform that plays an advisory role to the Group for IRWM program activities such as the development of the IRWM Plan and grant submittals; the Planning Partners are comprised of interested stakeholders.

The first Coachella Valley IRWM Plan was developed in 2010 and adopted by the City Council/IWA Board on December 7, 2010. The Plan identified regional water resource needs, established regional goals for water management, and identified projects to meet Plan objectives. The Plan was updated in 2013 to comply with Proposition 84 guidelines; on March 19, 2014, the City Council/IWA Board adopted a resolution approving the 2014 Plan. The passage of Proposition 1 in November 2014 similarly requires that the IRWM Plan be updated to be eligible for Proposition 1 IRWM grant funding. In 2017, CVRWMG received a grant from DWR to once again update the 2014 Plan to conform with Proposition 1 Guidelines and also include a stormwater resources plan functional equivalent. The CVRWMG went through an extensive member agency and stakeholder update process, inclusive of several meetings and workshops. The update is now complete and each member agency's governing body is required to adopt the Plan. Agencies must adopt the 2018 IRWM-Stormwater Resource ("IRWM/SWR") Plan to be eligible to receive funding through this grant program. As a result, resolutions are being presented to the governing boards of all 6 member agencies for their adoption. The adoption of a resolution to approve the 2018 IRWM/SWR Plan is not a project for purposes of the the California Environmental Quality Act (CEQA) pursuant to CEQA Section 15378.

Due to the large size of the 2018 IRWM/SWR Plan, a hard copy is available at the Corporate Yard for public review. The Plan is also available for review on the IWA website at www.indiowater.org and the CVRWMG website at www.cvrwmg.org.

FINANCIAL ANALYSIS: There is no fiscal impact to adopt the proposed resolution. The adoption of a resolution approving the 2018 Coachella Valley IRWM/SWR Plan will allow the Indio Water Authority and the City of Indio Public Works Department to request funding through the Proposition 1 IRWM Grant Program, and other State grant programs for water and stormwater.

CVRWMG has been very successful in securing IRWM grant funding; since its establishment, the Group has secured almost $20 million in state grant funding, achieving a 79% success rate with its IRWM implementation grant applications and 93% of IRWM planning grant applications. Details are provided in the table below:

Grant Solicitation Name	Number of Projects Funded	Total Grant Award	Current Status
Proposition 84 Planning Grant	1	$1,000,000	Complete
DAC Outreach Grant	1	$500,000	Complete
Proposition 84 – Round 1	4	$4,000,000	Complete
Proposition 84 – Round 2	8	$5,240,000	Underway
Proposition 84 – Round 3	2	$5,270,636	Underway
Proposition 84 – Round 4	6	$2,361,627	Underway
Proposition 1 Planning Grant	1	$211,982	Complete
Proposition 1 DAC Involvement	3	$1,118,030	Underway
TOTAL	**26**	**$19,702,275**	--

ALTERNATIVES:

1. Request additional information about the Plan.

ATTACHMENT:

A. Resolution
B. Public Hearing Notice
C. Final Review Notice from DWR

Return to Agenda

Open Bookmarks

Attachment A

RESOLUTION NO.

A JOINT RESOLUTION OF THE INDIO WATER AUTHORITY AND THE CITY OF INDIO ADOPTING THE 2018 COACHELLA VALLEY INTEGRATED REGIONAL WATER MANAGEMENT AND STORMWATER RESOURCES PLAN

WHEREAS, water resource planning in the Coachella Valley is of utmost importance to sustain the area's residents, businesses, and agriculture in a desert climate; and

WHEREAS, the mission of the City of Indio/Indio Water Authority includes management of water resources and environmental quality throughout its service area; and

WHEREAS, the City of Indio/Indio Water Authority has participated in the development of the Coachella Valley Integrated Regional Water Management (IRWM) Plan pursuant to Senate Bill 1672 (SB 1672) of the State of California, known as the Integrated Regional Water Management Planning Act of 2002, approved by the Governor on September 20, 2002 to encourage local agencies to work cooperatively to manage local and imported water supplies to improve the quality, quantity, and reliability of regional water resources; and

WHEREAS, Indio Water Authority is a member of the Coachella Valley Regional Water Management Group, which comprises of the five public water agencies and one wastewater district within the Coachella Valley Integrated Water Management Region; and

WHEREAS, in 2010, CVRWMG developed an IRWM Plan for the region, and SB 1672 provides for the acceptance of said IRWM Plan by participants in the region that have the authority to implement the Plan; and

WHEREAS, the City Council/Indio Water Authority Board adopted the IRWM Plan on December 7, 2010 after a public hearing process; and

WHEREAS, in November 2006, California voters passed Proposition 84, the Safe Drinking Water, Water Quality, and Supply, Flood Control, River, and Coastal Protection Bond Act (PRC Section 75001-75130), which required that the IRWM Plan be updated to new guidelines in order to be eligible for Proposition 84 grant funding; and

WHEREAS, CVRWMG members worked collaboratively to make significant changes to the IRWM Plan in 2013 to meet Proposition 84 guidelines, requiring formal approval by the City Council/Indio Water Authority at its joint meeting of March 19, 2014; and

Return to Agenda

Open Bookmarks

WHEREAS, in November 2014, California voters passed Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Assembly Bill 1471), which requires that the IRWM Plan be updated to be eligible for Proposition 1 IRWM grant funding; and

WHEREAS, CVRWMG conducted a stakeholder process to complete the 2018 update of the IRWM Plan to meet Proposition 1 guidelines and submitted the Plan to the California Department of Water Resources on December 24, 2018 for review; and

WHEREAS, consistent with Water Code section 10543, subdivision (b), CVRWMG invited and involved all interested parties in developing the Plan, which was made available for public review; and

WHEREAS, consistent with Water Code section 10543, subdivision (c), each of the individual members of the Coachella Valley Regional Water Management Group will be adopting the IRWM/SWR Plan at a noticed public hearing.

WHEREAS, the Coachella Valley IRWM/SWR Plan is a planning document exempt from CEQA (pursuant to CEQA Guidelines sections 15262, 15306 and 15307).

NOW, THEREFORE, THE INDIO WATER AUTHORITY AND THE CITY OF INDIO DOES RESOLVE AS FOLLOWS:

Section 1. The above recitals, and each of them, are true and correct.

Section 2. The Board of Directors of the Indio Water Authority and the City Council of the City of Indio (referred to herein as "Indio Water Authority") adopts the 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resources Plan and is committed to the continued development and implementation of the objectives of the Plan to help address the critical water related needs of the Coachella Valley.

Section 3. The Indio Water Authority supports and encourages the Coachella Valley Regional Water Management Group to adopt and submit funding proposals to the Department of Water Resources (DWR) to qualify for funding under Proposition 1 IRWM Grant Program, and Indio Water Authority encourages DWR to fully fund Coachella Valley Regional Water Management Group applications that are prepared as a result of the IRWM/SWR Plan.

Section 4. The Indio Water Authority pledges to continue working to develop plans and projects consistent with the IRWM/SWR Plan that address the long- and short-term solutions to the Valley's critical water needs, address regional goals and objectives, and improve the conditions and the quality of life for our communities.

Return to Agenda

Open Bookmarks

Section 5. The General Manager of Indio Water Authority is authorized to execute any additional documents necessary in support of Coachella Valley Regional Water Management Group's grant applications for the Proposition 1 IRWM Grant Program and the Public Works Director is authorized to execute such documents necessary for stormwater grant applications under Proposition 1.

Section 6. The President/Mayor shall sign this resolution and the Secretary/City Clerk shall attest and certify to the passage and adoption thereof.

PASSED, APPROVED AND ADOPTED this 1st day of May 2019, by the following vote:

AYES:
NOES:
ABSENT:

LUPE RAMOS-AMITH
PRESIDENT/MAYOR

ATTEST:

CYNTHIA HERNANDEZ, CMC
AUTHORITY SECRETARY/
CITY CLERK

APPROVED AS TO FORM:

ROXANNE DIAZ
GENERAL COUNSEL/CITY
ATTORNEY

Return to Agenda

Open Bookmarks

Attachment B

CALIFORNIA NEWSPAPER SERVICE BUREAU

DAILY JOURNAL CORPORATION

Mailing Address : 915 E FIRST ST, LOS ANGELES, CA 90012
Telephone (213) 229-5300 / Fax (213) 229-5481
Visit us @ WWW.LEGALADSTORE.COM

MARIA YSIANO
CITY OF INDIO/CITY CLERK
100 CIVIC CENTER MALL
INDIO, CA 92201

CNS 3243049

COPY OF NOTICE

Notice Type: HRG NOTICE OF HEARING

Ad Description IWA - CV IRWM Plan

To the right is a copy of the notice you sent to us for publication in the THE DESERT SUN. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

04/17/2019 , 04/24/2019

An invoice will be sent after the last date of publication. If you prepaid this order in full, you will not receive an invoice.

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the City of Indio/Indio Water Authority, will hold a public hearing on the 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resources Plan Adoption.
SAID PUBLIC HEARING will be held on May 1, 2019 at 5:00 p.m. or thereafter in the Indio Council Chamber, 150 Civic Center Mall, Indio, California. All citizens are invited to present oral or written comments relative to the proposed 2018 Coachella Valley Integrated Regional Water Management and Stormwater Resources Plan Adoption. Any citizen unable to attend may submit written comments to the office of the City Clerk/Authority Secretary prior to the Public Hearing.

DATE: 04/17/2019, 04/24/2019

CITY OF INDIO/INDIO WATER AUTHORITY
/s/

SABDI SANCHEZ, CMC
CITY CLERK ADMINISTRATOR
4/17, 4/24/19
CNS-3243049#
THE DESERT SUN

A0000050363 20

Attachment C

STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY

GAVIN NEWSOM, Governor

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791

SENT VIA EMAIL

April 9, 2019

Mr. Jim Barrett
General Manager
Coachella Valley Water District
Post Office Box 1058
Coachella, California 92236

Subject: Final Review – Coachella Valley IRWM Plan

Dear Mr. Barrett:

This letter transmits the final review of consistency of the Coachella Valley Integrated Regional Water Management (IRWM) Plan (Plan) with the IRWM Planning Act and the related IRWM Plan Standards contained in the 2016 IRWM Program Guidelines (Guidelines). The Department of Water Resources (DWR) finished the draft review of the Plan and determined it to be consistent with the Guidelines. The draft Plan was then posted on DWR's website from February 25 to March 25, 2019 to satisfy the required 30-day public comment period and no comment was received. Therefore, DWR has made the final determination that the Plan is consistent with the Guidelines. The final review is posted on the following link: https://www.water.ca.gov/Work-With-Us/Grants-And-Loans/IRWM-Grant-Programs/Plan-Review-Process.

If you have any questions, please contact Ted Daum at (916) 651-9264 or Theodore.Daum@water.ca.gov.

Sincerely,

Carmel Brown, P.E. Chief
Financial Assistance Branch
Division of Integrated Regional Water Management

cc: Ms. Terri Vorster
Coachella Valley Water District

Return to Agenda

Open Bookmarks

IRWM Plan Review Form

(Per 2016 Plan Standards)

IRWM Planning Region: Colorado River

Regional Water Management Group: Coachella Valley

IRWM Plan Title: 2018 Coachella Valley Integrated Regional Water Management & Stormwater Resource Plan

RESULT: PLAN IS SUFFICIENT

IRWM Plan Standard	Overall Standard Sufficient (yes/no)
Governance	Yes
Region Description	Yes
Objectives	Yes
Resource Management Strategies	Yes
Integration	Yes
Project Review Process	Yes
Impact and Benefit	Yes
Plan Performance and Monitoring	Yes
Data Management	Yes
Finance	Yes
Technical Analysis	Yes
Relation to Local Water Planning	Yes
Relation to Local Land Use Planning	Yes
Stakeholder Involvement	Yes
Coordination	Yes
Climate Change	Yes

Comments:

Return to Agenda

Open Bookmarks

IRWM PLAN REVIEW FORM

INTRODUCTION

IRWM planning regions must have an IRWM Plan that has been reviewed and deemed consistent with the IRWM Plan Standards by DWR for eligibility to receiving Proposition 1 IRWM Implementation Grant funding. DWR will use this IRWM Plan Standards Review Form, which can be found at the link in Volume 1, Appendix A of the 2016 Guidelines and represented in Table 7 of the Guidelines, to ensure a consistent assessment of whether the 2016 IRWM Guidelines are being addressed in the IRWM Plan. The form contains a checklist for each of the 16 Plan Standards and narrative evaluations where required. The evaluation is pass/fail; there is no numeric scoring. Each Plan Standard is either sufficient or not, based on its associated requirements. Each Standard consists of between one and fifteen requirements. A Yes or No is automatically calculated in each Plan Standard header based on the individual requirement evaluations. In general, a passing score of "C" (i.e. 70% of the requirements for a given Plan Standard) is required for a Standard to pass. Standards with only one or 2 requirements will need one or both of those requirements to pass. Standards with 3 requirements will need at least 2 of the requirements to pass. Standards with 4 or 5 requirements will need at least 3 to pass. Some plan elements are legislated requirements. Such plan elements must be met in order to be considered consistent with plan standards. A summary of the sufficiency of each Standard is automatically calculated on the Standards Summary worksheet. A "No" evaluation indicates that a Standard was not met due to insufficient requirements comprising the Standard. The evaluation for each Plan Standard and any associated insufficiencies is summarized on the Standards Summary page. Additional reviewer comments may be added at the bottom of each standards work sheet.

Note: This review form is meant to be a tool used in conjunction with the 2016 IRWM Guidelines document to assist in the evaluation of IRWM plans. It is not designed to be a substitute for the Guidelines document itself. Reviewers must use the Guidelines in determining plan consistency.

DEFINITION OF TABLE HEADINGS

IRWM Plan Standard: As named in the 2016 IRWM Guidelines.

Overall Standard Sufficient: This field is either "YES" or "NO" and is automatically calculated based on the "Sufficient" column described below. If all fields are "y", the overall standard is deemed sufficient. Any entry other than a "y" in the Sufficient column (i.e. "n", ?, not sure, more detail needed, etc.) results in a NO.

Plan Standard Requirements Which Must Be Addressed: **Fields with a footnote (_) are required by legislation to be included in an IRWM Plan.**

Requirement	Requirements are taken directly from the 2016 IRWM Guidelines.
2016 IRWM Guidelines Source Page(s)	Page(s) in the 2016 IRWM Guidelines which pertain to the Requirement and include the regulatory or other citations where applicable.
Included	Is the Guideline Requirement included in the IRWM Plan? The options are: y = yes, requirement is included in the IRWMP; or n = no, requirement is not included in the IRWMP. If only y or n then presence/absence of the requirement is sufficient for evaluation. If there is a "q" (qualitative) then add a brief narrative, similar to a Grant Application Review public evaluation or supporting information.
Evidence of Plan Sufficiency	
Location of Standard in Grantee IRWM Plan	The page(s) or sections in the IRWM Plan where information on the Requirement can be found. This can be specific paragraphs or entire chapters for more general requirements.
Brief Qualitative Evaluation Narrative	Supporting information for the Requirement if a "q" is in the Included column. This can be just a few sentences or a paragraph and can be taken directly from the IRWM Plan. Comments or supporting information may be entered regardless of whether required.
Sufficient	Is the Guidelines requirement sufficiently represented in the IRWM Plan (y/n).

Open Bookmarks

IRWM Plan Standard: Governance					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
The RWMG and individual project proponents who adopted the Plan"	37	y/n	y	Table 7.1 Section 7.7,		y
A description of the IRWM governance structure including a discussion of whether or how Native American tribes will participate in the RWMG.	37	y/n	y	Section 1.4.2, 1.4.4		y
A description of how the chosen form of governance addresses and insures:						
Public outreach and involvement processes	37	y/n/q	y	Section 7.2.1	The Coachella Valley Regional Water Management Group (CVRWMG) has adopted a stakeholder outreach and involvement approach that increases transparency and nvolvement. All are invited to attend public meetings and workshops. The region's IRWM group developed a ublic Outreach Plan.	y
Effective decision making	37	y/n/q	y	Section 7.2 & 7.3	The decision process outlined in the Plan is based on onsensus of the CVRWMG. Decisions by the CVRWMG are made based on agreement of all parties. A chart that depicts the decision making process for the general public and stakeholder is shown (Figure 7-1).	y
Balanced access and opportunity for participation in the IRWM process	37	y/n/q	y	Section 7.4	Current governance structure allows for the participation of all interested groups to take part in the development and implementation of the Plan. The stakeholders nvolved and invited to the process are presented. All nterested groups and individuals are able to take part in the development of the IRWM plan and attend public meetings and workshops.	y
Effective communication – both internal and external to the IRWM region	37	y/n/q	y	Section 7.4, 7.4.4	The CVRWMG's outreach includes the CVRWMG website, fliers, notices, press releases, on-line project database, and correspondence via e-mail blasts. The CVRWMG ommunicates through phone calls, email, office visits, the CVRWMG website, fliers, notices, press releases, and on-line project database. Outreach to different articipates in the IRWM process is tailored to each roup.	y
Long term implementation of the IRWM Plan	37	y/n/q	y	Section 7.8	The MOU among CVRWMG agencies allows for continued and on-going IRWM coordination efforts	y

Open Bookmarks

IRWM Plan Standard: Governance					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Coordination with neighboring IRWM efforts and State and federal agencies	37	y/n/q	y	Sections 4.4.2 and 10.1, pages 10-1 to 10-6	Section 10.1 describes coordination efforts with organizations and agencies outside of the CV IRWM region by the adjacent IRWM regions. Government agencies participate as Planning Partners and stakeholders. Neighboring IRWM regions are invited to ttend Planning Partners meetings, public meetings, and workshops. Members of neighboring regions are considered members of the Planning Partners.	y
The collaborative process(es) used to establish plan objectives	38	y/n/q	y	Section 6.1.1	The process for developing objectives was influenced by public input through a succession of public workshops and meetings that took place in 2010. Five issue groups ere formed to were created to identify, discuss ad rioritize various water resource issues. The groups eveloped the list of issues that led to the identified objectives.	y
How interim changes and formal changes to the IRWM Plan will be performed	38	y/n/q	y	Section 7.8.1	The Plan will be formally updated every five years or in accordance with DWR's IRWM planning cycle. Formal updates must be based on a stakeholder-driven, consensus based process involving the Planning Partners, Issues Groups, and general public. Formal updates must include a public review period with changes incorporated in accordance with the judgment of the CVRWMG partners. Other processes are in place for interim changes.	y
Updating or amending the IRWM Plan	38	y/n/q	y	Section 7.8.1	Section 7.8.1 outlines protocol of how non-substantive changes, additional information availability by addendum, informal updates and substantive changes, nd formal changes could be made.	y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

Open Bookmarks

IRWM Plan Standard: Region Description					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
If applicable, describe and explain how the plan will help reduce dependence on the Delta supply regionally.	38	y/n	y	Section 6 page 6-3, section 8 (table 8-2) & Section 11		y
Describe watersheds and water systems	38	y/n	y	Section 2.2		y
Describe internal boundaries	38	y/n	y	Section 2.3		y
Describe water supplies and demands for minimum 20 year planning horizon	38	y/n	y	Section 2.4		y
Describe social and cultural makeup,including specific information on DACs and tribal communities in the region and their water challenges.	38	y/n/q	y	Section 2.6, Chapter 4; Chapter 5	Section 2.6 describes social make-up, cultural make-up and diversity, economic profile, disadvantaged communities, and tribes in the region. Chapters 4 and 5 describe water challenges of DACs and Tribal communities respectively.	y
Describe major water related objectives and conflicts (1).	38	y/n/q	y	Section 2.7, Section 6.1.1	Major water conflicts have generally revolved around groundwater recharge and pumping activities and associated assessments.	y
Explain how IRWM regional boundary was determined and why region is an appropriate area for IRWM planning.	38	y/n/q	y	Section 2 & 2.1	The regional boundary was selected because it encompasses the Coachella Valley and allows for the inclusion of all pertinent agencies and stakeholders interested in water management. The boundary selected also shares a common water supply, wastewater, and flood control infrastructure, and the Coachella Valley Groundwater Basin and aquifers are hydrologically distinct with those of the neighboring IRWM regions.	y
Describe neighboring and/or overlapping IRWM efforts	38	y/n	y	Section 10.1.2		y
Explain how opportunitiesare maximized (e.g. people at the table, natural features, infrastructure)for integration of water management activities	38	y/n	y	Section 9.2.2		y
Describe water quality conditions. If the IRWM region has areas of nitrate, arsenic, perchlorate, or hexavalent chromium contamination, the Plan must include a description of location, extent, and impacts of the contamination; actions undertaken to address the contamination, and a description of any additional actions needed to address the contamination (2).	38	y/n	y	Section 2.5 water Quality, Section 3.1.5		y

Open Bookmarks

IRWM Plan Standard: Region Description					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Describe likely Climate Change impacts on their region as determined from the vulnerability assessment.	38	y/n	y	Section 3.2		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10541 (e)(3).
(2) Requirement must be addressed per CWC §10541 (e)(14).

Open Bookmarks

IRWM Plan Standard: Plan Objectives					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Through the objectives or other areas of the plan, the 7 items on pg 49 of GL are addressed **(1)**.	49	y/n	y	Section 6.1.1		y
Describe the collaborative process and tools used to establish objectives: - How the objectives were developed - What information was considered (i.e., water management or local land use plans, etc.) - What groups were involved in the process - How the final decision was made and accepted by the IRWM effort	48 - 50	y/n	y	Section 6.1.2,		y
Identify quantitative or qualitative metrics and measureable objectives: Objectives must be measurable - there must be some metric the IRWM region can use to determine if the objective is being met as the IRWM Plan is implemented. Neither quantitative nor qualitative metrics are considered inherently better **(2)**.	49	y/n/q	y	Section 6.1.3	Table 6-1 summarizes the region's objectives and planning targets. Targets include a measurement column.	y
Explain how objectives are prioritized or reason why the objectives are not prioritized	50	y/n/q	y	Section 6.2, 6.2.1	Through facilitated meetings to discuss project prioritization, the CVRWMG, Planning Partners, and stakeholders determined the regional goals and objectives. The region's participants selected nine objectives as priorities.	y
Reference specific overall goals for the region: RWMGs may choose to use goals as an additional layer for organizing and prioritizing objectives, or they may choose to not use the term at all.	50	y/n	y	Section 6.1. pages 6-1 to 6-6		y
Address adapting to changes in the amount, intensity, timing, quality and variability of runoff and recharge.	39	y/n	y	Section 3.2.3 pages 8-47, 8-50, 9-23		y
Consider the effects of sea level rise (SLR) on water supply conditions and identify suitable adaptation measures.	39	y/n	y	Section 3.2.2		y

Open Bookmarks

IRWM Plan Standard: Plan Objectives					Overall Standard Sufficient	Yes
Requirement		Included			Evidence of Plan Sufficiency	Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.	39	y/n	y	Section 8.5		y
In evaluating different ways to meet IRWM plan objectives, where practical, consider the strategies adopted by CARB in its AB 32 Scoping Plan1.	39	y/n	y	Section 3.2.3, Table 6-1		y
Consider options for carbon sequestration and using renewable energy where such options are integrally tied to supporting IRWM Plan objectives.	39	y/n	y	Section 3.2.3, 6-4, 8-48-49		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10540 (c).
(2) Requirement must be addressed per CWC §10541 (e).

Open Bookmarks

IRWM Plan Standard: Resource Management Strategies (RMS)					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Address which RMS will be implemented in achieving IRWM Plan Objectives (1).	39	y/n	y	Sectio 8.2.2		Y
Identify RMS incorporated in the IRWM Plan: Consider all California Water Plan (CWP)RMS criteria (29) listed in Table 3 from the CWP Update 2013	39	y/n	y	Section 8.5 & Table 8-3		Y
Consideration of climate change effects on the IRWM region must be factored into RMS. Identify and implement, using vulnerability assessments and tools such as those provided in the Climate Change Handbook, RMS and adaptation strategies that address region-specific climate change impacts. • Demonstrate how the effects of climate change on its region are factored into its RMS. • Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions. • An evaluation of RMS and other adaptation strategies and ability of such strategies to eliminate or minimize those vulnerabilities, especially those impacting water infrastructure systems (2).	39	y/n	y	Section 8.5 &Table 8-3		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10540 (e)(1).

(2) Requirement must be addressed per CWC §10540 (e)(10).

Open Bookmarks

IRWM Plan Standard:Integration					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Contains structure and processes for developing and fostering integration[1]: - Stakeholder/institutional - Resource - Project implementation	39	y/n/q	y	Section 8.1 & 9.2.2	The Plan describes the region IRWM integration approach, integration stakeholder/institutional, resource, project, and strategy integration.	y

1. If not included as an individual section use Governance, Project Review Process, and Data Management Standards per 2016 IRWM Guidelines, p. 52.

Open Bookmarks

IRWM Plan Standard: Project Review Process					Overall Standard Sufficient	Yes
Requirement		Included			Evidence of Plan Sufficiency	Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Process for projects included in IRWM plan must address 3 components: - procedures for submitting projects - procedures for reviewing projects - procedures for communicating lists of selected projects	39 - 40	y/n	y	Section 9.2 & 9.3		y
Does the project review process in the plan incorporate the following factors:						
How a project contributes to plan objectives	40	y/n	y	Section 9.2.3,		y
How a project is related to Resource Management Strategies identified in the plan.	40	y/n	y	Section 9.2.3,		y
The technical feasibility of a project.	40	y/n	y	Section 9.2.3		y
A projects specific benefits to a DAC water issue.	40	y/n	y	Section 9.2.3		y
Environmental Justice considerations.	40	y/n	y	Section 9.2.3		y
Project costs and financing	40	y/n	y	Section 9.2.3		y
Address economic feasibility	40	y/n	y	Section 9.2.3		y
Project status	40	y/n	y	Section 9.2.3		y
Strategic implementation of plan and project merit	40	y/n	y	Section 9.2.3		y
Status of the Project Proponent's IRWM plan adoption	40	y/n	y	Section 9.2.3		y
Project's contribution to reducing dependence on Delta supply (for IRWM regions receiving water from the Delta).	40	y/n	y	Section 9, page 9-1 table 9- 2 ; Table 9- 3; & Section 11		y
Project's contribution to climate change adaptation. •Include potential effects of Climate Change on the region and consider if adaptations to the water management system are necessary (1). •Consider the contribution of the project to adapting to identified system vulnerabilities to climate change effects on the region. •Consider changes in the amount, intensity, timing, quality and variability of runoff and recharge. •Consider the effects of SLR on water supply conditions and identify suitable adaptation measures.	40	y/n	y	Section 2.8, (pg. 2-78, 2-80) Section 8.5 (pg 8-47), and Section 9.2.3 (pg 9-23)		y

Open Bookmarks

IRWM Plan Standard: Project Review Process					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
From IRWM 2016 Guidelines	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Contribution of project in reducing GHGs compared to project alternatives. •Consider the contribution of the project in reducing GHG emissions as compared to project alternatives •Consider a project's ability to help the IRWM region reduce GHG emissions as new projects are implemented over the 20-year planning horizon. •Reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.	40	y/n	y	pg. 9-23		y
Specific benefits to critical water issues for Native American tribal communities.	53	y/n	y	Sections 4.3.6, 4.4.3, 5.4, 9.1, 9.2.3		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10540 (e)(10).

Open Bookmarks

IRWM Plan Standard: Impact and Benefit					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Discuss potential impacts and benefits of plan implementation within IRWM region, between regions, with DAC/EJ concerns and Native American Tribal communities	40	y/n	y	Section 11.1		y
State when a more detailed project-specific impact and benefit analysis will occur (prior to any implementation activity)	55	y/n	y	Section 11.1.1-11.1.2		y
Review and update the impacts and benefits section of the plan as part of the normal plan management activities	55 - 56	y/n	y	Section 11.1		y

Open Bookmarks

IRWM Plan Standard: Plan Performance and Monitoring					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Contain performance measures and monitoring methods to ensure that IRWM objectives are met (1).	40	y/n	y	Section 6.1.3; table 6-1		y
Contain a methodology that the RWMG will use to oversee and evaluate implementation of projects.	40	y/n	y	Section 1.4.1, table 6-1		y
Each project in the IRWM Plan is monitored to comply with all applicable rules, laws, and permit requirements.	58	y/n	y	Section 11.4.2		y
Contain policies and procedures that promote adaptive management and, as more effects of Climate Change manifest, new tools are developed, and new information becomes available, adjust IRWM plans accordingly.	40	y/n	y	Section 8-5 (pg 8-50)		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10541 (e)(7).

Open Bookmarks

IRWM Plan Standard: Data Management					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Describe data needs within the IRWM region	59 - 60	y/n	y	Section 11.3.1		y
Describe typical data collection techniques	59 - 60	y/n	y	Section 11.3.2		y
Describe stakeholder contributions of data to a data management system	59 - 60	y/n	y	Section 11.3.3		y
Describe the entity responsible for maintaining data in the data management system	59 - 60	y/n	y	Section 11.3.4		y
Describe the QA/QC measures for data	59 - 60	y/n	y	Section 11.3.5		y
Explain how data collected will be transferred or shared between members of the RWMG and other interested parties throughout the IRWM region, including local, State, and federal agencies **(1)**.	59 - 60	y/n	y	Section 11.3.6 & 11.3.7		y
Explain how the Data Management System supports the RWMG's efforts to share collected data	59 - 60	y/n	y	Section 11.3.6		y
Outline how data saved in the data management system will be distributed and remain compatible with State databases including CEDEN, Water Data Library (WDL), CASGEM, California Environmental Information Catalog (CEIC), and the California Environmental Resources Evaluation System (CERES).	59 - 60	y/n	y	Section 11.3.7		y

(1) Requirement must be addressed per CWC §10541 (e)(12).

Open Bookmarks

IRWM Plan Standard: Finance					Overall Standard Sufficient	Yes
Requirement		Included			Evidence of Plan Sufficiency	Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Include aprogrammatic level (i.e. general) plan for implementation and financing of identified projects and programs (1) including the following:	41	y/n	y	Section 11.5		y
List known, as well as, possible funding sources, programs, and grant opportunities for the development and ongoing funding of the IRWM Plan.	41	y/n	y	Section 11.5.1		y
List the funding mechanisms, including water enterprise funds, rate structures, and private financing options, for projects that implement the IRWM Plan.	41	y/n	y	Section 11.5.1, Table 11-4		y
An explanation of the certainty and longevity of known or potential funding for the IRWM Plan and projects that implement the Plan.	41	y/n	y	Section 11.5.1		y
An explanation of how operation and maintenance (O&M) costs for projects that implement the IRWM Plan would be covered and the certainty of operation and maintenance funding.	41	y/n	y	Section, 11.5.1; 4.4.3		y

(1) Requirement must be addressed per CWC §10541 (e)(8).

Open Bookmarks

IRWM Plan Standard: Technical Analysis					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Document the data and technical analyses that were used in the development of the plan (1).	41	y/n	y	Section 3.3		Y

(1) Requirement must be addressed per CWC §10541 (e)(11).

Open Bookmarks

IRWM Plan Standard: Relation to Local Water Planning					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Identify a list of local water plans used in the IRWM plan	41	y/n	y	Section 10.1, Section 10.2,		Y
Describe the dynamics between the IRWM plan and other planning documents	41	y/n	y	Section 10.2,		Y
Describe how the RWMG will coordinate its water mgmt planning activities	41	y/n	y	Section 10.2		Y
Discuss how the plan relates to these other planning documents and programs. Same as 2012 GL with the following addition: "It should be noted that Water Code § 10562 (b)(7) requires the development of a stormwater resource plan and compliance with these provisions to receive grants for stormwater and dry weather runoff capture projects. Upon development of the stormwater resource plan, the RWMG shall incorporate it into IRWM plan. The IRWM Plan should discuss the processes that it will use to incorporate such plans." Minor wording differences - e.g. Groundwater Sustainability Plan example in the 2016 Guidelines instead of Groundwater Managemenbt Plan in the 2012 Guidelines.	63 - 64	y/n	y	Section 10.2.1		Y
Consider and incorporate water management issues and climate change adaptation and mitigation strategies from local plans into the IRWM Plan.	63 - 64	y/n	y	Section 10.2; 10.2.3		Y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

Open Bookmarks

IRWM Plan Standard: Relation to Local Land Use Planning					Overall Standard Sufficient	Yes
Requirement		Included			Evidence of Plan Sufficiency	Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard In Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Document current relationship between local land use planning, regional water issues, and water management objectives	41	y/n	y	Section 10.3.2, page 10-44		Y
Document future plans to further a collaborative, proactive relationship between land use planners and water managers	41	y/n	y	Section 10.3.2		Y
Demonstrate information sharing and collaboration with regional land use planning in order to manage multiple water demands throughout the state, adapt water management systems to climate change, and potentially offset climate change impacts to water supply in California.	41	y/n	y	Section 10.1.3		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

Open Bookmarks

IRWM Plan Standard: Stakeholder Involvement					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Discuss involvement of DACs and tribal communities in the IRWM planning effort	41 - 42	y/n	y	Sections 2.6, 4.2, 5.1, 5.4.1, 7.2.1, 7.5, 7.6 & 10.1.3		y
Describe decision-making process and roles that stakeholders can occupy	41 - 42	y/n	y	Section 7.2 & 7.3; Figure 7-1		y
Discuss how stakeholders are necessary to address objectives and RMS	41 - 42	y/n	y	Sections 6, 8.3 & 9.2.3,		y
Discuss how a collaborative process will engage a balance in interest groups	41 - 42	y/n	y	Sections 7.1 & 8.1.1,		y
Contain a public process that provides outreach and opportunity to participate in the IRWM plan (1). Per 2016 GL: "Native American tribes – it should be noted that tribes are sovereign nations, and as such coordination with tribes is on a government-to-government basis."	41 - 42	y/n	y	Section 4.1.2, 4.1.3, Section 7.2.1, 7.6		Y
Identify process to involve and facilitate stakeholders during development and implementation of IRWM plan regardless of ability to pay; include description of any barriers to involvement (2). "Stakeholder Involvement" in the 2012 GL is referred to "Native American Tribe and Stakeholder Involvement" in the 2016 GL and Tribes are referred to specifically.	41 - 42	y/n	y	Section 72, 7.3, 7.4		Y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 IRWM Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10541 (g).

(2) Requirement must be addressed per CWC §10541 (h)(2).

Open Bookmarks

IRWM Plan Standard: Coordination					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	
Identify the process to coordinate water management projects and activities of participating local agencies and stakeholders to avoid conflicts and take advantage of efficiencies **(1)**.	42	y/n		Sections 9.2.2, 10.1.1 & 10.1.3 & 10.2		Y
Identify neighboring IRWM efforts and ways to cooperate or coordinate, and a discussion of any ongoing water management conflicts with adjacent IRWM efforts	42	y/n		Section 10.1.2		Y
Identify areas where a state agency or other agencies may be able to assist in communication or cooperation, or implementation of IRWM Plan components, processes, and projects, or where State or federal regulatory decisions are required before implementing the projects.	42	y/n		Section 10.1.3, pages 10-8 to 10-12		Y

(1) Requirement must be addressed per CWC §10541 (e)(13).

Open Bookmarks

IRWM Plan Standard: Climate Change					Overall Standard Sufficient	Yes
Requirement		Included		Evidence of Plan Sufficiency		Sufficient
IRWM 2016 Guidelines Requirement	IRWM 2016 Guidelines Page Number	y/n - Present/Not Present in the IRWM Plan. If y/n/q, qualitative evaluation needed.		Location of Standard in Grantee IRWM Plan	Brief Qualitative Evaluation	y/n
Contain a plan, program, or methodology for further data gathering and analysis of prioritized vulnerabilities.	42 - 44	y/n		Section 8.5		Y
Include climate change as part of the project review process.	42 - 44	y/n		Section 8.5, 9.2.3 & 11.3		Y
Evaluate IRWM region's vulnerabilities to climate change and potential adaptation responses based on vulnerabilities assessment in the DWR Climate Change Handbook for Regional Water Planning (1). Addition in 2016 GL - "At a minimum, the vulnerability evaluation must be equivalent to the vulnerability assessment contained in the Climate Change Handbook for Regional Water Planning, Section 4 and Appendix B."	42 - 44	y/n	y	Section 3.2.2 Table 3-4, pgs. 3-38-43, Section 3.2.3 3-44, Table 3-5, 10.2.3		y
Provide a process that considers GHG emissions when choosing between project alternatives (1). Addition in 2016 GL - "At a minimum, that process must determine a project's ability to help the IRWM region reduce GHG emissions as new projects are implemented over a 20-year planning horizon and consider energy efficiency and reduction of GHG emissions when choosing between project alternatives."	42 - 44	y/n	y	Section 8.5		y
Include a list of prioritized vulnerabilities based on the vulnerability assessment and the IRWM's decision making process. Addition in 2016 GL - "A list of prioritized vulnerabilities which includes a determination regarding the feasibility for the RWMG to address the priority vulnerabilities."	42 - 44	y/n	y	Section 3.2.3, Table 3-5		y
Address adapting to changes in the amount, intensity, timing, quality, and variability of runoff and recharge.	42 - 44	y/n	y	Section 2.8.2, Table 6-1		y
Areas of the State that receive water imported from the Sacramento-San Joaquin River Delta, the area within the Delta, and areas served by coastal aquifers must also consider the effects of sea level rise (SLR) on water supply conditions and identify suitable adaptation measures.	42 - 44	y/n	y	Section 3.2.3, Table 3-5		y

IRWM Plan Standard Requirements for 2016 IRWM Guidelines in Addition to Previously Required 2012 Guideline Requirements. See Appendix H in IRWM 2016 Guidelines.

(1) Requirement must be addressed per CWC §10541 (e)(9).

Return to Agenda

Open Bookmarks

Item 13b

SUBMITTAL TO THE CITY COUNCIL
CITY OF INDIO, CALIFORNIA
Meeting of May 1, 2019

FROM: Community Development Department

SUBJECT: Ordinance Adopting the Garden Fellowship Project Master Plan 18-04-61 and a Resolution adopting a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for a multi-building church campus approximately 55,000 square feet on a 18.5 acre site located north of the I-10 and west of Jefferson Street between Avenue 38 and Avenue 39.

RECOMMENDED MOTION: Adopt the Resolution adopting a Mitigated Negative Declaration and a Mitigation Monitoring and Reporting Program and Introduce and waive full reading of the Ordinance adopting Project Master Plan 18-04-61 for the Garden Fellowship Project and request that the City Clerk read the ordinance by title only.

SUMMARY: The Applicant proposes to develop a master planned, multi-building church campus on an approximately 18.5-acre site to include four (4) buildings and approximately 55,000 square feet of building space (the "Project"). The Project proposes onsite features and amenities inclusive of a worship building, church offices, youth and children's ministries, a bookstore/cafe, an amphitheater, and facilities maintenance building.

Prepared by:
Leila Namvar, Senior Planner

FINANCIAL DATA	**Cost associated with this action:**	N/A	**In current year budget:**	N/A
	Current F.Y. general fund cost:	N/A	**Budget adjustment:**	N/A
	Future F.Y. cost:	N/A	**For fiscal year:**	N/A

Source of funds: N/A Account number: N/A	Current account balance: N/A Balance remaining if approved: N/A

Legal Review:	Department Head Review:	Financial Review:
Roxanne Diaz City Attorney	Kevin Shyder, AICP Community Development Director Kevin	Rob Rockwell Assistant City Manager/ Finance Director

CITY MANAGER'S RECOMMENDATION: Approve	**CITY MANAGER'S SIGNATURE:**

BACKGROUND:
The Project site consists of two parcels totaling approximately 18.5 acres (APN: 691-060-003 & 691- 060-004) located along the westerly side of Jefferson Street between Avenue 38 and Avenue 39 (Attachment A/Vicinity Map). In its current condition, the site contains a palm tree nursery and is therefore mostly undeveloped. The site is bound to the north, south, and west mostly by undeveloped land and agricultural uses and to the east by single-family residences.

PLANNING COMMISSION ACTION:
The Planning Commission held a public hearing on the Project on April 10, 2019. At the conclusion of the hearing, the Planning Commission voted to approve Conditional Use Permit 18-04-1035 and Design Review 18-04-433 and recommended to the City Council approval of Project Master Plan 18-04-61 and adoption of Environmental Assessment 18-04-539.

Surrounding Land Uses:
The following are the current zoning, General Plan Land Use designation and existing uses of properties adjacent to the Project site:

	GENERAL PLAN	ZONING	EXISTING LAND USE
North:	Equestrian Estates (EE)	Equestrian Estates (EE)	Agriculture, Single Family Residence
South:	Equestrian Estates (EE)	Equestrian Estates (EE)	Agriculture
East:	Equestrian Estates (EE)	Equestrian Estates (EE)	Single Family Residences
West:	Equestrian Estates (EE)	Equestrian Estates (EE)	Agriculture, Palm Tree Farm

Project Master Plan 18-04-61 (PMP):

The Garden Fellowship PMP is intended to guide future development of land within the PMP boundary, including the establishment of permitted land uses, design guidelines, setbacks, building heights, and other general development standards and regulations. The PMP is intended to ensure quality development consistent with the goals, objectives and policies of the City of Indio General Plan 2020. In addition, the proposed PMP establishes design guidelines, development regulations, use standards and procedures to guide future project improvements and provide appropriate landscape and architectural themes for the Project

The Garden Fellowship Project Master Plan is designed for construction in two (2) primary development phases with build out over approximately 4-6 years. Construction of Phase 1 is estimated to begin in 2019 with full buildout of the Project completed by 2025 reflects the anticipated construction sequence. Phased development will be accompanied by the orderly extension of circulation and parking facilities, public utilities, and infrastructure in accordance with the final conditions of approval for the Project and the City Engineering Services Division.

The Indio Code of Ordinances seeks to have consistency between zoning classifications and the corresponding General Plan land use designations. The proposed PMP is subject to ordinance approval by the City Council and would create the proper zoning designations and regulations for the site. Therefore, it can be found that the Project is consistent with the Indio Code of Ordinances, in that the proposed development standards meet the requirements for developments in the zone.

Architecture:

The prosed architectural design of the buildings is modern contemporary. The proposed building elevations are detailed and articulated with projections and recesses to avoid long, plain surfaces. The buildings are characterized by different massing, materials and colors utilizes multiple architectural elements to create an attractive and contemporary theme. The proposed facades of the buildings have been broken up with entry towers. In addition, elevations of all proposed buildings have been horizontally divided by stucco, wood siding, and metal steel finishes (on all four sides) with repeated multiple windows and shade structures on front and rear elevations to provide texture, color and additional enhancement. The proposed buildings will be painted desert-muted with bright accents. The building heights will range from 12 feet to 34 feet, with architectural projections up to 43.5 feet, which are consistent with the maximum height allowable within the EE zone.

The Garden Fellowship Project Master Plan contemplates that at buildout the Project will include a total of four (4) buildings and approximately 52,000 square feet of building space. Proposed onsite features and amenities include a worship building, church offices, youth and kid ministries, a bookstore/cafe, an amphitheater, and a

facilities maintenance building. The arrangement of the buildings is intended to center around a court plaza area that will be designed and landscaped to provide a high quality setting to allow for informal gatherings before, during, and after church activities. Parking will be provided on the west of the buildings at a sufficient level and with appropriate circulation and access for the different church and community activities held on the campus. Additional on-site amenities include a kid's playground, open lawn/garden areas, and ponds. Off-site street improvements which will include curb and gutter, sidewalk, and fully landscaped parkways will be constructed on Jefferson Street and Young's Way.

The following table provides a summary of uses and square footages within the Project.

Building	Name	Use	Building SQ.FT.
A	Packing House	Primary worship/assembly venue	19,300
B	Garden Kids	Children's ministries	11,800
C	Mixed Use "POD"	Fellowship hall, youth ministries, church office, cafe/retail	22,600
D	Maintenance	Facilities Maintenance	1,550
Outdoor Area	Amphitheater	Outdoor worship/assembly	
Total			52,300

Parking, Access, and Circulation:
Vehicular access to the site is proposed from Jefferson Street and Young's Way via four entry points. Entries would be constructed with landscaping, entry signage, and pedestrian walkway connections. The vehicular circulation system consists of interior drive aisles that provide access to the parking, loading, and service areas associated with each building. Pedestrian circulation to the Project is provided via sidewalks along Jefferson Street and Young's Way and interior pathways connecting the various on-site facilities.

Section 159.656 of the Indio Municipal Code requires one space for every seven (7) fixed seats and one space for every 35 square feet of remaining floor area. The resulting

estimated parking demand based upon the preliminary parking demand analysis is 820 spaces. The Project provides 853 parking stalls including ADA stalls, which is 33 spaces in excess of the required number of spaces.

A specific parking demand study dated September 24, 2018 and prepared by Urban Crossroads was conducted for the Project. The study at the existing church site observed that the maximum number of parked vehicles on a typical Sunday morning was 258 vehicles. There are 456 seats at the existing location, having a maximum capacity of around 500 seats (Section 159.656 of the Indio Municipal Code requires one space for every 7 fixed seats, with one space for every 35 square feet of remaining floor area). In addition, there are approximately 10 administrative personnel monitoring three different services.

At Project buildout, there are projected to be a maximum 1,800 seats in the new worship center. Of these, 1,344 seats are fixed. The 1,344 fixed seats along with concurrent ancillary activities (classrooms, etc.) would be served by 761 parking spaces, based upon normal activity levels measured at the existing church site in 2018. The additional 456 moveable seats (if fully occupied) could require an additional 258 parking spaces, which results in a total parking demand of around 1,019 spaces. Parking demand at Project buildout is anticipated to be in the range of 820+ (to 1,019 at maximum capacity during special occasions) required parking spaces. If a parking demand overage is found, overflow parking as depicted on the on-site circulation exhibit, as well as parking management strategies (valet & shuttle services) would need to be evaluated and implemented. Therefore, staff finds that through the proposed parking plan together with the condition of an overage parking management plan that sufficient off-street parking is provided to serve each use in accordance to the City's parking standards as outlined in Chapter 159 of the Indio Municipal Code.

Landscape Plan:

The Applicant is proposing desert friendly plant materials that comply with the water conservation requirements of Indio Water Authority. Irrigation for all areas are to optimize water-conserving delivery techniques. The Garden Fellowship landscape overall is intended to give a garden grove experience to the congregation. Long hedge rows of various trees in formal patterns will dominate the overall planting layout with informal groves of trees to compliment. The shrub and groundcover planting design will also alternate between formality and informality. Grass areas will be available for congregation and events and be flow from the hardscape path areas through the buildings. The Jefferson Street frontage will be combinations of tree and shrub planting in a formal pattern and an open informal area on the southwest corner that will enable an open view in to the center of the church complex from the southwest corner. The main signage element for the will be also be located in this area. Along the entire perimeter, rows of trees will wrap the parking and line the north and south streets. The shrub and groundcover planting in these areas will be informal and colorful.

Signage:
Project signage is proposed to be functional, and aesthetically pleasing. The Project proposes to incorporate signage as a design element that compliments the Project architecture, landscape, and site design. In accordance with the City of Indio Sign Code, a comprehensive sign program have been developed to provide uniform standards for all signage required for the development including pylon signs, project monument signs, tenant wall signs, and building address signs. The sign program describes the typical location, size, color, and lettering style of each sign type. The Project includes a pylon sign approximately 80' high. The primary sign for the church will be located approximately in the southeast corner of property along Jefferson Street.

Exterior Lighting:
The applicant is conditioned to provide a photometric plan (lighting plan) for the site as a part of the plan check process to be reviewed and approved by Community Development and Indio Police Departments prior to building permit issuance.

General Plan Consistency:
Pursuant to the City of Indio's General Plan, Policy LU-2.2 states: "*A Project Master Plan (PMP) shall be required for any project within an RPD overlay. Unlike the CSP [Conceptual Specific Plan], which groups together landowners by their geographic location in order to develop a concept plan for an area, the size, shape, and number of parcels/landowners involved in a PMP is decided by the landowners themselves. A single landowner or several working jointly, can prepare and submit a PMP.*" The Applicant has applied for a PMP for the proposed project and is consistent with these requirements.

The Garden Fellowship Project Master Plan proposed project complies with the goals, objectives, and policies of the City's General Plan 2020 ("General Plan"), which lists as an objective for the City to promote employment opportunities at all levels of ability and expertise. Policy ED-1.2 states: the community shall strive diversify its local business makeup so that is avoids dependence on one segment of the local economy to provide employment, revenue, and retail outlets for the citizenry. While the primary purpose of the Project is for a place of worship, the Project will also include community uses such as religious study classes, youth programs along with a bookstore/cafe, an amphitheater, and facilities maintenance building. Accordingly, the Project as proposed will offer some new employment opportunities due to the various services associated with the Project. Also, as stated above the Project will provide community related services for the neighborhood and surrounding communities. In addition, the Project will not interfere with other uses within its vicinity.

Moreover, the General Plan Policy LU-1.2, Nonresidential Land Uses Allowed in all Residential Denigrations, states: "*Certain nonresidential land uses are considered to be*

compatible with residential uses and maybe allowed in any residential district. The City's zoning code may require additional review for some land uses to insure that they are properly designed and will be compatible with existing or planned land sues." Such allowed uses include a place of worship.

Based on the preceding staff find that the Garden Fellowship Project Master Plan complies with the goals, objectives, and policies of the City's General Plan.

Zoning Consistency:

The Project will develop a large vacant property to be utilized as a place of worship that will provide services to the community including but not limited to religious study classes, youth programs, community outreach, food giveaway, marriage counseling, and other programs. These services are suitable for the location. In addition, the objectives of Title XV of the Indio Municipal Code include fostering a harmonious, convenient, workable relationship among land uses. The Garden Fellowship Project Master Plan is aligned with these objectives, since it does not interfere with other uses such as residential and educational uses within the vicinity. Moreover, Indio Municipal Code Section 159.097(A), allows places of worship in the Equestrian Estates (EE) district pursuant to a conditional use permit ("CUP"). Therefore, the Applicant has applied for and was granted a CUP for the proposed use (church complex). Thus, the Garden Fellowship Project Master Plan complies with the objectives of Title XV and the purpose of the Equestrian Estates (EE) district in which the site is located.

CEQA REVIEW:

The Project, including the entitlements requested for the Project, are subject to the requirements of the California Environmental Quality Act (CEQA). Pursuant to the CEQA Guidelines, an Initial Study has been prepared for the Garden Fellowship project to analyze the environmental impacts of the Project. As a result, no substantial adverse impacts were found that could not be mitigated to a level of less than significant. Therefore, the City prepared a Mitigated Negative Declaration (MND) containing an evaluation of potential environmental impacts associated with the Project and appropriate mitigation measures for each potential impact. All mitigation measures identified in the Mitigated Negative Declaration ae identified in a Mitigation Monitoring and Reporting Program (MMRP) to ensure that implementation occurs.

The MND will apply to all subsequent implementing entitlements proposed within the Garden Fellowship PMP. All future development projects for the Project site will be reviewed with the PMP and the MND to determine whether additional environmental documentation must be prepared pursuant to CEQA Guidelines.

The City circulated the Initial Study/Mitigated negative Declaration for public comments from February 13, 2019 to March 7, 2019.

Pursuant to the State CEQA Guidelines and the City of Indio CEQA Implementation Requirements, the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program is consistent with the California Government Code, the Indio Code of Ordinances, compatible with the present and future logical growth of the area, and generally protects and promotes the public health, safety and welfare. Therefore, the Planning Commission recommends that the City Council adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (Environmental Assessment 18-04-539) for the Project, including the Garden Fellowship Project Master Plan.

AIRPORT LAND USE COMMISSION REVIEW (ALUC):
The Garden Fellowship PMP is located within the influence area of the Bermuda Dunes Airport and Airport Compatibility Zone E. The Zone E designation is considered the least restrictive land use zone in regards to prohibited uses and height restrictions and the land use restrictions associated with it are outlined in the 2004 Riverside County Airport Land Use Compatibility Plan. Airport Land Use Commission (ALUC) review is required when a project is located within an Airport Influence Area and a local jurisdiction processes a legislative action such as a General Plan Amendment, Conditional Use Permit, or Specific Plan/ Project Master Plan. On April 26, 2018 the ALUC reviewed the PMP and associated entitlements and issued a finding of consistency for the Project and the associated entitlements.

CONCLUSION:
Staff recommends the City Council adopt the Ordinance approving the Garden Fellowship PMP. As stated above, the Indio Code of Ordinances seeks to have consistency between zoning classifications and the corresponding General Plan land use designations. The Project will not significantly change the approved land uses and the development regulations that have been envisioned for this site within the City's General Plan 2020 and/or City's Municipal Code of Equestrian Estates (EE).

ALTERNATIVES:

1. Reject Planning Commission's decision and not introduce the Ordinance or adopt the Resolution Project.
2. Continue the request pending the submission of additional information.

ATTACHMENT:

A. Vicinity and Project Location Map
B. City Council Resolution – Adopting Environmental Assessment (EA 18-04-539)
C. City Council Ordinance – Adopting Project Master Plan (PMP 16-1-57)
D. Initial Study

E. Project Master Plan
F. Planning Commission Staff Report of April 10, 2019

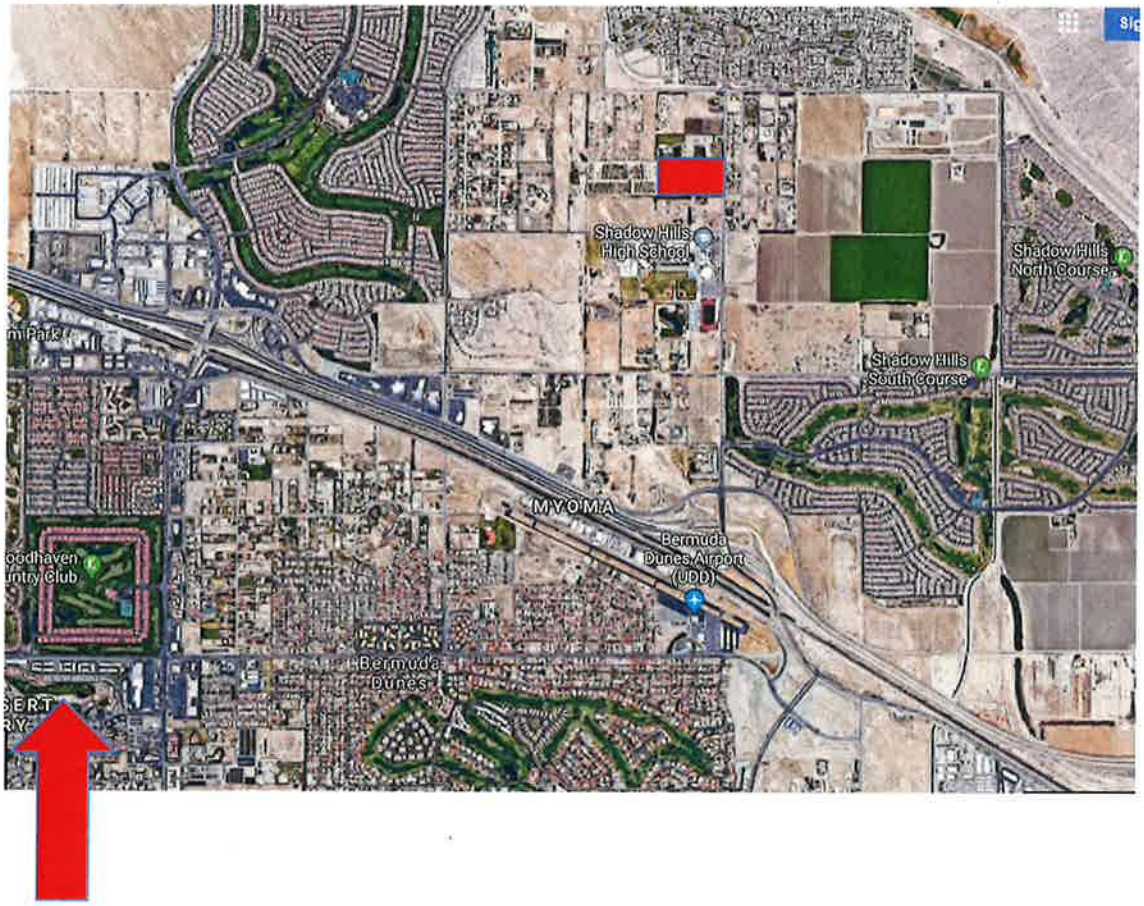
Attachment A

Vicinity and Project Location Map

Return to Agenda

Open Bookmarks

Vicinity Map



Project Location Map

Attachment B

Resolution of City Council Adopting the Mitigated Negative Declaration and Mitigation Monitoring Report

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION MONITORING AND REPORTING PROGRAM FOR THE GARDEN FELLOWSHIP PROJECT (ENVIRONMENTAL ASSESSMENT 18-04-539) TO BE LOCATED NORTH OF I-10, LOCATED WEST OF JEFFERSON STREET, BETWEEN AVENUE 38 AND AVENUE 39 (APNS: 691-060-003 AND 691-060-004)

WHEREAS, on April 13, 2018, Garden Fellowship, Inc. (the "Applicant") applied for Environmental Assessment 18-04-539, an Ordinance approving Project Master Plan 18-04-61, known as the Garden Fellowship Project Master Plan, Conditional Use Permit 18-04-1035 and Design Review 18-04-433 to develop and construct a multi-building church campus on an approximately 18.5-acre site to include four (4) buildings and approximately 55,000 square feet of building space and associated parking ("Project" or "Garden Fellowship Project"). The City, in its capacity as the Lead Agency for the Project, has caused the preparation of an Initial Study pursuant to the provisions contained in the California Environmental Quality Act (CEQA), the Guidelines for Implementation of CEQA (State CEQA Guidelines) and the City of Indio CEQA Implementation Requirements; and,

WHEREAS, the Initial Study concluded that although the Garden Fellowship Project could have a significant effect on the environment, the potentially significant effects are avoided because revisions in the Project were made or agreed to by the Applicant; therefore, a mitigated negative declaration and mitigation monitoring and reporting program were prepared for the Garden Fellowship Project; and,

Whereas, a notice of intent to adopt the mitigated negative declaration and to hold the public hearing was published in the Desert Sun newspaper on Saturday, March 30, 2019. All property owners within 300 feet of the subject site were mailed a notice of public hearing on Friday, March 29, 2019; and,

WHEREAS, on April 10, 2019, the Planning Commission of the City of Indio conducted a duly advertised public hearing to consider the Garden Fellowship Project, including the mitigated negative declaration and mitigation monitoring and reporting program and after closing the public hearing adopted Resolution 1891 recommending that the City Council adopt the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (EA 18-04-539) for the Garden Fellowship project; and

WHEREAS, on May 1, 2019, the City Council conducted a duly noticed public hearing on the Project including the Mitigated Negative Declaration and Mitigation

Monitoring and Reporting Program, and received and considered the staff report and all the information, evidence, and testimony presented in connection with the Project;

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, DOES HEREBY FIND, DETERMINE AND RESOLVES AS FOLLOWS:

Section 1. The City Council hereby specifically finds that all of the facts set forth in the recitals of this Resolution are true and correct, are incorporated into this Resolution by this reference and constitute a material part of this Resolution.

Section 2. The City Council has independently reviewed the Initial Study, Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program and comments received during the public review period and, based on the whole record before the City Council, finds that the Initial Study, Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program were completed in compliance with the provisions of CEQA and the CEQA Guidelines promulgated pursuant thereto, and the City's CEQA Implementation Requirements, and is legally adequate. The City Council further finds that this finding reflects the independent judgment and analysis of the City Council.

Section 3. The City Council finds, on the basis of the whole record before it, that there is no substantial evidence that the Project will have a significant effect on the environment. Feasible mitigation measures have been incorporated into the Garden Fellowship project that reduce potential impacts to a less than significant level.

Section 4. The City Council has also reviewed and considered the Mitigation Monitoring and Reporting Program for the Project that has been prepared pursuant to the requirements of Public Resources Code Section 21081.6 and finds that the Program is designed to ensure compliance with the mitigation measures during Project implementation.

Section 5. Therefore, based on all of the evidence in the record, the City Council of the City of Indio hereby approves the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (EA 18-04-539), attached hereto as Exhibit A and incorporated herein by this reference, for the Garden Fellowship Project.

Section 6. The City Council designates the custodian of the documents for the Initial Study, Mitigated Negative Declaration, and Mitigation Measures all other materials which constitute the record of proceedings upon which the City Council's decision is based, to be the Community Development Department of the City of Indio. Those documents are available for public review in the Community Development Department (Planning Division) of the City of Indio located at 100 Civic Center Mall, Indio, California 92201, telephone number: (760) 541-4258.

Section 7. The City Clerk shall certify to the adoption of this Resolution.

PASSED, **APPROVED** and **ADOPTED** this 1st day of May, 2019.

LUPE RAMOS AMITH, MAYOR
CITY OF INDIO

AYES:
NOES:
ABSTAIN:
ABSENT

ATTEST:

CYNTHIA HERNANDEZ, CMC
CITY CLERK

APPROVED AS TO FORM:

ROXANNE DIAZ
CITY ATTORNEY

Exhibit A

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

The Final Initial Study-Mitigated Negative Declaration identifies the mitigation measures that will be implemented to reduce the impacts associated with Garden Fellowship Project. The California Environmental Quality Act (CEQA) was amended in 1989 to add Section 21081.6, which requires a public agency to adopt a monitoring and reporting program for assessing and ensuring compliance with any required mitigation measures applied to proposed development. As stated in Section 21081.6 of the Public Resources Code:

> *... the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment*.

Section 21081.6 also provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined as part of adopting a mitigated negative declaration.

The mitigation monitoring table lists those mitigation measures included as conditions of approval for the project. To ensure that the mitigation measures are properly implemented, a monitoring program has been devised which identifies the timing and responsibility for monitoring each measure. The City of Indio as the lead agency will be primarily responsible for monitoring and reporting the implementation of the mitigation measures.

Open Bookmarks

Garden Fellowship Project-Mitigated Negative Declaration Mitigation Monitoring and Reporting Plan						
Mitigation Measure		**Responsible for Monitoring**	**Monitoring Action**	**Implementation Schedule**	**Verification of Completion**	
					Check Box	**Date**
Cultural Resources						
MM CR-2	Further recommendations regarding the final treatment of Site 33-028201 will be formulated and presented on the basis of the results of the testing and evaluation program. treatment, the area of discovery will be protected from disturbance while qualified paleontologists and appropriate officials, in consultation with a recognized museum repository (e.g., the San Diego Natural History Museum or the University of California Museum of Paleontology), determine an appropriate treatment plan.	Project Archaeologist, Planning Department	Report of Phase 2 survey results delivered to City Planning Department	Prior to ground disturbing activities.		

Attachment C

City Council Ordinance Adopting Project Master Plan 18-04-61

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF INDIO, CALIFORNIA, ADOPTING OF THE GARDEN FELLOWSHIP PROJECT MASTER PLAN 18-04-61 TO PROVIDE A COMPREHENSIVE DEVELOPMENT PLAN, ALLOWABLE USES, DEVELOPMENT STANDARDS, AND A PHASING PLAN FOR CONSTRUCTION OF A MULTI-BUILDING CHURCH CAMPUS ON AN 18.5-ACRE SITE TO BE LOCATED NORTH OF I-10, LOCATED WEST OF JEFFERSON STREET, BETWEEN AVENUE 38 AND AVENUE 39 (APNS: 691-060-003 AND 691-060-004)

WHEREAS, on April 13, 2018, Garden Fellowship, Inc. (the "Applicant") applied for Project Master Plan ("PMP") 18-04-61 ("Garden Fellowship Project Master Plan") to guide future development of land within the PMP boundary, including the establishment of permitted land uses, design guidelines, setbacks, building heights, and other general development standards and regulations. The PMP is intended to ensure quality development consistent with the goals, objectives and policies of the City of Indio General Plan 2020. In addition, the proposed PMP establishes design guidelines, development regulations, use standards and procedures to guide future project improvements and provide appropriate landscape and architectural themes for the proposed multi-building church campus on an approximately 18.5-acre site to include four (4) buildings and approximately 55,000 square feet of building space and associated parking ("Project"); and

WHEREAS, the Garden Fellowship Project Master Plan is designed for construction of the Project in two (2) primary development phases with build out over approximately 4-6 years. Construction of Phase 1 is estimated to begin in 2019 with full buildout of the Project completed by 2025; and,

WHEREAS, on April 10, 2019, the Planning Commission of the City of Indio conducted a duly advertised public hearing to consider the Project and associated entitlements, including the mitigated negative declaration and mitigation monitoring and reporting program and after closing the public hearing adopted Resolution 1892 recommending that the City Council adopt Project Master Plan 18-04-61; and

WHEREAS, on May 1, 2019, the City Council conducted a duly noticed public hearing on the Garden Fellowship Project Master Plan and received and considered the staff report and all the information, evidence, and testimony presented in connection with this application.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INDIO DOES ORDAIN AS FOLLOWS:

Section 1. The City Council hereby specifically finds that all of the facts set forth in the recitals of this Ordinance are true and correct.

Section 2. Based upon the evidence presented at the hearing, including the staff report, the Council City hereby finds as follows:

A. The Indio Code of Ordinances seeks to have consistency between zoning classifications and the corresponding General Plan land use designations. Project Master Plan 18-04-61 is subject to ordinance approval by the City Council and would create the proper zoning designations and regulations for the site. The proposed Garden Fellowship Project Master Plan implements the Indio General Plan by bringing detailed policies and regulations together into a focused development plan for the proposed Project. It serves as a link between the Indio General Plan and subsequent development proposed within the Project Master Plan area. The Garden Fellowship Project Master Plan is a regulatory document which, when adopted by the Indio City Council, will govern all facets of project development including the distribution of land uses, location and sizing of supportive infrastructure, as well as development standards and regulations. Therefore, City Council finds that the Garden Fellowship Project Master Plan is consistent with the Indio Code of Ordinances, in that the proposed development standards meet the requirements for developments in the zone.

B. Indio's General Plan Policy LU-2.2 states: "A Project Master Plan (PMP) shall be required for any project within an RPD overlay. Unlike the CSP [Conceptual Specific Plan], which groups together landowners by their geographic location in order to develop a concept plan for an area, the size, shape, and number of parcels/landowners involved in a PMP is decided by the landowners themselves. A single landowner or several working jointly, can prepare and submit a PMP." The Applicant has applied for a PMP for the proposed Project and therefore is consistent with these requirements.

The Garden Fellowship Project Master Plan complies with the goals, objectives, and policies of the City's General Plan 2020 ("General Plan"), which lists as an objective for the City to promote employment opportunities at all levels of ability and expertise. . Policy ED-1.2 states: the community shall strive diversify its local business makeup so that is avoids dependence on one segment of the local economy to provide employment, revenue, and retail outlets for the citizenry. While the primary purpose of the Project is for a place of worship, the Project will also include community uses such as religious study classes, youth programs along with a bookstore/cafe, an amphitheater, and facilities maintenance building. Accordingly, the Project as proposed will offer some new employment opportunities due to the various services associated

with the Project. As stated above, the Project will provide community related services for the neighborhood and surrounding communities. In addition, the Project will not interfere with other uses within its vicinity.

Moreover, the General Plan Policy LU-1.2, Nonresidential Land Uses Allowed in all Residential Designations, states: "Certain nonresidential land uses are considered to be compatible with residential uses and maybe allowed in any residential district. The City's zoning code may require additional review for some land uses to insure that they are properly designed and will be compatible with existing or planned land sues." Such allowed uses include a place of worship.

Therefore, the City Council finds that the Garden Fellowship Project Master Plan complies with the goals, objectives, and policies of the City's General Plan.

Section 3. Based on the foregoing findings, the City Council approves Project Master Plan 18-04-61, known as the Garden Fellowship Project Master Plan, in the form on file with the Community Development Department and is incorporated herein by this reference as if set forth in full.

Section 4. Pursuant to the requirements of the California Environmental Quality Act (CEQA), an Initial Study was prepared for the Project, including the Garden Fellowship Project Master Plan, and no substantial adverse impacts were found that could not be mitigated to a level of less than significant. Therefore, a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program were prepared. On May 1, 2019 by Resolution No._____, the City Council approved and adopted the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Project, including the Garden Fellowship Project Master Plan.

Section 5. In the event of any court action or proceeding challenging the approval of this ordinance or otherwise challenging the Project, or the environmental review conducted in conjunction with this Project, the Applicant shall defend, at its own expense, the action or proceeding. In addition, the Applicant shall reimburse the City for the City's cost of defending any such court action or proceeding. The Applicant shall also pay any award of costs, expenses and fees that the court having jurisdiction over such challenge makes in favor of any challenger and against the City. The Applicant shall cooperate with the City in any such defense as the City may reasonably request and may not resolve such challenge without the agreement of the City. In the event the Applicant fails or refuses to reimburse the City for its cost to defend any challenge to the approval of the Project, or the environmental review conducted in conjunction with this Project, the City shall have the right, among other remedies, to repeal this Ordinance and/or any other Project land use entitlement. In order to ensure compliance with this condition, within twenty (20) days after notification by the City of the filing of any claim, action or proceeding to attack, set aside, void or annul the approval of this

conditional use permit or the Project, the Applicant shall deposit with the City cash or other security in the amount of ten thousand dollars ($10,000), satisfactory in form to the City Attorney, guaranteeing indemnification or reimbursement to the City of all costs related to any action triggering the obligations of this Section. If the City is required to draw on that cash or security to indemnify or reimburse itself for such costs, the Applicant shall restore the deposit to its original amount within thirty (30) days after notice from the City. Additionally, if at any time the City Attorney determines that an additional deposit is necessary to secure the obligations of this section, the Applicant shall provide such additional security within thirty (30) days of notice from the City Attorney. The City shall promptly notify the Applicant of any claim, action or proceeding within the scope of this condition.

Section 6. The City Clerk shall certify to the adoption of this Ordinance and shall cause the same to be published or posted in the manner prescribed by law.

Section 7. This Ordinance shall go into effect and be in full force and thirty days after its final passage.

PASSED, APPROVED, and ADOPTED this 15th day of May 2019, by the following vote:

LUPE RAMOS AMITH, MAYOR

AYES:
NOES:
ABSTAIN:
ABSENT

ATTEST:

CYNTHIA HERNANDEZ, CMC
CITY CLERK

APPROVED AS TO FORM:

ROXANNE DIAZ
CITY ATTORNEY

Attachment D

Initial study

Return to Agenda

Open Bookmarks

City of Indio
Community Development Department
100 Civic Center Mall
Indio CA 92202
(760) 391-4120
(760) 391-4027

Environmental Initial Study

Project Title:	Garden Fellowship
Case No:	Environmental Assessment Project Master Plan (PMP 18-04-61) Design Review (DR 18-04-433) Conditional Use Permit (CUP 15-04-1035)
Lead Agency Name and Address:	City of Indio Community Development Department 100 Civic Center Mall P.O. Drawer 1788 Indio, CA 92202
Property Owner/ Developer:	The Garden Fellowship, LLC c/o Dave McCoy 79-733 Country Club Drive, Suite 200, Bermuda Dunes, CA 92203
Applicant:	The Garden Fellowship, LLC c/o Dave McCoy 79-733 Country Club Drive, Suite 200, Bermuda Dunes, CA 92203
Engineer:	MSA Consulting, Inc. 34200 Bob Hope Drive, Rancho Mirage, CA 92270 (760) 320-9811
Contact Person and Phone Number:	Leila Namvar, Assistant Planner Community Development Department 760-391-4120
Project Location:	Southwest Corner of Young's Way & Jefferson Street, Indio APN's: 691-060-003, 691-030-004
Existing Zoning:	Existing – Equestrian Estates District (EE) Proposed – Project Master Plan (PMP)
General Plan Designations:	Existing – Equestrian Estates (EE) Proposed – Project Master Plan (PMP)

Project Description:

The proposed Garden Fellowship project is approximately 18.5 acres of disturbed land situated at the southwest corner of Young's Way and Jefferson Street. The property can be identified as Assessor's Parcel Numbers (APNs) 691-060-003 and 691-060-004 within Section 5, Township 5 South, Range 7 East, San Bernardino Base and Meridian. The project site has historically operated as a tree nursery with designated areas for tree production, vehicle and equipment staging, material stockpiling, processing, and one mobile home structure. No permanent buildings, paving, or hardscape improvements are present on-site. The property perimeter is visually distinguished by a combination of fencing and rows of ornamental trees with heights varying between 20 and 30 feet. A 6-foot chain-link fence with a green fabric and dense tree lines visually screen the Jefferson Street frontage.

North of the project, properties include agriculture and isolated single-family residences, separated from the project site by the Youngs Way right-of-way. The east side of Jefferson Street is developed with contiguous single-family residences. West of the project, parcels are utilized for tree production with similar conditions to those found on the proposed site. South of the project, the east half remains undeveloped, while the west half includes equestrian facilities and a single-family residence. Rows of tamarisk trees planted along the shared property line create a dense visual screen between this parcel and the west half of the project. From the project site, visibility of the Indio Hills to the northwest, north, and northeast is largely obstructed by existing tree lines on-site and on neighboring properties.

The project site falls within the influence area of the Bermuda Dunes Airport (Compatibility Zone E) and is therefore subject to review by the Riverside County Airport Land Use Commission. Zone E is the least restrictive of the zoning areas and provides no maximum densities or intensities. Proposed land uses within this zone that do not require a General Plan Amendment, Change of Zone, or Specific Plan Amendment, and do not have unusual height or height variances are eligible for administrative review and approval by the ALUC Director. The Riverside County ALUC issued a finding of Consistency with the 2004 Bermuda Dunes Airport Land Use Compatibility Plan on April 26, 2018.

The project proposes to develop the entire site into a multi-building church campus with a total of four buildings (A-D), an outdoor amphitheater, rolling lawns, event space, and parking facilities. The first building (Building A), referred to as the Packing House will serve as the structure for primary worship. This 19,264 square foot building will have an auditorium with a maximum of 1,800 seats, and a 1,207 sf. stage with additional space for storage, restrooms, dressing rooms and office space. Building B is the children's "Garden Kids" and is northeast of the main worship building. This 11,804 sf. building is intended for younger children from infants to 4th grade. There are 22 rooms, two- large group rooms, a 1,037 sf. indoor playground, restrooms and storage space. Building C is a proposed 2-story building labeled as "POD". This multi-purpose building includes staff offices, open work space, a 1,760 sf. café/bookstore, a fellowship hall, and space for youth ministries.

The projects land use is designed as Equestrian Estates (EE) by the City's General Plan and Zoning. Churches and places of worship are an allowed use under this zoning with a Conditional Use Permit (CUP). Entitlements for the project include a CUP, Design Review (DR) for the architecture and landscaping components, and a Project Master Plan (PMP) to guide the site design, permitted land uses, and phased construction.

Development of the project is proposed in three phases. The north half of the parking lot, maintenance building (Building D), retention, and the worship building (Building A) will be developed in the first phase. The northeast and south-central portion of the project property will be developed in the second phase. These areas include the "Garden Kids" building (Building B), the northeast parking area, and the emergency access drive aisle and a portion of the southern parking area. The remaining parking area, west of Phase 2, "POD" multi-use building (Building C), amphitheater, lawns and event lawn will be developed as part of Phase 3.

The western portion of the project property is primarily allocated for parking. The parking lot will provide 853 spaces (16 designated ADA parking spaces) for guests, and landscaped around the perimeter and throughout, to provide shade for guests. A dual-purpose garden and retention area sits in the center of the parking area, in addition to a 1,554 square foot maintenance building nestled in the northwest corner of the property. The project will include 4 access points, with the main entry on Youngs Way, and an emergency access on Jefferson Street.

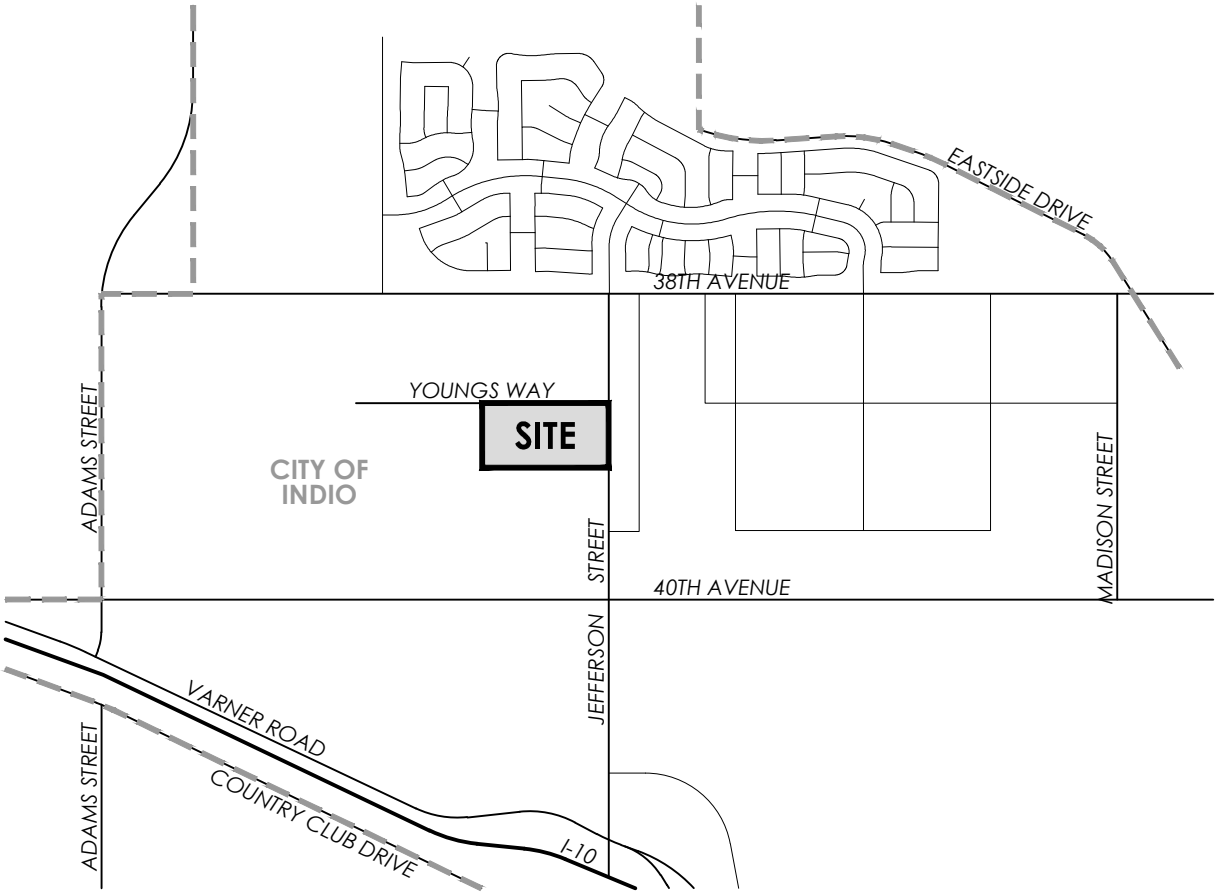
Off-site street improvements will include curb and gutter, sidewalk, and fully landscaped parkways on Youngs Way to the north and Jefferson Street to the east. The architecture of the proposed structures, is complimented with neutral and warm color palettes and is intended to contribute to the modern rustic ambiance of the property.

General Plan Land Use and Zoning

The current General Plan land use and Zoning designation for the property is Equestrian Estates

Other public agencies whose approval is required:

- Regional Water Quality Control Board (RWQCB)
- Coachella Valley Water District (CVWD)
- State Water Resources Control Board (SWRCB)

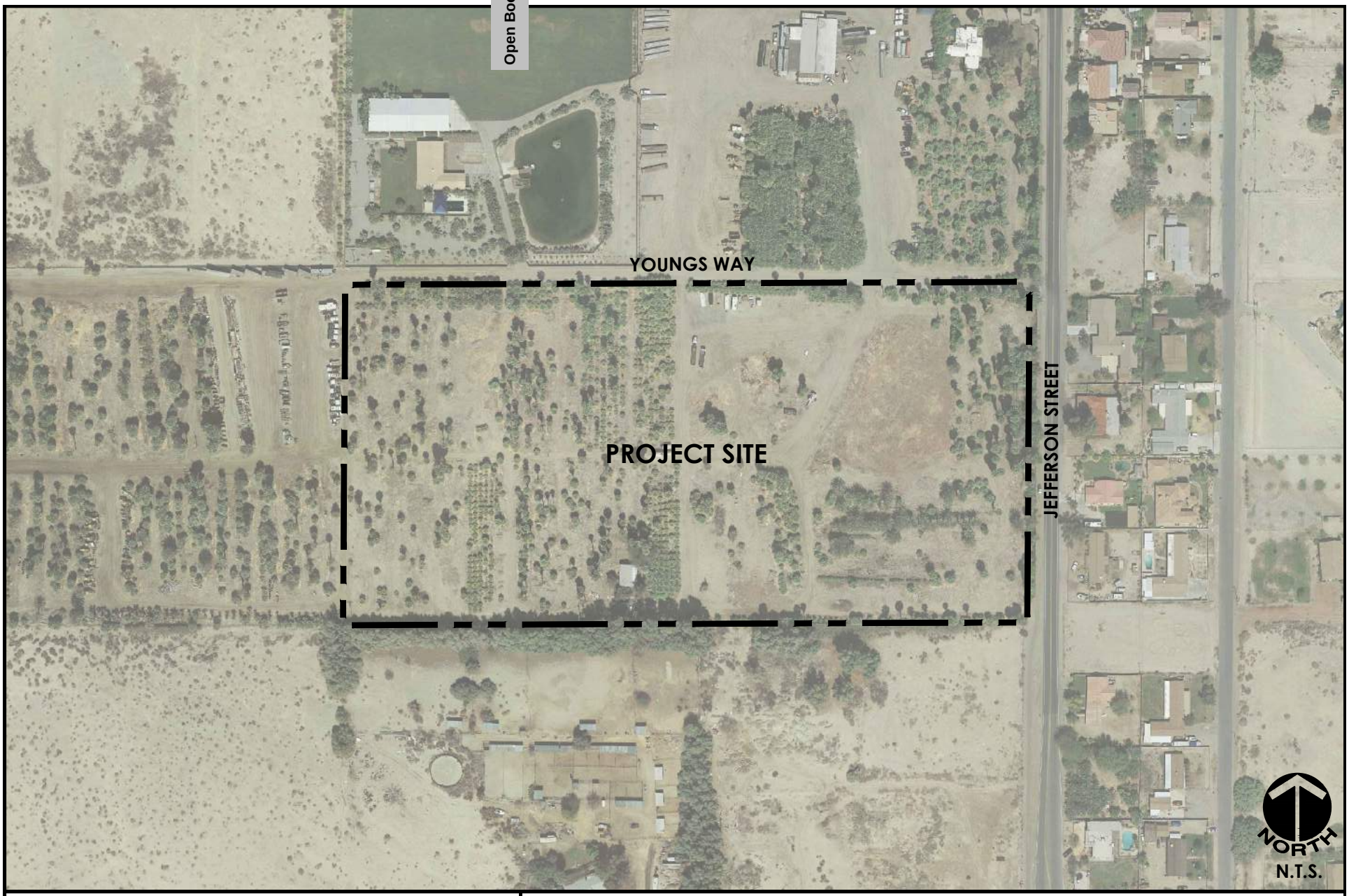


NORTH
N.T.S.

MSA CONSULTING, INC.
PLANNING ■ CIVIL ENGINEERING ■ LAND SURVEYING
34200 BOB HOPE DRIVE ■ RANCHO MIRAGE ■ CA 92270
TELEPHONE (760) 320-9811 ■ FAX (760) 323-7893

Vicinity Map

The Garden Fellowship
Initial Study



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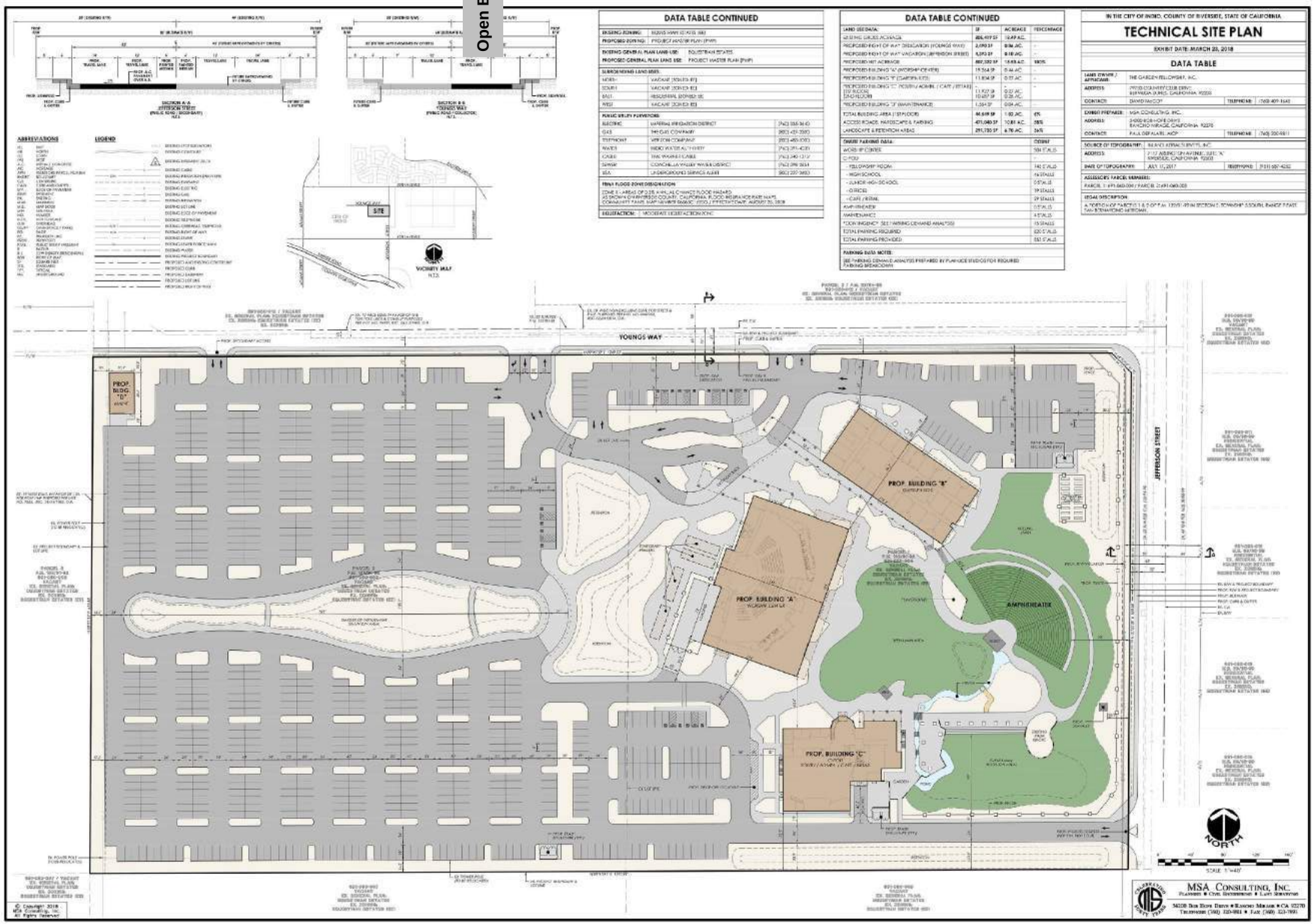
Aerial Photograph

The Garden Fellowship
Initial Study



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Technical Site Plan

The Garden Fellowship

Initial Study

Return to Agenda

Open Bookmarks

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☐ Agriculture Resources
- ☐ Air Quality
- ☐ Biological Resources
- ☒ Cultural Resources
- ☒ Geology /Soils
- ☐ Greenhouse Gases
- ☐ Hazards & Hazardous Materials
- ☐ Hydrology/Water Quality
- ☐ Land Use / Planning
- ☐ Mineral Resources
- ☐ Noise
- ☐ Population / Housing
- ☐ Public Services
- ☐ Recreation
- ☐ Transportation/Traffic
- ☐ Tribal Cultural Resources
- ☐ Utilities / Service Systems
- ☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced)
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Discussion:

The perception and uniqueness of scenic vistas and overall visual character can vary according to particular location and composition of its surrounding context. The subjective value of these views is generally affected by the presence and intensity of neighboring man–made improvements, such as residential structures, overhead utilities, and landscaping, often in relation to the aesthetic quality offered by a natural background that may include open space, mountain ranges, or other natural landmark features. The proximity and massing of structures, landscaping and other visual barriers interacts with the visibility of surrounding environments to restrict or enhance the value of local characteristic views. The evaluation of scenic vistas takes into consideration the physical compatibility of proposed projects in relation to land uses, transportation corridors, or other vantage points, where the enjoyment of unique vistas may exist, such as residential areas or scenic roads.

The project site of approximately 18.5 acres has historically operated as a tree nursery with designated areas for tree production, vehicle and equipment staging, material stockpiling, processing, and one mobile home structure. No permanent buildings, paving, or hardscape improvements are present on-site. The property perimeter is visually distinguished by a combination of fencing and rows of ornamental trees with heights varying between 20 and 30 feet. A 6-foot chain-link fence with a green fabric and dense tree lines visually screen the Jefferson Street frontage.

North of the project, properties include agriculture and isolated single-family residences, separated from the project site by the Youngs Way right-of-way. The east side of Jefferson Street is developed with contiguous single-family residences. West of the project, parcels are utilized for tree production with similar conditions to those found on-site. Relative to the property south of the project, the majority remains undeveloped, while a portion includes equestrian facilities and a single-family residence. Rows of tamarisk trees planted along the shared property line create a dense visual screen between this parcel and the west half of the project. From the project site, visibility of the Indio Hills to the northwest, north, and northeast is largely obstructed by existing tree lines on-site and on neighboring properties. Similar obstructions reduce the visibility of the Santa Rosa Mountains to the south and the San Jacinto Mountains to the southwest.

The project proposes to develop the entire site into a multi-building church campus with a total of four buildings, including a primary worship building, a multi-purpose building (youth center, administration building, and café), a classroom building, a maintenance building, an amphitheater, playgrounds, lawns, event spaces, and parking facilities. Off-site street improvements will include curb and gutter, sidewalk, and fully landscaped parkways on Youngs Way to the north and Jefferson Street to the east. The architectural and landscape design themes that will guide the visual appearance of the project will be governed by the Garden Fellowship Project Master Plan (PMP). The PMP is intended to guide future development of land within the PMP boundary, including the permitted land uses, design guidelines, setbacks, building heights, and other relevant regulations. The PMP is intended to ensure quality development consistent with the goals, objectives and policies of the City of Indio General Plan. The project site plan situates the proposed primary buildings on the east portion of the property, while the west portion is occupied by the proposed parking lot and a maintenance building.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The arrangement of the three primary buildings creates a central plaza area that will be designed and landscaped to provide a high quality setting for visitor gatherings. An on-site pedestrian circulation plan will establish safe passages within the church campus facilities with connectivity to the adjoining streets.

The proposed buildings will have an architecturally unified theme with features intended to establish an attractive presence and provide a desirable environment for guests. The architectural design of the proposed worship building, multi-purpose building, classroom building, and maintenance buildings will share various aesthetic elements to create a cohesive look across the PMP area. Building elevations will be detailed and articulated with projections and recesses to avoid any undesired large, plain surfaces. The shared design elements include low pitch metal roofs with metal and wood panel siding.

Coordinated accent features, such as contrasting paint finishes, metal awnings, corrugated materials, and cable railing will contribute to the character of each building. Of the three primary buildings, the worship structure will have a maximum height of 45 feet, the multi-purpose building will have a maximum height of 43.5 feet, and the classroom building will have a maximum height of 25 feet. An important visual element of the project will be a landmark sign located on the east side of the project. This sign will have an estimated height of 36 feet with features complimenting the building architecture. Upkeep and maintenance of the proposed structures, landscape features, and amenities will be done per the PMP, thus ensuring a sustained condition and quality.

Abundant landscaping is an important component of the PMP implementation. The proposed ornamental landscaping will rely on desert plant materials that comply with the water conservation requirement of Indio Water Authority. The project perimeter, site entries, areas surrounding buildings, and other project landmarks will be enhanced with a harmonious selection of ground cover, shrubs, and trees to enhance the setting. The proposed landscaping dynamics will partially screen or conceal the proposed buildings from public view, resulting in a frontage that is occupied by attractive and well-maintained landscaping instead of buildings in direct view. These aspects of the project will make it more compatible with the surrounding residential and undeveloped setting. Pertaining to a substantial adverse effect on a scenic vista or a degraded visual character, less than significant impacts are expected.

Cumulative Impacts: None

Mitigation Measures: None

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐

Discussion:

As previously discussed, the site is operating as a palm tree nursery without any permanent buildings or natural landmarks. Accordingly, the existing trees on-site are purposefully planted in designated production areas and along the property perimeter. The site lacks any natural landmarks, historic buildings, or rock outcroppings. The site is absent of any mature trees or unique plant growth. The purpose of the State Scenic Highway Program is to preserve and protect scenic State highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State highways can be officially designated as Scenic Highways or be determined to be eligible for designation.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The status of a state scenic highway changes from eligible to "officially designated" when a local jurisdiction adopts a scenic corridor protection program and the California Department of Transportation (Caltrans) approves the designation as a Scenic Highway. Based on the Caltrans Scenic Highway Mapping System web site, the project is not located adjacent to or near any state or county, eligible or designated scenic highway. Less than significant impacts are anticipated. At project buildout, the proposed street frontages will be distinguished by pedestrian sidewalks and coordinated landscaping, resulting in a positive aesthetic quality to the streetscape. Less than significant impacts are anticipated.

Cumulative Impacts: None

Mitigation Measures: None

c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐

Discussion:

As previously discussed, the existing visual character of the site is distinguished by the palm trees, shrubs, and other ornamental plantings visible from the surroundings. The proposed development, guided by the PMP, will convert these conditions to an attractive church campus with multiple buildings, coordinated signage, and an abundance of landscaping features designed to enhance the on-site scenery and establish an attractive streetscape. The primary buildings will have a minimum setback of approximately 70 feet from the north and south property boundaries, and approximately 180 feet from the Jefferson Street right-of-way.

The proposed project street fronts will be occupied by a dynamic landscaping design, which will reduce the visibility of the proposed structures. All forms of landscaping will be subject to maintenance as part of the PMP to ensure a sustained quality appearance. As such, the project is not expected to degrade the existing visual character of the site and its surroundings. Project design, including architecture and landscape architecture, will be subject to City review and approval, thus ensuring that aesthetic considerations are addressed in the design. Less than significant impacts are anticipated to result from project implementation.

Cumulative Impacts: None

Mitigation Measures: None

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion:

The current use of the project as a tree nursery lacks any considerable lighting improvements and therefore is not considered an existing source of glare or light. Local streets surrounding the project are absent of illuminated traffic signals and street light posts.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Existing single-family residential properties in the project vicinity include wall-mounted, downward-oriented light fixtures in the respective patios, side, and front yards of these homes. This form of lighting is generally low-intensity and installed in such a manner that does not project toward the street. As such, the only detectable sources of day-time glare and night-time lighting can be attributed to vehicular traffic along Jefferson Street and Youngs Way.

The proposed development is expected to maintain a low-intensity nighttime light ambient condition designed to be compatible with the City's Outdoor Lighting Requirements and the surrounding residential uses. The City requirements are established in an effort to minimize light pollution and trespassing. According to the architectural drawings, the project will incorporate wall-mounted, downward-oriented light fixtures with the proper shielding to prevent light spillage and to minimize undesirable light into the night sky. These light fixtures will be installed at approximately mid-height of the buildings to regulate the illumination coverage. Accent lights will be installed as part of the landscaping design.

For safety purposes, light fixtures will also be installed in the parking lot areas, along proposed interior sidewalks, and at certain landmark features of the campus. However, no rotating, laser, flashing, blinking, or other potentially disruptive illumination will be utilized. Since all proposed buildings are surrounded by different levels of landscaping densities, visibility of the buildings and on-site lighting from outside perspectives will be considerably reduced. Moreover, no existing tree lines or hedges on adjacent parcels will be disturbed. Pertaining to glare and reflectivity, the proposed structures will have a mixture of exterior construction materials and finishes that do not have highly reflective properties or other surface conditions that would cause substantial daytime or nighttime glare. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

II. AGRICULTURE RESOURCES -- Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐

Discussion:

The property as stated by the City's General Plan is designated for Equestrian Estates land use. The 18.5 acre project is proposed to be developed as a church campus. The project site was once a date tree farm however it no longer functions in this capacity. The Equestrian Estates designation is intended for the development of large lot estates and ranchettes, however, places of worship are conditionally permitted within this zone.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

According to the 2016 California Farmland Mapping and Monitoring Program (FMMP) data the property is designated as both Prime Farmland and Other Land. The property's western half is designated as Prime Farmland and the eastern half is designated as Other. Both designations are found throughout the City of Indio, and according to the City General Plan 2020 the loss of agricultural land was specifically anticipated as part of the General Plan 2020 Environmental Impact Report.

The FMMP states that Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Other Land is not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

The land has not been subject to any agricultural use for the last several years and any agricultural uses would be largely incompatible with the surrounding residential uses located immediately adjacent to the site. In regards to conversion of a farmland to a non-agricultural use, less than significant impacts are anticipated from the proposed project.

Cumulative Impacts: None
Mitigation Measures: None

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

Discussion:
The Project site is not zoned for agricultural use or classified as farm land. According to the Williamson Act Land Conservation Act Map 2015-2016, no portion of land within a one-mile radius is recognized as being under a Williamson Act Contract. The proposed Project will not impact or remove land from the City or County's agricultural zoning or agricultural preserve. No impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion:

The proposed project will occur in an existing urban desert setting zoned as Equestrian Estates. Surrounding land uses consist of vacant and single family residential land uses. No forest land, timberland or Timberland Production zoning occurs on the project site or in the surrounding area. Forest land is not characteristic of the Coachella Valley desert environment. No impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion:

The proposed Project will occur in an existing urban desert setting. No forest land occurs on the Project site or in the surrounding area because forest vegetation is not characteristic of the Coachella Valley desert environment. No impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Discussion:

As previously described, the project site and vicinity are designated by the City of Indio General Plan and Zoning maps as Equestrian Estates. The proposed Project will not result in conversion of any farmland or forest land because no farmland or forest land is situated within or adjacent to the project. No impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

III. AIR QUALITY: Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Discussion:

The following analysis and findings rely on *The Garden Fellowship Air Quality Impact Analysis* (AQIA) prepared for the project by Urban Crossroads on April 6, 2018. The purpose of this AQIA was to evaluate the potential impacts to air quality associated with construction and operation of the proposed project in comparison to thresholds established by the South Coast Air Quality Management District (SCAQMD).

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

According to the AQIA, the project site and the Coachella Valley are located in the northern region of the Salton Sea Air Basin (SSAB), within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SSAB (also referred to herein as "the Basin") is aligned in a north-west-southwest orientation stretching from Banning Pass to the Mexican border. The regional climate, as well as the temperature, wind, humidity, precipitation, and amount of sunshine significantly influence the air quality in the Basin. The climate of the Coachella Valley is a continental, desert-type climate, with hot summers, mild winters, and very little annual rainfall. Precipitation is less than six inches annually and occurs mostly in the winter months from active frontal systems and in the late summer months from thunderstorms. Almost all of the annual rainfall comes from the fringes of mid-latitude storms from late November to early April with summers often being completely dry. Temperatures exceed 100 degrees Fahrenheit (°F), on the average, for four months each year, with daily highs near 110 °F during July and August. Summer nights are cooler with minimum temperatures in the mid-70s. During the winter season, daytime highs are quite mild, but the dry air is conducive to nocturnal radiational cooling, with early morning lows around 40 °F.

The Coachella Valley and adjacent areas are exposed to frequent gusty winds. The flat terrain of the valley and strong temperature differentials, created by intense solar heating, produce moderate winds and deep thermal convection. Wind speeds exceeding 31 miles per hour (mph) occur most frequently in April and May. On an annual basis, strong winds (greater than 31 mph) are observed 0.6 percent of the time and speeds of less than 6.8 mph account for more than one-half of the observed winds. Prevailing winds are from the northwest through southwest, with secondary flows from the southeast. The strongest and most persistent winds typically occur immediately to the east of Banning Pass, which is noted as a wind power generation resource area. Aside from this locale, the wind conditions in the remainder of the Coachella Valley are geographically distinct. Stronger winds tend to occur closer to the foothills. Less frequently, widespread gusty winds occur over all areas of the Valley.

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated and in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for Ozone (O3), CO, SO2, NO2, PM10, and PM2.5 are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O3, PM10, PM2.5, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O3 standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

Relative to the project site, the nearest long-term air quality monitoring site for O3, PM10, and PM2.5 is the SCAQMD Coachella Valley 2 monitoring station, located approximately 4.5 miles southwest of the project site in Indio (SRA 30). The nearest long-term air quality monitoring site for CO and NO2 is the SCAQMD Coachella Valley 1 monitoring station, located approximately 16.5 miles northwest of the Project site in Palm Springs (SRA 30). It should be noted that the Coachella Valley 1 monitoring station was utilized in lieu of the Coachella Valley 2 monitoring station only in instances where data was not available from the Coachella Valley 2 site.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Currently, the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are exceeded in most parts of the SSAB. In regard to the NAAQS, the Project region within the SSAB is in nonattainment for ozone (8-hour) and PM10. For the CAAQS, the Project region within the SSAB is in nonattainment for ozone (1-hour and 8-hour) and PM10. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. The SCAQMD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. In March of 2017, SCAQMD released the most current Final Air Quality Management Plan (2016 AQMP), which is a regional blueprint for achieving the federal air quality standards. The 2016 AQMP includes both stationary and mobile source strategies to ensure that the approaching attainment deadlines are met and public health is protected to the maximum extent feasible. As with every AQMP, a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures is updated with the latest data and methods. Land use designation considerations are an important component of the AQMP development. The 2016 AQMP provides local guidance for the State Implementation Plans (SIP), which establishes the framework for the air quality basins to achieve attainment of the state and the National Ambient Air Quality Standards (NAAQS).

The proposed Project has been evaluated for consistency with the local air quality management plans, which links local planning and individual Projects to the regional plans developed to meet the ambient air quality standards. The assessment takes into consideration whether the Project forms part of the expected conditions identified in local plans (General Plan) and whether the Project adheres to the City's air quality goals, policies, and local development assumptions factored into the regional Air Quality Management Plan. As previously discussed, the undeveloped Project property has a City General Plan land use designation of Equestrian Estates but will be developed according to the Garden Fellowship PDP, which is intended to ensure that development of the proposed church campus is consistent with the goals, objectives and policies of the City of Indio General Plan.

As such, the project will not require a General Plan Amendment or other land use policy revision that would induce a direct or indirect increase in permanent population growth above the level projected in the General Plan and the adopted 2016 AQMP. As such, the Project will be consistent with the City's land use plan and zoning designations and therefore considered consistent with the air quality related plans and attainment efforts included in the 2016 AQMP, the PM10 CVSIP and other relevant regional plans. Therefore, the project will not interfere with the ability of the region to comply with federal and state ambient air quality standards.

Based on the quantitative air emissions findings resulting from the AQIA, provided in the subsequent sub-section of this Initial Study, the Project's short-term and long-term operations would not result in or cause violations to the National Ambient Air Quality Standards, California Ambient Air Quality Standards, or the attainment efforts included in the 2016 AQMP, the PM10 CVSIP and other relevant regional plans.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Project operational-source emissions would not result in or cause a significant localized air quality impact or result in a significant CO "hotspot". Therefore, the project will not interfere with the ability of the region to comply with federal and state ambient air quality standards. Less than significant impacts are anticipated relative to conflict with or obstruction of implementation of the applicable air quality plan following the implementation of standard conditions.

Cumulative Impacts: None
Mitigation Measures: None

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐

Discussion:

An impact is potentially significant if concentration of emissions exceeds the State or Federal Ambient Air Quality Standards. The two primary pollutants of concern in the Coachella Valley, including the City of Indio, are ozone (O3) and particulate matter (PM10 and PM2.5) due to the previously described nonattainment status.

Ozone (O3) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOX) undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Although also produced within the Coachella Valley, most ozone pollutants affecting the Valley are transported by coastal air mass from the Los Angeles and Riverside/San Bernardino air basins, thereby contributing to occasionally high local ozone concentrations.

PM10 (Particulate Matter less than 10 microns) is an air pollutant consisting of solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM10 also causes visibility reduction and is a criteria air pollutant. PM2.5 (Particulate Matter less than 2.5 microns) is a similar air pollutant consisting of particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from SO2 release from power plants and industrial facilities and nitrates that are formed from NOX release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. PM2.5 is a criteria air pollutant.

To assist lead agencies in determining the significance of air quality impacts, SCAQMD has established suggested short-term construction-related and long-term operational impact significance thresholds for direct and indirect impacts on air quality. Significance thresholds are recommended therein for both local and regional air quality impacts associated with short-term project construction and long-term operations.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table III-1 displays the established construction and operational daily significance thresholds, which are recommended for use by lead agencies in considering potential impacts on air quality. Project effects would be considered significant if the emissions exceed these thresholds. Project effects would also be considered potentially significant if emissions affected sensitive receptors such as schools or nursing homes, or if the Project conflicted with the regional AQMP and/or local air quality plans.

Table III-1
SCAQMD Regional Air Quality Significance Thresholds:

Emission Source	CO	VOC	NOx	SOx	PM10	PM2.5
Construction or Operation (Pounds/Day)	550	75	100	150	150	55

Source: Air Quality Analysis Guidance Handbook, Chapter 5.
Prepared by the South Coast Air Quality Management District. www.aqmd.gov/ceqa/hndbk.html

SCAQMD has also established the Final Localized Significance Threshold (LTS) Methodology to identify potential impacts that could contribute or cause localized exceedances of the federal and/or state ambient air quality standards (NAAQS/CAAQS). LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. The purpose of analyzing LSTs is to determine whether a project may generate significant adverse localized air quality impacts in relation to the nearest exposed sensitive receptors, such as schools, churches, residences, hospitals, day care facilities, and elderly care facilities. It is worth noting that the methodology is guidance and voluntary for projects that are less than or equal to 5 acres. It is recommended that proposed projects larger than five acres perform project-specific air quality modeling, which has been done as part of the AQIS and the results of which are included in Tables III-3 and III-4.

LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses. In the case of CO and NO2, if ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM10 and PM2.5; both of which are non-attainment pollutants and have thresholds that have an allowable measurable change of 10.4 $\mu g/m^3$ for construction sources and 2.5 µg/m3 for operational source emissions.

For this project, the appropriate Source Receptor Area (SRA) for the LST is the Coachella Valley monitoring station (SRA 30). LSTs apply to carbon monoxide (CO), nitrogen dioxide (NO2), particulate matter $\leq$ 10 microns (PM10), and particulate matter $\leq$ 2.5 microns (PM2.5). The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size. Based on the AQIA, the project is expected to actively disturb approximately 3.5 acres per day during the site preparation phase and 4 acres per day during the grading phase of construction. As such, the SCAQMD look-up tables are utilized to determine the appropriate thresholds for a 3.5-acre disturbance and 4 acre disturbance using linear regression per SCAQMD recommendations.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual and cumulatively significant impact. Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also known to be locations where an individual can remain for 24 hours.

It should be noted that LSTs are based on the exposure durations established by the CAAQS and NAAQS emissions of CO are quantified based on a 1-hour and 8-hour exposure duration, emissions of NO2 are quantified based on a 1-hour exposure duration, and emissions of PM10 and PM2.5 are quantified based on a 24-hour exposure duration. Because it is possible for an individual to remain in a location for shorter durations (1-hour and 8-hours), it would be appropriate to base the proximity of the potentially affected sensitive receptor on the exposure duration in which each criteria pollutant is measured to determine localized significance thresholds. For the purposes of this analysis, a potentially affected sensitive receptor is defined as a location where an individual can remain for shorter durations (1 hour or 8 hours).

Using these criteria, the nearest sensitive receptor is the residential structure, located approximately 170.75 feet (52.04 meters) north of the Project site and will be utilized to determine the LSTs for emissions of CO, NO2, PM10, and PM2.5. As a conservative measure, the SCAQMD's screening look-up tables are utilized in determining impacts. As previously noted, a 52.04-meter receptor distance is utilized to determine the LSTs for emissions of CO, NO2, PM10, and PM2.5.

The data provided in Table III-2 shows that during construction, none of the analyzed criteria pollutants would exceed the calculated local emissions thresholds at the nearest sensitive receptors. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table III-2
Localized Significance Thresholds (LSTs)
Associated with Construction of the Proposed Project

On-Site Preparation Emissions	Emissions (Pounds per Day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	71.60	23.73	10.99	6.83
SCAQMD Localized Threshold	285	2,648	35	9
Threshold Exceeded?	NO	NO	NO	NO
On-Site Grading Emissions	Emissions (Pounds per Day)			
	NOx	CO	PM10	PM2.5
Maximum Daily Emissions	71.22	35.72	6.70	4.12
SCAQMD Localized Threshold	305	2,870	39	10
Threshold Exceeded?	NO	NO	NO	NO

On October 14, 2016, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the California Emissions Estimator Model (CalEEMod) Version 2016.3.1. CalEEMod was subsequently updated in 2017 as version 2016.3.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NOx, VOC, PM10, PM2.5, SOx, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions based on the most current project information available at the time of preparation. The Garden Fellowship AQIA implemented this modeling platform as part of the methodology.

The SCAQMD requires any emission reductions resulting from existing rules or ordinances to be included as part of the unmitigated project emissions. Those measures that are legally mandated and therefore required of all developments by applicable ordinances, rules, and regulations are not considered mitigation. Once the unmitigated project emissions have been determined, additional mitigation measures may be applied to reduce any potentially significant air quality impacts to the maximum extent feasible and identify the net project emissions.

Title 15, Chapter 152 of the Indio Municipal Code outlines the minimum requirements for construction activities to reduce man-made fugitive dust and corresponding PM10 emissions. The City will require the preparation of a Fugitive Dust Control Plan identifying the fugitive dust sources at the site and the work practices and control measures proposed to meet the City of Indio minimum performance. These standards are consistent with SCAQMD Rule 403 and 403.1, as identified in the Coachella Valley Fugitive Dust Control Handbook published by SCAQMD. Fugitive dust control measures that are required to comply with the City Municipal Code are generally not considered mitigation by the SCAQMD. Similarly, compliance with applicable SCAQMD Rules and Regulations is not considered mitigation by the SCAQMD.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Based on the AQIA findings and as shown in Table III-3 and Table III-4, construction related emissions resulting from site preparation, grading, utilities/building construction, paving, architectural coating, and construction workers commuting would not exceed the applicable SCAQMD regional thresholds of significance for any criteria pollutants, including localized emissions. Thus a less than significant impact would occur for Project-related construction-source emissions and no mitigation is required.

Table III-3
Short Term Air Pollutant Emissions
Associated With Construction of the Proposed Project (Unmitigated)
(Pounds/Day)

Year	VOC	NOx	CO	SOx	PM10	PM2.5
2018	6.16	71.68	36.63	0.08	11.19	6.88
2019	30.88	47.68	27.90	0.08	4.16	2.37
Maximum Daily Emissions	30.88	71.68	36.63	0.08	11.19	6.88
SCAQMD Threshold	75	100	550	150	150	55
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

Table III-4
Long Term Operational Air Pollutant Emissions
Associated With Development of the Project (Unmitigated)
(Pounds/Day)

Operational Activities – **Summer Scenario**	ROG/VOC	NOx	CO	SO2	PM10	PM2.5
Area Source	1.39	8.70E-04	0.09	1.00E-05	3.40E-04	3.40E-04
Energy Source	0.05	0.48	0.40	2.89E-03	0.04	0.04
Mobile Source	5.74	26.24	62.80	0.19	14.26	3.96
Total Maximum Daily Emissions	7.19	26.72	63.30	0.19	14.30	4.00
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Operational Activities – **Winter Scenario**	ROG/VOC	NOx	CO	SO2	PM10	PM2.5
Area Source	1.39	8.70E-04	0.09	1.00E-05	3.40E-04	3.40E-04
Energy Source	0.05	0.48	0.40	2.89E-03	0.04	0.04
Mobile Source	5.47	26.66	60.23	0.18	14.27	3.96
Total Maximum Daily Emissions	6.91	27.14	60.73	0.18	14.30	4.00
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

As shown in Table III-4, the Project's operational emissions would not exceed the numerical thresholds of significance established by the SCAQMD. The AQIA found that the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific carbon monoxide (CO) "hot spots" was not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. At the time of the 1993 Handbook, the SCAB was designated nonattainment under the California AAQS and National AAQS for CO. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections.

In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. The proposed Project would not produce the volume of traffic required to generate a CO "hot spot" in relation to the established threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the proposed Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant. Pertaining to Project-related operational-source emissions, less than significant impacts are expected and no mitigation is required.

Cumulative Impacts: None
Mitigation Measures: None

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐

Discussion:

The Riverside County portion of the Salton Sea Air Basin is designated by the U.S. Environmental Protection Agency (EPA) as a "Severe-15" ozone nonattainment area for the 1997 8-hour federal ozone standard (0.080 ppm) and the more stringent 2008 standard (0.075 ppm). Violations of the ambient air quality standards for ozone in the Coachella Valley are primarily due to pollutant transport from the neighboring SCAB. Ozone is formed on sunny days from ozone precursors in the lower atmosphere that are emitted upwind of the Coachella Valley, in the coastal and central Los Angeles County areas of the SCAB. Pollutant transport through the Banning Pass, from the SCAB to the Salton Sea Air Basin, is the primary cause of the high ozone concentrations experienced in the Coachella Valley in the late afternoon and early evening. The attainment date for the 1997 8-hour ozone standard is June 15, 2019.

Based on reference publications by SCAMQD, Ozone is a pungent, colorless toxic gas produced in the troposphere by the photochemical process. Photochemical oxidant is created by complex atmospheric reactions involving NOx and reactive organic gases (ROG) in the presence of ultraviolet energy from sunlight. In the Coachella Valley, motor vehicles are the major source of the two ozone precursors,

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

reactive organic gases (ROG) and oxides of nitrogen (NOx). Ozone is formed through chemical reactions of ROG, NOx, and oxygen in the presence of sunlight. The reactions that form ozone begin at sunrise and require sunlight to proceed. Peak ozone concentrations in the SCAB tend to occur near the source of precursors in the afternoon hours during the summer and early fall, when the solar radiation exposure of the air mass is the greatest. Ozone and ozone precursors are then transported downwind (from Central Los Angeles, through Riverside and Rubidoux, Banning, and then through the San Gorgonio Pass, into the Coachella Valley) as the photochemical reactions continue to occur. In the Coachella Valley, peak ozone concentrations occur in the late afternoon and early evening hours. The attainment date for the 2008 8-hour ozone standard is July 20, 2027. The 2016 AQMP is addressing the Clean Air Act planning requirements for ozone in the SCAB and the Coachella Valley portion of the SSAB.

As demonstrated in tables III-3 and III-4, project-related short-term construction and long-term operational emissions are not expected to exceed the daily thresholds of significance established by SCAQMD for ozone precursors, such as NOx and ROG/VOC. By complying with the adopted thresholds, the proposed development is also complying with the overall attainment strategies reflected in the 2016 AQMP.

Furthermore, the Coachella Valley is currently designated as a serious nonattainment area for PM10 (particulate matter with an aerodynamic diameter of 10 microns or less). In the Coachella Valley, there are two primary sources of PM10: natural sources consisting of sea salts, volcanic ash, and pollens, and man-made or anthropogenic sources. Man-made sources originate from direct emissions, such as industrial facilities, fugitive dust sources (e.g., construction sites) and paved and unpaved road dust. The U.S. EPA-approved 2002 Coachella Valley PM10 State Implementation Plan (2002 CVSIP) includes an attainment strategy for meeting the PM10 standards. Some of the existing measures include the requirement of detailed dust control plans from builders that specify the use of more aggressive and frequent watering, soil stabilization, wind screens, and phased development to minimize fugitive dust. Appropriate air quality measures to prevent fugitive dust are required by the City's Fugitive Dust Control policies, which is consistent with SCAQMD Rules 403 and 403.1 that apply to the Coachella Valley strategy for reducing fugitive dust emissions.

Relative to the PM10 emissions threshold, construction activities associated with the project will be required to adhere to the City's Fugitive Dust and Erosion Control policies and ordinance to minimize potential temporary construction related emissions. An approved Fugitive Dust (PM10) Control Plan will be required prior to issuance of a grading permit. Implementation of the Fugitive Dust Control Plan is required to occur under the supervision of an individual with training on Dust Control in the Coachella Valley (Rule 403 and 403.1). The plan will include methods to prevent sediment track-out onto public roads, prevent visible dust emissions from exceeding a 20-percent opacity, and prevent visible dust emissions from extending more than 100 feet (vertically or horizontally from the origin of a source) or crossing any property line. The most widely used measures include proper construction phasing, proper maintenance/cleaning of construction equipment, soil stabilization, installation of track-out prevention devices, and wind fencing. The permanent site condition will not have unpaved or non-stabilized ground surfaces that could emit fugitive dust during the life of the project.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Since Project-related emissions would be consistent with the Air Quality Management Plan, the Coachella Valley PM10 SIP, and all SCAQMD Air Quality Significance Thresholds, long-term operational air quality impacts associated with the Project should not be considered cumulatively considerable. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Discussion:

Certain members of the population are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors"; they are also known to be locations where an individual can remain for 24 hours.

During construction, the project is expected to produce temporary and localized emissions, which based on the Air Quality Study's modeling results would not exceed the SCAQMD mass thresholds of significance. As previously discussed, the project applicant is required to comply with Title 15, Chapter 152 of the Indio Municipal Code by preparing a project-specific dust control plan. The plan will outline required activities and best management practices for preventing or reducing temporary emissions from reaching any substantial concentrations. Examples of best available dust control measures include constructing a temporary fence with wind screen to prevent propagation of emissions, utilizing properly maintained equipment, maintaining stabilized soil, and constructing track-out prevention devices at construction access points. These standard practices are consistent with the SCAQMD Rule 403 and 403.1 as identified in the Coachella Valley Fugitive Dust Control Handbook. Fugitive dust control measures that are required to comply with the City Municipal Code are generally not considered mitigation by the SCAQMD. Similarly, compliance with applicable SCAQMD Rules and Regulations is not considered mitigation by the SCAQMD.

The *Garden Fellowship AQIA* concludes that project's short-term emissions would not exceed the localized significant thresholds established by SCAQMD. The proposed Project would not result in a significant CO "hotspot" as a result of Project related traffic during ongoing operations. Less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion:

Objectionable odors can be associated with toxic or non-toxic emissions. While offensive odors seldom cause physical harm, they can be unpleasant and lead to considerable annoyance and distress among the

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

public. Certain facilities and operations tend to produce offensive odors, including wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging facilities. Some land uses, and populations are considered more likely to experience concern over odors, including residences, retirement homes, schools, playgrounds, child-care centers, and athletic facilities, among others. The proposed development is not located near any facility known for generate objectionable odors.

Construction activities for the project (within the permitted hours) are anticipated to generate short-term odor emissions due to the use of construction equipment, materials management and asphalt application. Such odors would only be detectable in localized areas and would quickly disperse below detectable levels as distance from the construction site increases.

Activities in the church campus are not expected to generate objectionable odors affecting a substantial number of people. The *Garden Fellowship AQIA* included an analysis of potential odor impacts. The assessment points out that the project does not propose any uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse, but such disposal will only take place within designated wall enclosures. Moreover, SCAQMD Rule 402 acts to prevent occurrences of odor nuisances. Consistent with City requirements, all project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant. Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

Cumulative Impacts: None
Mitigation Measures: None

IV. BIOLOGICAL RESOURCES -- Would the project:

a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

Discussion:

In February 2018, James W. Cornett Ecological Consultants conducted a project-specific General and Focused Biological Resource Assessment. The assessment covered the entire 18.5–acre site and extended approximately 150 yards beyond the site boundaries. The biological survey and analyses were designed to ascertain the impacts of the proposed development on the potential resources of the project site and

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

immediate vicinity, as mandated by CEQA and required by the City of Indio. The project site has been utilized as a landscaping nursery and has been extensively disturbed; portions of the property remain occupied by palms, with areas cleared for parking and equipment storage.

The specific objectives of the biological survey are listed below:

- Determine the vascular plans and vertebrate animal species that occur on, and immediately to the project site.
- Ascertain the presence of plant or animal species given special status by government agencies; emphasis is on the sensitive species or communities not covered under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)
- Ascertain the existence of other significant biotic elements, corridors or communities.
- Consider the sites location as it relates to Conservation Areas designated in the CVMSHCP.
- If necessary and where appropriate, recommend measures to mitigate significant adverse impacts of the project yon any non-plan-covered sensitive species and habitats determined to occur within the project boundaries.

Survey methodology included literature review to determine resources that are known to exist within the general area to determine the possible occurrence of sensitive species. The review included a search in the California Natural Diversity Database check was conducted and yielded no known occurrences of special-status species within or adjacent to the project site. Daylight field surveys were conducted on January 26, 27, 208 and February 4, 6, and 8, 2018. Evening surveys were conducted on the evenings of January 27th and February 6, 2018.

Plant and animal surveys were conducted simultaneously, 20 live animal traps designed for large and small mammals that are captured unharmed were set for 24-periods on January 27th and February 6, 2018. To determine if wildlife corridors were present, attention was given to observing and identifying animal tracts. In addition, soil sifting and smoothing was done on un-vegetated locations so that tracks would be prominent and identifiable. Three Bioquip Lights Traps were used for attracting and live capturing flying insects.

Surveys were conducted by walking parallel transects at approximately 10 yards apart through the project site. This survey pattern has been approved by the U.S. Fish and Wildlife Service for determining the presence or absence of the burrowing owl, the most intensive survey effort recommend for any sensitive species that might possibly occur within the project area. Transects were not walked across private properties to the north, west, and east of the project site.

The project site lies approximately 56 feet above sea level. Soils are slightly alkaline and consist of fine sand and silt. The project specific biological assessment indicates there are no naturally occurring springs, permanent aquatic habitats or drainages on the project site. No blue line streams, as depicted in the U.S. Geological Survey (USGS) maps for the project site nor are there any botanical indicators of such corridors.

Intensive field surveys revealed no native plant communities within or immediately adjacent to the project site. There were numerous exotic weed species which per the project's biological report, are an indication of the sites human disturbance and activities within the project area.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Coachella Valley milk vetch was not found on the project site or its immediate surroundings and the site is considered marginal habitat for this species. No records were found indicating sensitive plant species are known within or near the project area and field surveys revealed no evidence of the presence of sensitive plant species. Additionally, the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) covers and protects sensitive plant species known to occur in the immediate region. Mitigation for these species is provided under the plan through the payment of fees.

The site was surveyed for special status and sensitive species and no evidence was found of breeding migratory birds, including the burrowing owl. The burrowing owl is protected in the U.S. by Migratory Bird Treaty Act (MBTA) of 1918. It is not typically found in areas of high disturbance with regular human activity and where predatory animals are present, such as domestic cats and dogs. Moreover, the entire site is surrounded by trees and tamarisk thickets, burrowing owls require unobstructed surroundings to detect aerial predators. The project's biological report concludes that the site is unsuitable habitat and no additional or future owl surveys are needed.

The project site lies within the CVMSHCP fee area but does not lie within a Conservation Area of the CVMSHCP. Additionally, there are no Conservation Areas that abut the project area and is therefore, not subject to CVMSHCP requirements regarding lands adjoining Conservation Areas. As a standard condition of all new development within the Coachella Valley, the project will pay the relevant CVMSHCP Development Impact Fee.

The findings of the biological report conclude that due to the projects extensive disturbance and human activities, no significant adverse impacts to biological resources in the region are expected as a result of the proposed project. Therefore, no impacts are expected to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).

Cumulative Impacts: None
Mitigation Measures: None

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐	☒

Discussion:

As previously discussed, the site has been disturbed for a number of years and is currently utilized as a nursery. Per the project specific biological report, the property does not contain nor is adjacent to any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFW. No blue-line stream exists within the project property as depicted on the USGS maps or National Hydrography Dataset. No impact to riparian habitat or sensitive natural community is expected.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Cumulative Impacts: None
Mitigation Measures: None

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

Discussion:

According to the project specific biological report, the project site does not contain nor is it adjacent to federally protected wetlands, marshes or other drainage features. Therefore, the project will not result in in the direct removal, filing or hydrological interruption. The project will include on-site retention facilities to prevent the direct discharge and hydro-modification impacts of runoff into the local municipal separate storm sewer system and any downstream receiving waters. No impacts are expected to federally protected wetlands.

Cumulative Impacts: None
Mitigation Measures: None

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒

Discussion:

As previously discussed, the project's biological report found no evidence of migratory wildlife corridors or native wildlife nursery sites on the project site, or adjacent property. The project site has been utilized as a landscaping nursery and has been extensively disturbed; portions of the property remain occupied by palms, with areas cleared for parking and equipment storage. In addition, evidence of vehicle activity associated with the routine excavation of palms was widespread. The presence of numerous large trees, domestic cats and dogs and regular human activity by both foot and vehicle does not support the movement of any native resident or migratory fish or wildlife species and no impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion:

The proposed project is consistent with the Goals and Policies set forth in the City of Indio General Plan Environmental Resource Element. Prior to the grading of the project site, a portion of the exiting palms will be reused for select areas of the project site. Those not used will be sold and any remaining unsold palms will be hauled off to an approved green waste facility. The proposed project will provide landscaping improvements in a manner consistent with local development standards. There are no applicable tree preservation policies or ordinances in the City of Indio and no impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion:

The project lies within the boundary of the CVMSHCP which outlines policies for conservation of habitats and natural communities and is implemented by the City of Indio. The project site is not located within a Conservation Area under this plan and there are no known significant biological resources on the project site. The CVMSHCP implements a habitat mitigation fee for new development to support the acquisition of conservation lands. The proposed project will comply with all required plan provisions and pay the required mitigation fee in conformance with the CVMSHCP and City Ordinance. No impacts to local, state or regional conservation plans are expected.

Cumulative Impacts: None
Mitigation Measures: None

V. CULTURAL RESOURCES -- Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐

Discussion:

As previously discussed, the project site has been heavily disturbed and utilized as nursery site for palms. Much of the property remains occupied by palms, with portions of the site cleared for parking and equipment storage. A manufactured home and associated structures are located near the southern boundary of the project site. A project specific Historical/Archaeological report was completed in March 2018 by CRM Tech. As part of their research a historical/archaeological resources record search and field survey was completed.

The records search was conducted on January 31, 2018 with the Eastern Information Center (EIC), and University of California, Riverside. Published literature in local and regional history, USGS maps, and aerial photographs from 1972 thru 2017 were also used as part of their research.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Records Search Results

The records search at the EIC did not find any previous studies pertaining to the project area or any known cultural resources on or adjacent to the property. Outside of the project boundaries but within a one-mile radius, EIC records show at least 39 previous studies covering various tracts of land and linear features. In all, more than half of the land within the scope of the records search has been surveyed, which resulted in the identification of 10 historical/archaeological sites within the one-mile radius. Eight of these known sites were of prehistoric, i.e., Native American in origin, including possible habitation sites and scattered ceramic lithic artifacts. The nearest was located roughly 0.3 miles south of the project. The other two sites dated to the historic period and represented a refuse scatter and structural foundation. None of these sites were found in the immediate vicinity of the project area. In Addition to these, EIC records identify several other prehistoric sites just outside of the one-mile radius, to the south and east of the project location, ranging from small scatters of ceramic sherds and lithic debitage to large areas of habitation areas, including sites with human cremations.

Historical Search Results

Historical sources consulted by CRM Tech suggest that the project area remain unsettled an undeveloped throughout the historic period. In the 1850s, when the U.S. government conducted the first official land survey in the Coachella Valley, the surveyors recorded no man-made features or any kind within or adjacent to the project area. The only evidence of human activities noted in the vicinity at that time was an Indian trail running northwest-southeast to the northeast of the property. A century later, a few ranches, roads, and other development appeared in the project vicinity and a foot trail was known to traverse the project area in a northwest-southeast direction. Jefferson Street had been extended to the project vicinity by the 1950's. However, no buildings or other evidence of settlement or land development activities were found within or adjacent to the project area during the 1940s-1950s. By 1972 a development attempt was made on the eastern portion of the property as indicated by the presence of a partial windbreak of domestic trees. Between 1972 and 1996, the project area was developed under its presence use of a landscaping nursery, with rows of palm trees planted throughout the property. Per the project's cultural report, no major changes in land use within the project area have been observed.

Field Survey Results

According to the project's cultural report, the field survey produced negative results for any cultural resources, and no buildings, structures, objects, sites, features, or artifact deposits more than 50 years of age were encountered within the project boundaries. As previously mentioned in this section, the project site has been heavily disturbed by past operations of the existing nursery, CRM Tech finds that due to this disturbance, no intact archaeological deposits are likely to survive on the ground surface. The manufactured home and associated structures currently present on the site are modern in age. Scattered refuse found at various locations in the project area appear to be of modern origin, and neither the refuse nor the existing structures are of any historical/archaeological interest.

Therefore, the project site is not expected to cause a substantial adverse change in the significance of a historical resource as defined by CEQA §15064.5 (b) and less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐

Discussion:

As previously mentioned the project site has been previously disturbed, however; the site is assigned a high sensitivity for subsurface cultural remains of prehistoric origin. Background research conducted for this study by CRM Tech; indicate that the project area lies in close proximity to the shoreline of Holocene Lake Cahuilla during its last high stand in the late 17th century. This is a widely recognized indicator of heightened prehistoric archaeological sensitivity in the Coachella Valley. In prior studies, a large number of significant prehistoric sites have been recorded along the former lakeshore, including many sites with subsurface components. The projects historical and cultural report finds that in light of these past discovers, the possibility of buried prehistoric cultural deposits cannot be overlooked despite their manifestation on heavily disturbed ground surface. Therefore, the presence of a qualified archaeologist is required during all earth moving operations, including grubbing, grading, excavations, and trenching of the property. Less than significant impacts are anticipated following the recommended mitigation measure.

Cumulative Impacts: None
Mitigation Measures:

CUL-1: The presence of a qualified Archaeologist shall be required during all project related ground disturbing activities that penetrate into native soils. In the event that potentially significant archaeological materials are discovered, all work must be halted in the vicinity of the archaeological discovery until a qualified archaeologist can assess the significance of the find, and its potential eligibility for listing in the California Register of Historical Resources (CRHC). The monitor should be prepared to quickly recover any artifacts as they are unearthed to avoid construction delays. If a substantial cultural deposit is encountered, however, the monitor must have the power to temporarily halt or divert construction activities in that area to allow for controlled removal. The following shall also be included as part of this mitigation measure:

- Collected artifacts should be cleaned, identified, catalogued, analyzed, and prepared for curation at an appropriate repository with permanent retrievable storage that would allow for additional research in the future.

- Site records should be prepared to document all archaeological findings during the monitoring program and submitted to the California Historical Resources Information System.

- A report on the methods and results of the monitoring program, including an itemized inventory of recovered artifacts and a detailed artifact analysis, should be prepared upon completion of the fieldwork. The report should include an interpretation of the cultural activities represented by the archaeological remains and a discussion of the significance of all recovered cultural material.

- The submittal of the report to the City of Indio and the curation of the artifacts will signify completion of the monitoring program and the mitigation of impacts to cultural resources.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
CUL-2: On-site monitoring shall be coordinated with the nearest Native American groups who may wish to participate, such as the Agua Caliente Band of Cahuilla Indians and the Augustine Band of Cahuilla Indians.				
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Discussion:

Paleontological resources represent the remains of historic life that are exclusive of human remains, and include fossils and sedimentary rock formations. A project specific Paleontological report was prepared by CRM Tech (March 2018), to assess the property for impacts to these resources. A records search, literature review and field survey were performed.

CRM Tech consulted the Natural History Museum of Los Angeles County (NHMLAC) and the San Bernardino County Museum (SBCM) for a records search of the property. The museums record searches identified no previously discovered paleontological localities near the project property. However, several paleontological localities have been reported near the project within a one-mile radius. According to the NHMLAC, the project area lies upon younger Quaternary alluvial fan deposits derived from Indio Hills to north and northeast. Younger Quaternary deposits do not typically contain significant vertebrate fossils in the uppermost layers, but they may be underlain by sedimentary deposits that could contain significant vertebrate fossils. Shallow excavations in the surface deposit of younger Quaternary alluvium are unlikely to uncover significant vertebrate fossils, but deeper excavations extending into the older deposits at well encounter significant fossil vertebrate remains.

The SBCM identifies the project area on recent alluvial wash deposits overlying Quaternary lake sediments from ancient Lake Cahuilla. The Lake Cahuilla beds have previously yielded fossil remains representing diverse freshwater diatoms, land plants, sponges, ostracods, mollusks, fish and small terrestrial vertebrates. Therefore, Lake Cahuilla beds are considered to have a high potential to contain significant nonrenewable fossil resources.

The County of Riverside mapped the project area as being in both the active Blowsand Area and the northwestern edge of the Area of Potential Liquefaction. Since liquefaction is based on the clays deposited by ancient Lake Cahuilla, the project may have interfingering blow sands and lakebed clays at some unknown depth.

During the field survey, freshwater shells and shell fragments were observed on the ground surface throughout the project area. No fish or other vertebrate remains were present. As mentioned throughout this discussion, the site has been heavily disturbed by past and present operations, including ground clearing in the eastern portion of the property.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The report concludes that as a result of the records search, literature research, and field survey, the impacts to significant paleontological resources appears to be low in the extensively disturbed soils but moderate in the undisturbed subsurface sediments, especially for Holocene-age invertebrate fossils. Therefore, CRM Tech recommends a mitigation plan to prevent potential impacts on Paleontological resources. Less than significant impacts are expected following the recommended mitigation measures.

Cumulative Impacts: None
Mitigation Measures:

CUL– 3: The presence of a qualified Paleontologist shall be required during all project related ground disturbing activities reaching beyond the depth of five-feet below the current ground surface. A licensed paleontologist may be the same person as the archaeologist specified above in MM CUL-1 if he/she possesses the qualifications to serve in both capacities. The monitor should be prepared to quickly salvage fossils, if they are unearthed, to avoid construction delays, but must have the power to temporarily halt or divert construction equipment to allow for removal of abundant or large specimens. The following shall also be included as part of this mitigation measure:

- Samples of sediments should be collected and processed to recover small fossil remains.
- Recovered specimens should be identified and curated at a repository with permanent retrievable storage that would for further research in the future.
- A report of findings, including an itemized inventory of recovered specimens and a discussion of their significance when appropriate, should be prepared upon completion of the research procedures outlined above. The approval of the report and the inventory by the City of Indio would signify completion of this mitigation plan.

d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Discussion:

The project site is not expected to affect any human remains, including those interred outside of formal cemeteries. Pursuant to the California Health and Safety Code Section 7050.5, and the CEQA Guidelines Section 15064.5 require that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlay adjacent remains, until the County Coroner has examined the remains. If the coroner determines the remains to be Native American or has reason to believe that they are those of Native American, the coroner shall contact by telephone within 24-hours of the Native American Heritage Commission. Pursuant to the mentioned California Health and Safety Code, proper actions shall take place in the event of a discovery or recognition of any human remains during project construction activities and less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures:

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒

Discussion:

The low valley floor and surrounding mountain ranges that define the Coachella Valley are primarily attributed to the multiple faults, most notably the San Andreas Fault Line, that traverse through the area. Although these faults created the unique topography, they also create hazards caused by seismic shaking, which the City of Indio accounts for during their planning process. The Alquist-Priolo (AP) Earthquake Fault Zone Act was passed into law after the 6.6 magnitude San Fernando Earthquake, in 1971. The establishment of the AP Earthquake Fault Zone is intended to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The project site is not located within a State or County designated fault zone, as delineated by the California Division of Mines and Geology. According to this source, the closest known potentially active faults are located approximately 1.50 miles to the northeast, the Coachella and Southern segments of the San Andreas Fault System.

On March 7th, 2018, Petra Geosciences, Inc. provided a Geotechnical Report that assessed the subsurface geologic and soil conditions within the project property. Their analysis included a site reconnaissance and subsurface exploration, review of the existing geotechnical reports for this site and within the general area, as well as a review of published and unpublished literature and geologic maps pertaining to geologic hazards which may have an impact on the proposed construction. During their investigation, Petra Geosciences concluded that no active or potentially active faults are known to traverse the site, and the site does not lie within an AP Earthquake Fault Hazard Zone.

After consulting both the Alquist-Priolo Earthquake Fault Zone Map and Petra's Geoscience's Report, it can be concluded that the project site is not located within the AP Earthquake Fault Zone; therefore, no impacts from rupture are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	☐	☐	☒	☐

Discussion:

The entire Coachella Valley is susceptible to strong seismic ground shaking due to the multiple fault lines that define the region. Consequently, this makes seismic ground shaking a prominent geologic hazard to structural development throughout the City and Valley. According to the City's General Plan, Indio's proximity to the San Andreas Fault System places the majority of its area, including the project site, within the V or "high" shaking intensity category.

In addition to Indio's General Plan, the Geotechnical Report provided by Petra Geosciences, Inc. recognized the project site's location as being in a seismically active area of Southern California due to the San Andreas Fault. This Fault has historically produced moderate to severe earthquakes in the entire Southern California region. Moreover, the project site will likely be subjected to very strong seismically related ground shaking over the anticipated life span of the project.

To mitigate the hazardous effects of seismic ground shaking, remedial grading and construction in accordance with the most current California Building Code (CBC) guidelines and seismic design coefficients shall be implemented at the project site. This will work to reduce impacts associated with seismic ground shaking to the greatest extent possible. All grading, improvement and structural plans will be reviewed and approved by the City. The project shall also follow the seismic design parameters and recommendations found in the project specific Geotechnical Report. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐

Discussion:

According to Indio's General Plan, liquefaction occurs when strong seismic shaking causes the ground to lose strength and "liquefy." For liquefaction to occur there must be a relatively long duration of ground shaking, loose unconsolidated, cohesion less soils, and groundwater levels within 50 feet of the ground's surface. During the event of an earthquake, the buildup of shallow groundwater pressure saturates the soils, causing the soil to act like a liquid. The effects of liquefaction can be damaging to structures that reside on these soils.

The General Plan's Geologic Hazards Map (Figure 5.6-2) identifies areas in the City that are susceptible to liquefaction due to the presence of shallow groundwater. After consulting this map, it was concluded that the project site is not located in an area susceptible to liquefaction.

The Geotechnical Report established that the project site has a moderate liquefaction potential. During the site assessment, Petra Geosciences found medium-dense to dense materials across the majority of the site, however, they did not encounter groundwater during their exploratory borings, which were drilled to a maximum depth of 51.5 feet below ground surface (bgs).

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The closest water well listed by the California Department of Water Resources (CDWR) Water Data Library estimated the groundwater depths to vary between approximately 100 and 140 feet, according to the Report. Overall, the Geotechnical Report concluded that liquefaction potential is considered low at the project site due to the prominence of dense underlying materials and deep groundwater.

Per the City's General Plan and the project specific Geotechnical Report, seismically related ground failure, such as liquefaction, is not likely to occur on the project site; therefore, less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

iv) Landslides?	☐	☐	☐	☒

Discussion:

The project site and much of the surrounding area are predominantly level. There are no natural slopes and other geologic conditions that would render the area susceptible to unstable slopes and landslides. Based on the City of Indio's General Plan Public Health and Safety Element, areas with natural susceptibility to landslides occur in the Indio Hills, situated in a northern portion of the City. Furthermore, Indio's General Plan Slope Map (Figure 5.6-3) displays the project site within an area of the City with a 0 to 15 percent slope designation.

The project specific geologic assessment of the project site also concluded that the site, and surrounding areas, exhibit very flat topography that is not prone to landslides. Therefore, no impacts from landslides are anticipated at the project site.

Cumulative Impacts: None
Mitigation Measures: None

b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Discussion:

Soil erosion is a major concern for many cities in the Coachella Valley, including Indio, due to the periodic high winds from the northwest. According to Indio's General Plan, the geologic type found on the project site includes dune sand deposits, which consist predominantly of very loose, fine-grained sand, and are typically subject to the reworking or transport by wind. If these soils are not adequately stabilized they may damage land, buildings, vehicles, traffic signs, drainage culverts, and public utilities, which lower property values (Indio General Plan, 1994). The City of Indio recognizes the susceptibility of their city to windborne erosion in the Blowsand Hazard Map (Figure 5.2-1), where a majority of the City is designated in either an "active blowsand zone" or "blowsand hazard zone." The project site, specifically, lies within an "active blowsand zone." The City of Indio has adopted a series of policies and implementation measures designed to achieve the goal of reducing levels of fugitive dust. The approximate 18.50-acre project will comply with the City's implementation measures to ensure less than significant impacts from soil erosion occur at the project site.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

One implementation measure includes the application of a Local Air Quality Management Plan (LAQMP), otherwise known as a Fugitive Dust Control Plan (PM10). The LAQMP will be implemented in accordance to the South Coast Air Quality Management District's (SCAQMD) regulations pertaining to soil erosion and fugitive dust. The Plan will detail all of the site-specific mitigation measures that will be implemented to minimize airborne dust, before, during and after grading and construction activities. This plan will be reviewed and approved by the City of Indio to ensure that performance standards are met (see discussion in Section III, Air Quality for further information).

In addition to the Local Air Quality Management Plan, the project shall comply with the requirements of the California General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit), issued by the State Water Resources Control Board under the National Pollutant Discharge Elimination System (NPDES). Compliance with the General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP), which outlines measures to minimize soil erosion and sedimentation (further discussed in Section IX, Hydrology and Water Quality).

The property is currently characterized by scattered date palm trees, cleared land, and dispersed agricultural equipment, due to its prior use as a date palm tree nursery. Additionally, the ground coverage on the property is currently unprotected, therefore susceptible to erosion. Per the Geotechnical Report, organic materials were found on the project site due to the project's prior use. The development of the proposed 18.50-acre project will include clearing, grubbing, and grading activities, which will be performed according to an engineered grading plan approved by the City. Per the project specific Geotechnical Report, all existing weeds, grasses, brush, shrubs, trees and similar vegetation existing within areas to be graded should be stripped and removed from the site.

All soft, loose, dry, saturated, spongy, organic-rich material shall be overexcavated to competent ground as determined by the Geotechnical Report. Any cavities or excavations created upon removal of existing trees (root ball), root balls remaining from former tree sites, or any unknown subsurface structure(s) should be cleared of loose soil, shaped to provide access for backfilling and compaction equipment and then backfilled with properly compacted fill. The Garden Fellowship project proposes a church facility including a parking lot, landscaped outdoor recreational areas, water features, amphitheater and three buildings (worship, children's classrooms, and youth/administration/café). The parking lot, buildings, and pedestrian features intend to be paved, therefore creating an impervious surface. The open space pervious areas will be designed and landscaped to avoid soil erosion caused by water and wind. The construction of the project site includes both pervious and impervious ground cover improvements, including landscaping, which will prevent soil erosion or the loss of topsoil in any substantial manner.

With the implementation of the Storm Water Pollution Prevention Plan (SWPPP), the LAQMP, and the recommendations outlined within the project specific Geotechnical Report, less than significant impacts involving erosion at the project site are anticipated.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion:

The project proposes a church campus on an approximately 18.50-acre site in the City of Indio. The project site is currently occupied by a tree nursery and characterized by scattered date trees and cleared disturbed land. The project site has been analyzed for the likelihood of potential geologic hazards including liquefaction, lateral spreading, subsidence, liquefaction, landslides and soil collapse.

Per the City's General Plan and the project specific Geotechnical Report, seismically related ground failure, like liquefaction, is considered low at the project site due to the deep groundwater (see section a. iii. in this Geotechnical Section). No impacts of liquefaction are anticipated.

Other than liquefaction which was previously discussed in this document, different types of ground failures can occur as a consequence of severe ground shaking. These ground failures may include landslides, subsidence, ground lurching, and lateral spreading. The probability of each type of ground failure occurring depends on the severity of the earthquake, distance from faults, topography, subsoils and groundwater conditions, in addition to other factors. The project's Geotechnical Report concluded that based on the site conditions, proposed grading and flat topography across the site, landsliding, ground subsidence, ground lurching and lateral spreading are considered unlikely.

Collapsible soils, as stated in the Riverside County General Plan, typically occur in recently deposited, Holocene (less than 10,000 years old) soils that were deposited in an arid or semi-arid environment. Soils prone to collapse are commonly associated with man-made fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. When saturated, collapsible soils undergo a rearrangement of their grains, and the water removes the cohesive materials, an increase in surface water infiltration, such as from irrigation or a rise in groundwater table, combined with the weight of a building or structure, can initiate settlement and cause foundations and walls to crack.

Per the project specific Geotech Report, the existing loose surficial soils including undocumented fill and the upper alluvium are considered unsuitable for support of proposed fills, structures, flatwork, pavement or other improvements and should be removed to underlying competent alluvial deposit materials. Clearing and grubbing will occur on the project site in order to remove the existing vegetation from the previous land uses. All existing low-density, compressible surficial soils in areas to receive compacted fill or to support the proposed building pads should be removed to underlying competent soils as approved by the project geotechnical consultant. Petra Geosciences anticipates the removals of these soils to be on the order of one to three feet below existing grades across the majority of the site. Implementation of this recommendation will ensure the impacts of collapsible soils are less than significant.

Per the City of Indio's General Plan, the Riverside County General Plan, and the project specific Geotechnical Report, the project site is not anticipated to result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or soil collapse. Less than significant impacts are expected as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	☐	☐	☒	☐

Discussion:

The Riverside County General Plan's Safety Element states that expansive soils have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils and can potentially cause damage to the structures. To ensure the structural integrity of the project, mitigation measures shall be implemented if expansive soils are found onsite. These measures may include the reinforcement of the existing foundation or through the excavation and removal of the expansive soils in the affected area.

Petra Geosciences tested for the presence of expansive soils on the property. Through their laboratory testing of the soils, they determined that the soil expansion potential at the project site is considered "very low to medium." The project specific Geotechnical Report recommended that the soils imported onto the project site used during grading and other developmental aspects be non-expansive.

Per the City of Indio's General Plan, the Riverside County General Plan, and the project specific Geotechnical Report prepared by Petra Geosciences, the project site is not anticipated to result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or soil collapse, impacts are impacts are expected to be less than significant following the implementation of recommendations outlined in the project specific Geotechnical report.

Cumulative Impacts: None
Mitigation Measures: None

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion:

Sewer service is provided in the vicinity by the Coachella Valley Water District. The project will connect to the public sewer system and no septic tanks or alternative waste water disposal systems are proposed. No impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS --Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Discussion:

The following analysis and findings rely on *The Garden Fellowship Greenhouse Gas Analysis* (GHGA) report completed by Urban Crossroads on April 6, 2018. Greenhouse gases (GHG) are a group of gases that trap solar energy in the Earth's atmosphere, preventing it from becoming too cold and uninhabitable. Common greenhouse gases in the Earth's atmosphere include: water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), ozone, and to a lesser extent chlorofluorocarbon. Carbon dioxide is the main GHG thought to contribute to climate change. Carbon dioxide reflects solar radiation back to Earth, thereby trapping solar energy and heat within the lower atmosphere. Human activities (such as burning carbon-based fossil fuels) create water vapor and CO2 as byproducts, thereby impacting the levels of GHG in the atmosphere.

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

To address the long-term adverse impacts associated with global climate change, California's Global Warming Solutions Act of 2006 (AB 32) requires California Air Resource Board (CARB) to reduce statewide emissions of greenhouse gases to 1990 levels by 2020. In 2016, Governor Jerry Brown signed Senate Bill 32 (SB32) that requires California to reduce GHG emissions to 40 percent below 1990 levels by 2030. With the passage of the California Global Warming Solutions Act of 2006 (Assembly Bill 32) in California, environmental documents for projects pursuant to CEQA are required to analyze greenhouse gases and assess the potential significance and impacts of GHG emissions.

An individual project like the proposed development evaluated in this GHGA cannot generate enough greenhouse gas emissions to affect a discernible change in global climate. However, the proposed project may participate in the potential for GCC by its incremental contribution of greenhouse gases combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC.

The GHGA was prepared to evaluate project-related construction and operational emissions and determine the level of greenhouse gas (GHG) impacts as a result of constructing and operating the proposed project. Similar to *The Garden Fellowship Air Quality Impact Analysis (AQIA),* the GHGA uses the CAPCOA

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

California Emissions Estimator Model (CalEEMod) Version 2016.3.2 to calculate the construction-source and operational-source criteria pollutant and GHG emissions from direct and indirect project sources. GHG emissions were calculated for construction, area, mobile, energy, waste, water source categories. CalEEMod was also used to quantify the applicable GHG reductions achieved from mitigation measures.

The basis for calculating GHG emissions is a proposed project setting consisting of a church campus with a 1,800-seat worship center (of which 1,344 are fixed seats and 456 are portable seats) with separate accommodations for teens / children, along with ancillary uses such as an amphitheater, café, church office, maintenance, etc. For purposes of the GHG analysis, the project was modeled using an estimated total building area of 55,236 square feet, as provided by the project applicant.

Construction activities associated with the project would result in emissions of CO2 and CH4 in amounts which will not exceed the SCAQMD thresholds. The emissions quantities are provided in the Air Quality section of this Initial Study. For construction-phase project emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the project, SCAQMD recommends calculating the total greenhouse gas emissions for the construction activities, dividing it by a 30-year project life then adding that number to the annual operational phase GHG emissions. As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions.

Operational activities associated with the proposed Project will result in emissions of CO2, CH4, and N2O from area, energy, mobile, solid waste, and water supply, treatment, and distribution. A brief description of each source is provided below:

Area Source – Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the project.

Energy Source – GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions.

Mobile Source – GHG emissions will also result from mobile sources associated with the Project. These mobile source emissions will result from the typical daily operation of motor vehicles by visitors, employees, and customers. Project mobile source air quality impacts are dependent on both overall daily vehicle trip generation and the effect of the project on peak hour traffic volumes and traffic operations in the local vicinity. The project-related operational impacts are derived primarily from vehicle trips generated. Trip characteristics available from *The Garden Fellowship Traffic Impact Analysis* (TIA) (Urban Crossroads, Inc. 2018) were utilized in this analysis.

Per the TIA, the project is expected to generate a net total of approximately 3,098 trip-ends per day (actual vehicles) on a typical Sunday with 1,413 AM peak hour trips and 763 MD peak hour trips. (36). It should be noted that weekday and Saturday trip characteristics are based on CalEEMod defaults. This greenhouse gas study relies on the net Project trips (as opposed to the passenger car equivalents) to accurately account

for the effect of individual truck emissions associated with the Project. Trip characteristics based on CalEEMod defaults were used in the analysis. Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.

Solid Waste – Worship center land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed project were calculated by the CalEEMod™ model using default parameters.

Water Supply, Treatment and Distribution – Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and distribute water depends on the volume of water as well as the sources of the water.

The City of Indio has not adopted its own numeric threshold of significance for determining impacts with respect to greenhouse gas (GHG) emissions. A screening threshold of 3,000 MTCO2e per year to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by numerous cities in the South Coast Air Basin and is based on the South Coast Air Quality Management District (SCAQMD) staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required.

Table VII-1
Total Project Greenhouse Gas Emissions

Emission Source	Emissions (metric tons per year)			
	CO_2	CH_4	N_2O	Total CO_2E
Annual Construction Emissions	40.93	0.01	0.00	41.12
Area	0.02	6.00E-5	0.00	0.02
Energy	487.81	0.01	3.61E-03	489.15
Mobile Sources	877.73	0.05	0.00	879.00
Waste	63.92	3.78	0.00	158.35
Water Usage	30.84	0.06	1.47E-03	32.70
Total CO_2E (All Sources)	1,600.34			
SCAQMD Threshold	3,000			
Significant?	NO			

As shown in VII-1, the project will result in approximately 721.34 MTCO2e per year from construction, area, energy, stationary, waste, and water usage. In addition, the project has the potential to result in an

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

additional 879.00 MTCO2e per year from mobile sources if the assumption is made that all of the vehicle trips to and from the project are "new" trips resulting from the development of the project. As such, the project has the potential to generate a total of approximately 1,600.34 MTCO2e per year. As such, discussed above, the project would not exceed the applicable threshold of significance. Thus, the project would not have the potential to result in a cumulatively considerable impact with respect to GHG emissions.

Cumulative Impacts: None
Mitigation Measures: None

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion:

AB 32 requires California to reduce its GHG emissions by approximately 28.5% when compared to GHG emissions produced under a Business as Usual scenario. CARB identified reduction measures to achieve this goal as set forth in the CARB Scoping Plan. Thus, projects that are consistent with the CARB Scoping Plan are also consistent with the 28.5% reduction below business as usual required by AB 32.

The Project would generate GHG emissions from a variety of sources which would all emit Carbon Dioxide (CO2), Methane (CH4) and N2O. GHGs could also be indirectly generated by incremental electricity consumption and waste generation from the project. As stated previously, the CARB Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32. The CARB Scoping Plan recommendations serve as statewide measures to reduce GHG emissions levels. The Project would be consistent with the applicable measures established in the Scoping Plan.

Senate Bill 32 (SB 32) requires the state to reduce statewide greenhouse gas emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide greenhouse gas reduction target of 80% below 1990 levels by 2050.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by the CARB, California, under its existing and proposed GHG reduction policies, is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32. The Project reduces its GHG emissions to the maximum extent feasible as discussed in this document. Additionally, the project applicant would not actively interfere with any future City-mandated, state-mandated, or federally-mandated retrofit obligations enacted or promulgated to legally require development City-wide, state-wide, or nation-wide to assist in meeting state- adopted greenhouse gas emissions reduction targets, including that established under Executive Order S-3-05, Executive Order B-30-15, or SB 32.

The Project does not interfere with the state's implementation of (i) Executive Order B-30-15 and SB 32's target of reducing statewide GHG emissions to 40% below 1990 levels by 2030 or (ii) Executive Order S-3-05's target of reducing statewide GHG emissions to 80% below 1990 levels by 2050 because it does not interfere with the state's implementation of GHG reduction plans described in the CARB's Updated Scoping Plan, including the state providing for 12,000 MW of renewable distributed generation by 2020,

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

the California Building Commission mandating net zero energy homes in the building code after 2020, or existing building retrofits under AB 758. Therefore, the project's impacts on greenhouse gas emissions in the 2030 and 2050 horizon years are less than significant.

Cumulative Impacts: None
Mitigation Measures: None

VIII. HAZARDS AND HAZARDOUS MATERIALS --Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Discussion:

The project proposes the development of a church facility with parking, education centers, worship center, recreation areas, and amphitheater, on the southwest corner of Young's Way and Jefferson Street in Indio. The approximately 18.50-acre project is not expected to involve the use of any hazardous materials aside from common household detergents and other cleaning products.

The Code of Federal Regulations (CFR Title 40, Part 261) categorizes hazardous materials as substances that are toxic, ignitable or flammable, reactive, and/or corrosive. These substances have the capacity of causing harm or a health hazard during normal exposure or an accidental release or mishap. Hazardous wastes require special handling and disposal to reduce their potential to damage public health and the environment. Individual circumstances, including the substance type and quantity used, and the nature of the activities and operations, affect the likely occurrence and severity of consequences from a hazardous situation. Existing federal, state and local laws regulate the use and management of hazardous or potentially hazardous materials.

Development of the proposed project would involve the temporary management and use of potentially hazardous substances for construction and related equipment. Some of these materials would be transported to the site periodically by vehicle and would be stored temporarily during construction. The risk of these hazardous materials is greatly decreased when handled properly by trained individuals per the manufacturer's instructions and industry standards. The proper management of potentially hazardous materials will be regulated in part by the Best Management Practices (BMPs) and measures of a required Storm Water Pollution Prevention Plan (SWPPP) for the project. The most pertinent BMPs, identified by the California Stormwater Quality Association (CASQA), are Material Delivery and Storage (WM-1); Material Use (WM-2); and Spill Prevention and Control (WM-4). These measures outline the required steps for preventing impacts due to hazardous materials to humans and the environment during construction. With such standard measures in place, less than significant impacts are anticipated during construction.

Church developments and classroom facilities do not typically involve the routine transport, use or disposal of hazardous materials in quantities or a manner that would pose a threat to the project and surroundings. The development and operation of the proposed café also involves the use and storage of small quantities of potentially hazardous materials in the form of cleaning solvents and common household detergents. These hazardous materials are regulated by stringent federal and state laws

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

mandating the proper transport, use, storage and disposal of hazardous materials in accordance with product labeling. However, the use and storage of these substances is not considered to present a health risk when used in accordance with manufacturer specifications and with compliance to applicable regulations. Potentially hazardous materials that pose a significant hazard to public health and safety or the environment are not anticipated to be present in sufficient quantities due to project implementation. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Discussion:

As noted previously, hazardous materials are not typically present in large quantities for church developments. The development and operation of the proposed church facilities and café would involve the use and storage of small quantities of potentially hazardous materials in the form of cleaning solvents and common household detergents. These hazardous materials are regulated by stringent federal and state laws mandating the proper transport, use, storage and disposal of hazardous materials in accordance with product labeling. However, the use and storage of these substances is not considered to present a health risk when used in accordance with manufacturer specifications and with compliance to applicable regulations. Therefore, accidental conditions involving the release of hazardous materials are unlikely. The project is required to follow industry regulations related to use and storage of landscaping related chemicals. Less than significant impacts are expected to result from project implementation.

Cumulative Impacts: None
Mitigation Measures: None

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

Discussion:

Shadow Hills High School is located within one-quarter mile south of the project site at 39225 Jefferson Street, approximately 725 feet south. However, the nature of this project does not involve the use of hazardous substances other than common household cleaners and solvents. Moreover, the handling and disposal of the materials will be regulated to industry standards to ensure the safety of the project and the surrounding areas.

During construction of the project the temporary use of hazardous substances including paints, solvents etc. are expected. As discussed in the Air Quality Section, Hydrology Section, and section a) of this Hazardous Materials Section within this environmental document, best management practices (BMPs) will be implemented in order to ensure that the products do not leave the project site and cause harm to the surrounding environment. The proper management of potentially hazardous materials will be regulated

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

in part by the Best Management Practices (BMPs) and measures of a required Stormwater Pollution Prevention Plan (SWPPP) for the project. The most pertinent BMPs, identified by the California Stormwater Quality Association (CASQA), are Material Delivery and Storage (WM-1); Material Use (WM-2); and Spill Prevention and Control (WM-4). These measures outline the required steps for preventing impacts due to hazardous materials to humans and the environment during construction. With such standard measures in place, the project's impacts involving surrounding areas are anticipated to be less than significant during construction and project implementation.

Cumulative Impacts: None
Mitigation Measures: None

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

Discussion:

In order to comply with Government Code 65962.5 and its subsections, record searches on the project property were performed within multiple database platforms. The resources consulted included GeoTracker, EnviroStor and the EPA Enforcement and Compliance History Online (ECHO).

GeoTracker is a database maintained by the State of California Water Resources Control Board that provides online access to environmental data. It serves as the management system for tracking regulatory data on sites that can potentially impact groundwater, particularly those requiring groundwater cleanup and permitted facilities, such as operating underground storage tanks and land disposal sites.

The EnviroStor database identifies sites where contamination is present or where further investigation may be required. Maintained by the State of California Department of Toxic Substances Control (DTSC), the database includes the identification of formerly contaminated properties that have been released for reuse; properties where environmental deed restrictions have been recorded to prevent inappropriate land uses; and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Moreover, the ECHO database focuses on inspection, violation, and enforcement data for the Clean Air Act (CAA), Clean Water Act (CWA) and Resource Conservation and Recovery Act (RCRA) and also includes Safe Drinking Water Act (SDWA) and Toxics Release Inventory (TRI) data.

In January 2018, a search was performed on all three database platforms. The search results did not identify any records of Leaking Underground Storage Tank (LUST) Cleanup Sites or Permitted Underground Storage Tanks on or in connection with the project property. The EnviroStor and ECHO databases did, however, identify properties within 1 miles of the project site. The results of the database searches are described below:

When consulting the EnviroStor database, two School Investigation Sites were listed within a quarter mile south of the project property. These sites, Shadow Hills High School, and Desert Ridge Academy Middle

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

School, were registered by the Department of Toxic Substance Control (DTSC), but do not require further action as of June 19, 2002 and February 11, 2004, respectively; therefore, are not expected to impact the project site.

The ECHO database identified three facilities within a mile of the project property. The first site includes Calarcio Landscape, at Galindo Court. This registered facility, approximately 0.75 miles south of the project property, is listed in the Resource Conservation and Recovery Act (RCRA) as a small quantity generator (SQG). The second facility is Shadow Hills (housing development), at Jefferson and 40th Street. This facility, also approximately 0.75 miles south of the proposed project, is registered in the Clean Air Act (CAA) as an operating minor facility. Finally, Fiesta Ford, located at 78990 Varner Road, approximately 1 mile southwest of the project property. This site is also listed in the RCRA as a small quantity generator. The three listed facilities do not currently hold any violations.

The GeoTracker registry did not list a site within a mile of the project property. The closest registered facility to the site was G&M Oil Co., located at 78415 Varner Road in Palm Desert, approximately 1.50 miles southwest of the project property. The site is registered as a Permitted Underground Storage Tank by the Riverside County Department of Environmental Health, however, due to its distance to the project site, no impacts are anticipated.

As a result of the database searches, the facilities registered in the GeoTracker, EnviroStor or ECHO databases are not expected to affect the project site due to their distance from the project, and their absence of violations. Additionally, the project site was not listed in any of the registries; therefore, no impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐

Discussion:

The project site is located in the influence area of the Bermuda Dunes Airport (Compatibility Zone E). This private airport is located approximately 1.25 miles south of the proposed project site. Therefore, the project is subject to review by the Riverside County Airport Land Use Commission (ALUC).

Compatibility Zone E is the least restrictive of the zoning areas and provides no maximum densities or intensities but does restrict heights to a maximum of 150 feet. Proposed land uses within this zone that do not require a General Plan Amendment, Change of Zone, or Specific Plan Amendment, and do not have unusual height or height variances are eligible for administrative review and approval by the ALUC Director. On April 26, 2018, the Riverside County ALUC Director issued the proposed project a finding of Consistency with the 2004 Bermuda Dunes Airport Land Use Compatibility Plan. The project shall

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

ensure any outdoor lighting is shielded or hooded to prevent either spillage of lumens or reflection into the sky. Moreover, the following shall also be prohibited; the steady or flashing lights of red, white, green, or amber colors that might be associated with airport operations, surfaces which might reflect sunlight towards an aircraft. Any use which would cause sunlight to be reflected towards an aircraft and any use that would generate smoke or water vapor or which would attract a large concentration of birds. With the design requirements described above, less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐

Discussion:

As previously discussed, the project will incorporate the required safety elements necessary to comply with the Bermuda Dunes Airport Compatibility Zone E. Ground obstructions, building location, building heights, use type, intensity and lighting have been reviewed and found to be Consistent by the Riverside County ALUC. Less than significant impacts are anticipated as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

Discussion:

The City of Indio has four fire stations within their city boundaries; the closest station is the Sun City Shadow Hills Fire Station No.4, located at 81025 Avenue 40, approximately 1.7 driving miles southeast of the project. The proposed project site design shall be reviewed by the Indio Fire Department for compliance with project specific emergency access, water pressure and similar requirements as a routine aspect of Indio's design review process. The project site is not expected to impair or physically interfere with an adopted emergency response plan or emergency evacuation plan, during construction or operation. Therefore, no impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Discussion:

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project is in a developed area that is not adjacent to or intermixed with wildlands. Therefore, no impact from wildland fires would be expected to occur.

Cumulative Impacts: None
Mitigation Measures: None

IX. HYDROLOGY AND WATER QUALITY -- Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

Discussion:

The Clean Water Act (CWA) of 1972 establishes regulations pertaining to the discharge of pollutants to waters of the U.S. from point sources. Subsequent amendments to the CWA in 1987 established a framework for regulating non-point source stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). Presently in the State of California, the State Water Resources Control Board (SWRCB) and nine California Regional Water Quality Control Boards (RWQCBs) administer the regulation and protection of water quality pursuant to the NPDES. Their regulations encompass storm water discharges from construction sites, municipal separate storm sewer systems (MS4s), and major industrial facilities. The proposed Project is located within the Whitewater River Watershed in the Colorado River Region (Region 7). The City Indio is a Permittee of the Whitewater River Watershed MS4. Within Region 7, the approved Water Quality Control Plan, prepared by SWRCB, provides guidelines for protecting the beneficial uses of state waters within the Region with efforts to preserve and protect their condition and quality. Receiving waters in the Coachella Valley relevant to the Project include the Coachella Valley Storm Water Channel.

As previously discussed, the project property has historically operated as a tree nursery composed of ornamental tree production areas of various sizes; staging for vehicles and maintenance equipment; stockpiles areas for mulch, soil, and organic material; vacant areas; and one mobile home structure. The site is absent of any natural or engineered drainage features. The project proposes to develop the entire site into a church complex with various facilities, including a primary worship building, a multi-purpose building (youth center, administration building, and café), a classroom building, a maintenance building, an amphitheater, playgrounds, lawns, event spaces, and parking facilities. The project also includes the necessary street improvements on portions of Youngs Way to the north and Jefferson Street to the east.

The proposed Project involves a development footprint of approximately 19 acres. The size and nature of the proposed development prompts compliance with the existing regulations pertaining to water quality standards and waste discharge requirements. As a result, the project proponent must comply with the State's most current Construction General Permit (CGP), Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ and 2012-006-DWQ. Compliance with the CGP involves the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP) designed to reduce potential adverse impacts to surface water quality during the period of construction. The required plan will identify the limits of disturbance during each phase of construction with specific locations where activities will require implementation of stormwater best management practices (BMPs). Stormwater BMPs refer to a schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent, eliminate, or reduce the pollution of waters of the receiving waters.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff spillage or leaks. Consistent with Section XIV of the CGP, the SWPPP will also specify the necessary recordkeeping, relevant good site housekeeping requirements, proper waste management, proper material handling and storage within the allowable construction limits.

Based on the Project location and setting, the compliant SWPPP is expected to identify temporary sediment track-out prevention devices at each construction entrance/exit point adjacent to the public roadways (Jefferson Street and Youngs Way). This type of BMP will provide temporary stabilization to prevent sediment track-out and fugitive dust emissions. Linear sediment barriers are warranted along portions of or the entire construction perimeter to prevent soil and sedimentation erosion impacts. As construction progresses, any on-site proposed storm drain inlets that become operational will require temporary protection to prevent sediment or pollutants from entering the on-site storm drain system.

During construction, the Project will also be required to comply with South Coast Air Quality Management District's (SCAQMD) Rule 403 and 403.1, which prompt the obligation to prepare and implement a Fugitive Dust (PM10) Control Plan. Implementation of the Fugitive Dust Control Plan primarily pertains to air quality, but also supports water quality protection through the requirement of soil stabilization measures to prevent sediment erosion and track-out. The concurrent implementation of the required SWPPP and Dust Control Plan plans will prevent the potential construction-related impacts to water quality at the site and its surroundings, therefore resulting in less than significant impacts.

As a standard condition, the Project proponent is required to comply with the Storm Water Management and Discharge Controls established in Chapter 55 of the Indio Code of Ordinances by preparing and implementing a Project-Specific Water Quality Management Plan (WQMP). This document must comply with the most current standards of the *Whitewater River Region Water Quality Management Plan for Urban Runoff* and the *Whitewater River Watershed MS4 Permit*. The Project-Specific WQMP will apply to the entire project footprint with a strategy of site design, source controls and treatment controls with a required operation and maintenance program designed to address post-construction runoff quantity and quality. A Preliminary Grading Plan, Preliminary Hydrology Report, and a Project-Specific Preliminary Water Quality Management Plan (WQMP) have been prepared for this project. These engineering documents identify the necessary site design features and improvements for establishing proper flood control and storm water management. As such, they are referenced in various discussions pertaining to hydrology, water quality, and other sections of this Initial Study.

The project is required to provide improvements and facilities to capture and retain the post-construction runoff volume resulting from the controlling 100-year storm event. According to the Preliminary Hydrology Report and WQMP, the project has a total hydrologic area of approximately 19 acres, which is divided into six on-site drainage management areas. Within each drainage management area, at least one proposed surface retention basin will accept and infiltrate the required capture volume for purposes of water quality management and to properly handle the runoff volume resulting from the controlling 100-year storm event. The total retention capacity of the six basins is approximately 179,705 cubic feet, which is sufficient to address the total required storage of 91,051 cubic feet. As a standard condition, the proposed storm drain facilities will be subject to review and approval by the City of Indio to ensure that all local engineering design standards are met. By adhering to the established regulations noted above, the project is not expected to contribute storm water volumes or pollutants to the local MS4 or any receiving water

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

in a manner that would degrade the local beneficial uses or contribute to any local water quality impairment.

Moreover, the project's landscape design will comply with the Indio Water Authority Landscape and Water Conservation Guidelines, which establishes practical water efficient standards for landscape and irrigation design of new and rehabilitated landscapes. This design will help reduce the potential for contamination of groundwater for the reason that water waste will be reduced. Drought tolerant landscaping and water conserving irrigation practices shall be implemented in residential design. Any future development shall abide by all applicable state codes and the City's Water Efficient Landscape Ordinance. Pertaining to water quality and waste discharge, less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐

Discussion:

Coachella Valley Water District (CVWD) is the primary domestic water supplier for the project area and the northwest part of Indio. The project area and City of Indio are underlain by the Whitewater River subbasin, which forms part of the Coachella Valley groundwater basin as the primary source of domestic water supply. The Whitewater River subbasin underlies a major portion of the Coachella Valley floor and is shared and managed by various districts, including CVWD and Indio Water Authority (IWA). CVWD has established active water conservation, water reuse, and groundwater recharge planning efforts to ensure adequate water availability and system capacity to meet the growing needs of the City. These planning efforts include: residential and commercial landscape and irrigation upgrade rebates, water audits, water conservation kits, washing machine and toilet rebates, water waster mobile app and hotline, budget-tiered rate structure, water conservation workshops, and water misuse program.

Local groundwater resources are managed under the 2015 adopted CVWD Urban Water Management Plan (2015 UWMP) Final Report, dated July 1, 2016. The 2015 UWMP serves as a planning tool that documents actions in support of long-term water resources planning and ensures adequate water supplies are available to meet the existing and future urban water demands. Page 6-6 of the 2015 UWMP indicates that the Coachella Valley groundwater basin historically has been in a state of overdraft. An overdraft condition occurs when the outflows (demands) exceed the inflows (supplies) to the groundwater basin over a period of time. To address this condition, the water management strategies have combined water conservation measures with groundwater replenishment facilities to stabilize the groundwater levels and eliminate the overdraft. Artificial replenishment, or recharge, is recognized by the water districts as one of the most effective methods available for preserving local groundwater supplies, reversing aquifer

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

overdraft and meeting demand by domestic consumers. According to the CVWD web site on Ground Replenishment and Imported Water, the CVWD and DWA groundwater replenishment program has percolated 650 billion gallons of water back into the aquifer to date. Local replenishment efforts have also been coupled with a reduction in demand through improved water efficiency use in homes, yards, gardens, and businesses.

The proposed project complies with the local and regional groundwater recharge strategies by implementing on-site storm water retention, infiltration and low impact development improvements as part of the site design. To manage storm water, the entire project and adjacent street tributary areas have been divided into six drainage areas (sub-watersheds) ranging from approximately 1.11 to 3.54 acres in size. Within each drainage area, a retention basin has been designed and sized to retain the required capture volume for purposes of water quality management and the storm volume resulting from the controlling 100-year storm event. The retention basins are integrated into the open space portions of the site plan. The total retention basin capacity provided by the project is approximately 179,705 cubic feet, which is sufficient to address the total required storage of 91,051 cubic feet. As such, the entire volume of storm water runoff generated on-site up to the 100-year event will be percolated on-site, contributing to groundwater recharge. This information is provided in the Project-Specific Water Quality Management Plan (WQMP), which is required to comply with the most current standards of the *Whitewater River Region Water Quality Management Plan for Urban Runoff* and the *Whitewater River Watershed MS4 Permit* and is subject to review and approval by the City prior to issuance of a grading permit. Furthermore, the project will implement water conservation measures in accordance with the regulations established by CVWD and the City of Indio. The project will conserve water through measures that may include efficient plumbing and appliances, efficient irrigation systems, and drought-tolerant planting materials. Therefore, the project is not expected to interfere with groundwater recharge conditions and impacts on groundwater supplies and recharge are expected to be less than significant.

Cumulative Impacts: None
Mitigation Measures: None

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

Discussion:

A majority of the project has previously been cleared, disturbed and occupied as a tree nursery. Unpaved portions of the project property have historically been designated for tree production, vehicle and equipment staging, material stockpiling, and other processing activities. As such, the existing project setting is absent of any defined natural drainage pattern or course, such as a stream or river that could be affected through an alteration, increase in runoff, erosion or siltation, on- or off-site.

The proposed development will result in the conversion of undeveloped (pervious) land to a predominantly impervious condition in the form of buildings, hardscape, and asphalt surfaces. This modification would typically result in a site-specific increase in the rate and amount of surface runoff. To

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

prevent drainage conditions (patterns, quantities, or velocities) that can potentially result in adverse erosion and sedimentation impacts, the project will incorporate engineered storm drain facilities based in part on the findings of a required project-specific hydrology study and Project-Specific Water Quality Management Plan. The site design, grading and storm drain improvement plans will dictate the specific conveyance mechanism (surface and piped flows) necessary to properly handle storm water runoff.

As previously described, runoff from throughout the project's impervious areas (buildings, hardscape and paving) will be conveyed primarily via surface flows to storm drain inlets connected to six surface retention basins, where the storm water will be infiltrated. As mandated by the City, the proposed retention facilities may be equipped with dewatering devices designed to promote pre-treatment and infiltration at the necessary rates to prevent vector issues. The proposed retention system is designed to have a sufficient capacity to retain and infiltrate the entire volume resulting from the controlling 100-year storm event. As a result of these improvements, the project will not result in storm runoff discharge conditions that would result in substantial erosion or siltation. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐

Discussion:

As previously described, the project property does not contain nor is located near any streams, rivers or other natural drainage courses. The proposed site design incorporates flood control improvements necessary to address the City of Indio's drainage requirements. As such, the project is designed to provide the proper capture and conveyance, of stormwater flows resulting from the 100-year storm event for the project and existing off-site tributary areas. Retention areas with de-watering facilities will be the primary method of ensuring that the design volume is captured and infiltrated without incurring flooded conditions. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Discussion:

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project is located with the City of Indio's MS4, which by definition comprised of a system of roads with drainage systems, municipal streets, catch basins, gutters, ditches, man-made channels, and storm drains designed to collect and convey stormwater. The Coachella Valley Stormwater Channel is the primary drainage course within the City's MS4, comprised of an approximately 500-foot-wide earthen channel traversing the north-central part of the City, approximately 3 miles east the project. The engineered channel is operated by Coachella Valley Water District (CVWD) and is designed to accept stormwater runoff from the City of Indio and from other jurisdictions at their respective frontages upstream and downstream.

In the current undeveloped condition, the project property has partial vegetation coverage and is graded to retain on-site runoff. The on-site earthen basins are also designed to accept off-site street flows from tributary frontage portions of Monroe Street to the west and Avenue 52 to the south via an existing under-sidewalk drain. The proposed Project will introduce permanent impervious surfaces to the undeveloped (pervious) land in the form of residential structures, hardscape, and paved streets. To prevent changes to local MS4 capacities (patterns, quantities, or velocities), the Project will implement a storm drain design with flood control facilities sized to handle the Project-specific conditions and to continue accepting tributary off-site street flows from Monroe Street and Avenue 52. As previously described, runoff captured from each drainage management area from the project will be conveyed primarily via street surfaces to a corresponding water quality treatment device and subsequently a retention area. These facilities will be designed to properly handle the runoff quantities resulting from the controlling 100-year event. In doing so, the project is not expected to result in impacts to the local storm drain facilities that form part of the MS4. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

f) Otherwise substantially degrade water quality?	☐	☐	☒	☐

Discussion:

Based on the current Preliminary Hydrology Report, the proposed development is divided into six drainage management areas (A, B, C, D, E, and F) covering the entire property and a portion of Youngs Way to the north. As proposed, storm runoff from each drainage area will be conveyed along impervious surfaces to a corresponding retention basin sized to handle the required capture volume for purposes of water quality management and the storm volume resulting from the controlling 100-year storm event. The total retention basin capacity provided by the project is approximately 179,705 cubic feet, which is sufficient to address the total required storage of 91,051 cubic feet and to prevent runoff discharge into the MS4. Each retention basin will be required to drawdown or percolate the design volume within 48 hours using the native soil or with the help of dewatering devices.

As a standard requirement, the Project proponent will be required to develop and implement a Project-Specific Water Quality Management Plan (WQMP) to comply with the most current standards of the *Whitewater River Region Water Quality Management Plan for Urban Runoff* and the *Whitewater River Watershed MS4 Permit*. The Project-Specific WQMP will identify a strategy of site design, source

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

controls, and treatment controls with a maintenance and monitoring program that, throughout the life of the Project will address post-construction runoff quality and quantity.

Through this required compliance, the Project will prevent impacts to the local receiving waters and avoid violations to the established water quality standards and waste discharge requirements. As a standard condition for new development Projects, the WQMP must be submitted and approved prior to the first discretionary Project approval or permit. The WQMP will identify the required maintenance practices necessary to ensure that the water quality facilities remain effective during the life of the Project. These include a maintenance covenant, inspection and maintenance program, with regular monitoring for all proposed measures and devices. Less than significant impacts relative to the substantial degradation of water quality are expected.

Cumulative Impacts: None
Mitigation Measures: None

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐

Discussion:

The Federal Emergency Management Agency (FEMA) evaluates potential flood hazards for the City and the Flood Insurance Rate Maps (FIRMs) by FEMA serve as the basis for identifying those potential hazards and determining the need for and availability of federal flood insurance.

Based on current FIRM panel 06065C1620G, effective since August 28, 2008, the project is located in Zone X, which applies to areas of the areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile. The project and its surroundings are not located within a Special Flood Hazard Area or a regulatory floodway subject to inundation by the 100-year flood event.

As such, the proposed development would not considerably alter the existing flood zone characteristics identified in the FEMA maps and would not place any residential structures within a designated 100-year flood hazard area or other known flood hazard condition. As discussed previously, stormwater runoff generated by the project will be managed by an engineered storm drainage system sized to handle the controlling storm event without incurring flooding impacts to the proposed homes. The proposed improvement plans, which will be subject to agency review and approval, ensure that the proposed grading and drainage conditions are acceptable to the City standards. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion:

As noted above, the proposed development is not located within a 100-year flood hazard area (FIRM No. 06065C1620G). Therefore, no proposed structures or facilities would be developed in a manner that would impede or redirect 100-year flood flows. No impacts are anticipated pertaining to this topic.

Cumulative Impacts: None
Mitigation Measures: None

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒

Discussion:
The Project is not located within close proximity to an existing dam or levee. Based on FEMA FIRM No. 06065C1620G, the nearest levee to the project is located approximately 0.64 miles to the north. The current flood maps published by FEMA do not identify the site as being subject flooding related to this existing levee structure. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:
The Project site is not located near a body of water that would pose potential seiche or tsunami impacts; therefore, no impacts are expected pertaining to this topic.

Cumulative Impacts: None
Mitigation Measures: None

X. LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?	☐	☐	☐	☒

Discussion:

The project site is approximately 18.5 acres of disturbed and partially vacant land at the southwest corner of Jefferson Street and Young's Way. The project site's existing zoning and General Plan Land Use is Equestrian Estate (E-E). The project proposes to develop the entire site into a multi-building church campus with a total of four buildings (A-D), an outdoor amphitheater, rolling lawns, event space, and parking facilities. Churches or places of worship are an allowed use in this zone with a Conditional Use Permit. The project site is located in an existing equestrian estate residential community in the City and is surrounded by estate residential properties to the north, south, east and west. Therefore, project implementation would not physically divide an established community. No impacts are anticipated.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Cumulative Impacts: None **Mitigation Measures:** None				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion:

As discussed throughout this Initial Study, the project site has a zoning and General Plan Land Use designation of Equestrian Estates (EE). This designation is intended to provide for the development of large lot estates and ranchettes and encourages a rural countryside atmosphere, while taking advantage of the rural environment and outdoor recreation potential. The project proposes the development of a church facility with an amphitheater, an open, event and rolling lawn, a packing house for worship, a classroom building for children, a youth/administration/café building, a structure for maintenance and 853 space parking lot. Church facilities are permitted in the EE zoning with the acceptance of a Conditional Use Permit by the City.

Development of the project is proposed in three phases. The north half of the parking lot, maintenance building (Building D), retention, and the worship building (Building A) will be developed in the first phase. The northeast and south-central portion of the project property will be developed in the second phase. These areas include the "Garden Kids" building (Building B), the northeast parking area, and the emergency access drive aisle and a portion of the southern parking area. The remaining parking area, west of Phase 2, "POD" multi-use building (Building C), amphitheater, lawns and event lawn will be developed as part of Phase 3. The Project Master Plan prepared for the project as part of the entitlements will contain all of the components for design concepts, guidelines and standards to implement the City of Indio General Plan and zoning code.

As previously discussed, the project site has been heavily disturbed and utilized as a nursery site for palms. Much of the property remains occupied by palms, with portions of the site cleared for parking and equipment storage. The project is surrounded by single family development, other nursery sites, and vacant desert land. The project's operation and physical characteristics would not conflict with any of the City's land use, zoning or other regulatory policies and the projects location would continue to be compatible with the surrounding neighborhood and the City's General Plan. The Riverside County ALUC reviewed the proposed project and found it to be Consistent with the 2004 Bermuda Dunes Airport Land Use Compatibility Plan. No Impacts are expected as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion:

The proposed project does not lie within a conservation area as designated by the Coachella Valley Multi-Species Habitat Conservation Plan (CVMSHCP). As a standard condition, all new development will pay the most current mitigation fee for the implementation of the CVMSHCP that supports the acquisition of conservation lands. The plan establishes a simple and uniform mechanism for mitigating the effects of development through the payment of Local Development Mitigation Fee (LDMF). The project will comply with the existing CVMSHCP Mitigation Fee Ordinance which is based on the project's total acreage. Therefore, no impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

XI. MINERAL RESOURCES -- Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

Discussion:

In accordance with the Surface Mining and Reclamation Act (SMARA), mineral land classification maps and reports have been developed to assist in the protection and development of mineral resources. The project site is located in the Mineral Zone MRZ-1 as shown by the Mineral Land Classification Map. MRZ-1 designations indicate areas where adequate geologic information suggests that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. Moreover, the nature of the project does not involve the extraction of mineral deposits. The approximately 18.5 acre project proposes three buildings, an open air amphitheater, recreation areas and other facilities for the purpose of worship. Construction of the proposed facilities would rely on existing local and regional aggregate resources from permitted facilities. The project is not expected to result in a considerable extraction and/or loss of known mineral resources that are considered important to the Coachella Valley Region or residents of California. No impacts are expected related to the loss of availability of known mineral resources.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

Discussion:

According to the City of Indio General Plan (Volume II), a study of the mineral deposits of both state-wide and regional significance was conducted in the Palm Springs region by the California Division of Mines and Geology.

The study concluded that the entire region within the current City limits of Indio and the Indio Ranchos Annexation areas have no significant aggregate deposits or little likelihood exists in these areas for their presence.

According to the Mineral Resource Zones Map in the City General Plan, the project site is located in a Mineral Resource Zone 1 (MRZ-1), where adequate information indicates that no significant mineral deposits are present (Figure 4.7-1). Areas acknowledged as having significant mineral deposits are located on the north and northeast portions of the City, approximately 1 mile from the project site.

Conclusively, the Indio General Plan indicates that no significant mineral deposits are found on the project site and it is not located within a locally important mineral resource recovery site; therefore no impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

XII. NOISE -- Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Discussion:

According to industry standards, local governments have little direct control of transportation noise at the source. State and methods local governments have to mitigate transportation noise is through land use planning that reduces vehicles trips and physical interventions that reduce the impact of the noise on the community. Although, noise barriers and setbacks have historically been common methods of protecting noise-sensitive land uses from excessive transportation-related noise in many communities. Recent attempts to emphasize pedestrian-friendly design and mixed-use development have led to consideration of alternative strategies for dealing with transportation-related noise sources. These alternative strategies include land use planning to reduce and slow (or calm) vehicle trips, and incorporation of noise-attenuating features into the architectural design of projects.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Noise has been simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear.

Noise levels in the City's General Plan are quantified on the basis of the Community Noise Equivalent Level (CNEL), which is a measurement scale that sets appropriate levels of noise based on land use types. CNEL is a 24-hour weighted scale that considers the more sensitive time periods in the evenings and at night, and weighs them accordingly. Sensitive receptors, such as residences and schools, have a lower acceptable CNEL level than commercial or business park noise levels.
In particular, exterior noise levels at residential locations/areas should not exceed an exterior CNEL of 65 dBA or interior CNEL of 45 dBA in any habitable room.

Noise transmission is affected by a variety of factors, such as temperature, wind speed and direction, as well as the type of ground surface. Soft ground surfaces tend to reduce sound levels better than hard surfaces. This reduction of sound intensity caused by surfaces, walls, vegetation or other material is called attenuation. Effective noise barriers, such as walls or berms, can help reduce noise levels. These types of barriers can provide relief from traffic noise. Vegetation, on the other hand, is less effective for reducing noise levels.

The following best management practices are integrated into the Project as standard conditions and are intended to minimize the temporary, construction-related noise impacts:

- All internal combustion equipment operating at Project site shall be fitted with properly operating mufflers and air intake silencers consistent with manufacturers' standards.
- All stationary construction equipment (e.g. generators and compressors) shall be located as far away from existing homes and other sensitive receptors as possible.
- Equipment staging shall be located in the areas that create the greatest distance practicable between construction-related noise sources and sensitive receptors.
- Haul truck deliveries and exports shall be limited to the same hours specified for the operation of construction equipment and shall utilize routes that limit exposure to sensitive receptors.
- Construction activities shall be limited to the least sensitive times of the day, Monday through Friday, and generally between 7AM and 5PM, excepting emergencies and other special circumstances (described subsequently in this discussion.)
- Stockpiling and vehicle staging areas shall be located as far as practicable from homes and other noise sensitive receptors during construction activities.

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA at approximately 100 feet, which can cause serious discomfort.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Another important aspect of noise is the duration of the sound and the way it is described and distributed in time. Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels.

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. The Federal Highway Administration (FHWA) encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized.

The State of California's noise insulation standards are codified in the California Code of Regulations, Title 24, Building Standards Administrative Code, Part 2, and the California Building Code. These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

Specifically, the Public Health and Safety Element, Section 5.1 Noise of the General Plan, identifies noise criteria of the City of Indio. The noise criteria identified in the City of Indio Public Health and Safety Element (Figure 5.1-1) are guidelines to evaluate the land use compatibility of transportation-related noise.

The City of Indio addresses two separate types of noise sources through the CEQA process: mobile and stationary. The mobile or transportation related noise impacts are controlled using the 24-hour Community Noise Equivalent Level (CNEL) to assess land use compatibility for community noise exposure. The CNEL noise metric allows the total noise exposure of an area resulting from many individual noise events over a long period of time to be summed and expressed as a single value and mapped as a series of contour lines around the noise source. In the case of highway noise, CNEL values typically reflect the noise exposure over the peak activity period or over a year, as is often the case with airport contours. The City of Indio noise standards designates a maximum of 65 CNEL as acceptable in outside activity areas and 45 CNEL as acceptable in interior living areas for residential areas.

Potential noise impacts are commonly divided into two groups: temporary and long term. Temporary impacts are usually associated with noise generated by construction activities. Long-term impacts are further divided into impacts on surrounding land uses generated by the proposed project and those impacts that occur at the proposed project site. Off-site impacts from on-site activities, short-term and long-term, are measured against the Noise Ordinance criteria. Activities for the proposed project will be required to meet the noise ordinance standards along with any noise generating activities associated with the operation of the project.

The peak levels of construction noise may cause annoyance to residents in the project vicinity during the construction activities. Construction activities will be limited by the Indio Noise Ordinance to the less-sensitive daytime hours, when residents are more likely to be away from home. Prior to issuance of any grading or building permits, specifications shall be prepared that identify contract requirements regarding the attenuation of noise from construction vehicles and activities.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Short-Term Construction Noise

Noise originating from the construction of the Project, will be limited to the hours of operation established under a jurisdiction's Municipal Code. Section 95C.08 of the City of Indio Municipal Code indicates that construction activity is limited to the following permitted hours:

Pacific Standard Time:	*Pacific Daylight Time:*
Monday through Friday – 7:00 a.m. through 6:00 p.m.	Monday through Friday – 6:00 a.m. through 6:00 p.m.
Saturday – 8:00 a.m. through 6:00 p.m.	Saturday – 7:00 a.m. through 6:00 p.m.
Sunday – 9:00 a.m. through 5:00 p.m.	Sunday – 9:00 a.m. through 5:00 p.m.
Government Holidays – 9:00 a.m. through 5:00 p.m.	Government Holidays – 9:00 a.m. through 5:00 p.m.

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators. The mix and operation of construction equipment is expected to occur during site preparation, grading, utilities/building construction, paving, and architectural coating.

During construction of Phase 3, buildings A, B and C will have access to and from the parking area as well as the open lawn area, Amphitheater, and the numerous walkways that are proposed throughout project. Building D, the maintenance building, will be isolated from the open lawn area, Amphitheater, and buildings A-C. The noise that will be increased by the buildout of the buildings will be temporary and intermittent. Project noise can be minimally reduced by trees and shrubs located near the northern and southern boundaries.

Traffic generated by the proposed Project will be the primary factor that influences noise levels in surrounding off-site areas. However, these impacts are expected to be less than significant.

Interior noise level is the difference between the predicted exterior noise level at the building facade and the noise reduction of the structure. Industry standards indicate that typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise.

Based on the limited frequency of use and acceptable level of traffic increase, along with interior noise attenuation measures provided in standard construction practices, the proposed Project is not expected to exceed the City of Indio noise level standards. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Discussion:

Groundborne vibration, also referred to as earthborne vibration, can be described as perceptible rumbling, movement, shaking or rattling of structures and items within a structure. Groundborne vibration can generate a heightened disturbance in residential areas. These vibrations can disturb residential structures

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

and household items while creating difficulty for residential activities such as reading or other tasks. Although groundborne vibration is sometimes perceptible in an outdoor environment, disturbance is primarily experienced inside a building. Groundborne vibration can be measured in terms of amplitude and frequency or vibration decibels (VdB). Trains, buses, large trucks and construction activities that include pile driving, blasting, earth moving and heavy vehicle operation commonly cause these vibrations. Other factors that influence the disturbance of groundborne vibration include distance to source, foundation materials, soil and surface types.

Construction of the project is expected to involve the temporary use of vehicles and equipment that would result in localized, short-term groundborne vibration increases within the permitted construction hours established by the City. Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. Therefore, the Project-related vibration impacts represent a less than significant impact during the construction activities at the Project site.

Further, construction related vibration will occur primarily during the operation of heavy construction equipment. Construction at the Project site will be restricted to daytime hours consistent with City requirements thereby eliminating potential vibration impact during the sensitive nighttime hours.

Although construction noise and vibration are temporary, intermittent and of short duration and will not present any long-term impacts, the following measures would reduce noise and vibration level increases produced by the construction equipment:

- Prior to approval of grading plans and/or issuance of building permits, plans shall include a note indicating that noise-generating Project construction activities, including truck haul deliveries, shall only occur between the permitted hours during Pacific Standard Time of 7:00 a.m. to 6:00 p.m. Mondays to Fridays; 8:00 a.m. to 6:00 p.m. on Saturdays; or during Pacific Daylight Time 6:00 a.m. to 6:00 p.m. Mondays to Fridays; 7:00 a.m. to 6:00 p.m. on Saturdays; and between 9:00 a.m. to 5:00 p.m. on Sundays and holidays all year-round. The Project construction supervisor shall ensure compliance with the note and the City of Indio shall conduct periodic inspection at its discretion.

- During all Project site construction, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the Project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receivers nearest the Project site (i.e., to the center) during all Project construction.

Relative to groundborne vibration, less than significant impacts are anticipated.

Cumulative Impacts: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Mitigation Measures: None				
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

Discussion:

As described above (Xl.a), the primary permanent noise sources will be vehicles traveling to and from the site, outdoor events, HVAC units, and grounds maintenance equipment. The vehicle mix will be comparable with existing vehicles on surrounding roads. The proposed project is not expected to result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Noise generated by the guests, visitors and employees is expected to be consistent with noise levels at typical church facilities and will not exceed City standards. Project-related vehicles will be consistent with vehicles currently using area roadways.

The Project noise level contributions are expected to be less than significant at adjacent noise-sensitive land uses. Less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐

Discussion:

Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include: schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

The construction activities required to implement the proposed project will create short-term noise increases that will be noticeable to noise-sensitive receptors within the area surrounding the project site. The intensity of the noise impacts will depend upon the proximity of the noise-sensitive land uses to the area under construction, the number and type of construction equipment operating each day, and the length of time each piece of equipment is used.

Two types of noise impacts should be considered during the construction phase. First, the transport of workers, equipment, and building materials to and from the construction site will incrementally increase noise levels along the roadways leading to and from the site. Second, the noise generated by the actual on-site construction activities should be considered.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The transport of workers, equipment, and building materials to and from the construction site will incrementally increase noise levels along the roadways leading to and from the site. The increase, although temporary in nature, could be audible to noise receptors located along the roadways utilized for this purpose.

The peak levels of construction noise may result in impacts to residents in the project vicinity during the construction activities however they are expected to be temporary and intermittent. Construction activities will be limited by the Indio Noise Ordinance as described previously. Employee parking and construction staging areas will be identified prior to issuance of any grading or building permits. Following implementation of standard conditions, less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion:

The project property is located approximately 1.25 miles north of the existing Bermuda Dunes Airport, which is privately owned and is therefore not deemed a public airport facility. No impacts are anticipated related to this issue.

Cumulative Impacts: None
Mitigation Measures: None

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Discussion:

Based on the Riverside County Airport Land Use Commission's (RCALUC) *Background Data: Bermuda Dunes Airport and Environs*, the project property is situated within the Bermuda Dunes Airport's Influence Area (AIA) and Airport Compatibility Zone E (*Other Airport Environs*). Compatibility Zone E is the least restrictive of the zoning areas, as it applies to AIA properties with the greatest separation from airport facilities. As such, this zone provides no maximum densities or intensities, but does restrict heights to a maximum of 150 feet. The Riverside County ALUC did review the proposed project and issued a finding of Consistency on April 26, 2018 (Case ZAP 1073BD18).

The Riverside County ALUC did review the proposed project and issued a finding of Consistency on April 26, 2018 (Case ZAP 1073BD18). Bermuda Dunes Airport is a privately-owned facility with highly seasonal activity. Airport management records summarized in the RCALUCP indicate that winter is the peak season, when aircraft operations are at their highest. As indicated in the Noise Compatibility

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Contours maps BD-4 through BD-8 of the RCALUCP, the entire project is located outside the mapped noise levels, including 55, 60 and 65 CNEL contours. As such, the proposed uses of the property and its occupants will not be impacted by any of the measured airport-related noise intervals associated with this airport facility, primarily due to distance. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

XIII. POPULATION AND HOUSING – Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐

Discussion:

As previously discussed, the project proposes to develop the entire site into a multi-building church campus with a total of four buildings, an outdoor amphitheater, rolling lawns, event space, and parking facilities. No residential uses are proposed as part of this project. Approval and development of the proposed project is not expected to increase population growth in the area. The project is consistent with the sites land use and zoning designation of Equestrian Estates. Places of worship and churches are an allowed used in this district with a Conditional Use Permit. It is anticipated that employment generated by the construction of this development would be filled by local residents or regional commuters and relocation is not expected. The project has vehicular access off of Youngs Way and Jefferson Street and indirect growth from extension of roads and infrastructure is not anticipated. The project will be served by the existing roads and infrastructure with minor upgrades and connections. Therefore, the project is not anticipated to induce substantial growth either directly or indirectly and less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

The proposed project currently operates as a plant nursery and will not involve demolition activities of existing structures or residences. Therefore, no replacement housing will be required and no impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion:

The proposed project is currently a plant nursery and contains no residential uses. No people will be displaced as a result of the proposed project and the construction of replacement housing would not be needed. No impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

XIV. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐

Discussion:

The City of Indio contracts with Riverside County Fire Department/Cal Fire (RCFD) for a full range of fire and emergency services 24 hours a day, 7-days a week. According to the City of Indio Fire Department's website, the City has 4 active fire stations and a total of 56 full-time personnel. Fire Station No.1 (86) serves as the headquarter station for Indio. It is located at 46990 Jackson Street is approximately 5.9 miles away from the proposed project site. There are 22 firefighters assigned to this station, they staff one fire engine, one ladder truck and one paramedic ambulance. Additional equipment assigned includes one reserve fire engine, one reserve ambulance, and one water tender. Fire Station No. 3 (88) serves the west side of Indio, and is located at 46621 Madison Street, and approximately 3.5 miles away. This station is staffed with 11 firefighters, one fire engine, one paramedic ambulance and one reserve ambulance.

Fire station 4 (80) is located within Sun City Shadow Hills at 81-025 Avenue 40, this station serves Sun City and has one Type 1 engine, one medic unit and one reserve medic unit, it is approximately 1.7 miles from away from the project and staffed with 5 firefighters. Fire station 5 (87) is located at 42-900 Golf Center Parkway and is approximately 6.0 miles away, staffed with 3 fire firefighters and has one Type 1 engine. Per the Riverside County / CAL Fire 2016 Annual Report, the Indio fire department responded to over 7,100 calls in 2016.

The project proposes to develop a master planned church campus on approximately 18.5 acres of disturbed vacant land. The development would consist of four buildings including a primary worship building, a

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

multi-purpose building (youth center, administration building, and café), a classroom building, maintenance building, an amphitheater, children's playgrounds, lawns, event spaces, and parking facilities.

Development of the proposed project would result in an increase in demand for fire services, however based on the project sites close proximity to fire stations 3 and 4, in addition to the existing infrastructure in place, the proposed project could be adequately served within the standard 5-minute emergency response time and no new or expanded facilities would be required. The project will be reviewed by City and fire officials to ensure adequate service and fire safety continue to be maintained as a result of project implementation.

Additionally, the project would be required to implement all applicable and current California Fire Code Standards. This would include the installation of fire hydrants, as well as automatic fire sprinkler systems. The project will also be required to comply with the City's Development Impact Fee (DIF) to assist with the funding of public facilities and services, including fire. Payment of these fees helps to offset costs by providing revenue for necessary improvements to ensure, acceptable fire facilities, response times, equipment and personnel are maintained. Therefore, less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

Police protection?	☐	☐	☒	☐

Discussion:

Police services are provided by the Indio Police Department. According to the Police Department's web site, the Indio Police Department employs approximately 62 sworn officers and 37 non-sworn staff, totaling 99 authorized positions. Additionally, the Department is supported by the Citizens Helping Indio Police (CHIP) volunteer program who logged over 8,384 hours of service to the community. The City of Indio Police Department is located at 46-800 South Jackson Street in Indio, approximately 6.0 miles from the subject property.

As previously discussed, the project proposes to develop a master planned church campus on approximately 18.5 acres of disturbed vacant land. The development would consist of four buildings including a primary worship building, a multi-purpose building (youth center, administration building, and café), a classroom building, maintenance building, an amphitheater, children's playgrounds, lawns, event spaces, and parking facilities.

The project will be reviewed by City and police officials to ensure adequate response times and public safety is maintained as a result of project implementation.

The proposed project could result in additional incident calls but not to the extent that would substantially delay response times or create a demand that would require the construction of a new police station or new facilities. The project would also be required to comply with Development Impact Fees in place at the time of construction. These fees on new development allow the City to continue to finance public facilities including public services such as police. It also assists in offsetting impacts by providing sufficient revenue for necessary emergency service improvements to ensure acceptable response times,

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

equipment and personnel are maintained. Therefore, development of the proposed project will result in less than significant impacts to police services.

Cumulative Impacts: None
Mitigation Measures: None

Schools?	☐	☐	☒	☐

Discussion:

Desert Sands Unified School District (DSUSD) provides public education services to most of the City with the exception of the southern portions of the City, which are served by Coachella Valley Unified School District (CVUSD). The proposed project lies within the DSUSD. The nearest school is Shadow Hills High, approximately 0.3 miles away from the project site. The project proposes to develop a multi-building church campus and would not introduce permanent residents requiring public education.

Education funding comes from a combination of federal, state, and local sources. Assembly Bill 2926 and Senate Bill (SB 50) allow for school districts to collect development fees for all new construction for residential/commercial and industrial use. At the time of writing, the DSUSD developer fee is $3.79/sq/ft for residential and $0.61 sq.ft. for commercial/industrial. Monies collected are used for construction and reconstruction of school facilities. Moreover, school age children may also attend several private schools located in the Coachella Valley. The project will comply with DSUSD development fees and less than significant impacts on school facilities are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

Parks?	☐	☐	☐	☒

Discussion:

The City of Indio provides a wide range of park and recreation facilities with various amenities. The church campus will include large open space area in the form of retention, open lawn areas, event lawns, a children's garden and playgrounds. The proposed project would not create an additional demand for public park facilities, nor result in the need to modify existing or the construction of new park facilities. Therefore, no impacts to parks are expected as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

Other public facilities?	☐	☐	☐	☒

Discussion:

No increase in demand for government services or other public facilities is expected beyond those discussed in this section.

Cumulative Impacts: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Mitigation Measures: None

XV. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Discussion:

The City of Indio has approximately 220 acres of recreational facilities, including 8 neighborhood and community parks, the County Fairgrounds, the Indio Municipal Golf Course, and the County Desert Park. As previously discussed, the Project includes large open space area in the form of retention, open lawn areas, event lawns, a children's garden and playgrounds. The project will comply with the city's Park in-lieu fees and other development impact fees. The Project will not substantially increase use of existing parks to the point of accelerated deterioration, and less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Discussion:

As discussed previously, the project will include large open space areas, lawns, event space and children's garden and playground. Project implementation and operation of the proposed recreational amenities on-site is expected to result in less than significant impacts.

Cumulative Impacts: None
Mitigation Measures: None

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC -- Would the project:				
a) Conflict with an applicable plan, ordinance or Policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐

Discussion:

A Traffic Impact Analysis (TIA) was prepared for the Garden Fellowship church campus by Urban Crossroads, September 24, 2018. The Garden Fellowship Project, is a church campus that includes an 1,800-seat worship center (1,344 fixed seats and 456 portable seats.) The campus also includes separate accommodations for teens/children, an amphitheater, children's garden, café, church office and maintenance facility.

The proposed project is not expected to conflict with local plans pertaining to traffic and circulation. Development of this project is not expected to substantially increase demand on the circulation system.

The project is located at the southwest corner of Jefferson Street and Youngs Way. Jefferson Street is designated a north/south, four-lane Secondary Roadway according to the City of Indio Circulation Element Roadway Classifications (Exhibit 3-4 GPU.) Youngs Way, is an east/west, two lane dirt road and forms the northern boundary of the project as well as the projects primary (full) access point. Youngs way is a proposed Collector Roadway that is located at the approximate mid-point of Jefferson Street between Avenue 38 and Avenue 39. The site's access point at Youngs Way is currently unimproved. A second driveway is proposed for access at the southeast corner of the project (right in/right out only.)

The TIA describes Jefferson Street as providing a connection between residential neighborhoods north of the I-10 freeway and other community features in the City south of the I-10 corridor. From Avenue 38 to Avenue 39, Jefferson Street is a two-lane divided roadway. From Avenue 39 to Avenue 40, Jefferson Street is a four-lane divided roadway.

Avenue 38 west of and east of Jefferson Street has two lanes, divided by a continuous center left-turn lane. Avenue 39 west of Jefferson Street has two eastbound lanes and one westbound lane and a center median. Avenue 40 east of Jefferson Street has two eastbound lanes and one westbound lane without a center median. West of Jefferson Street, Avenue 40 has two lanes without a center median.

According to the TIA, and the General Plan Circulation Element, four-lane roadways are divided by either a raised median with turn pockets or a center left-turn lane. Provisions for bicycle and pedestrian mobility should be emphasized along 4-lane roadways due to the variety of land uses they provide access to including schools, parks and open space, commercial destinations and mixed uses.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The TIA further states that Jefferson Street is classified as a 6-lane Major Arterial south of Avenue 40. Between Avenue 40 and Avenue 38, Jefferson Street is a 4-lane Secondary Highway, which includes a Median or Center Left-Turn Lane. Avenue 38 and Avenue 40 are also 4-lane Secondary Highways in the study area.

According to the TIA, two Sunday services are planned to occur weekly and are expected to generate peak traffic activity. Initially, Sunday Services are proposed to be held twice, one at 9:00 am and one at 11:00 am. Future growth may result in the addition of a third service if needed. The maximum anticipated is a total of four Sunday Services, if necessary. Initial occupancy (Phase 1) is anticipated to include 900 seats in 2020, with project buildout at 1800 seats by 2025. The amphitheater will not be used concurrently with the sanctuary on a typical Sunday morning. Weddings are generally held on Saturdays. Weekday activity includes services on Wednesday and Bible studies on Mondays and Tuesdays. The mid-week usage is projected to be significantly less than that of Sunday mornings.

To estimate trips generated by the proposed project, church staff and volunteers collected data and coordinated with Urban Crossroads, Inc on a peak season Sunday. This effort was intended to understand traffic activity currently generated by attendance at their existing church facility. Inbound and outbound rates were determined by this methodology. Rates were anticipated to be determined largely by the diverse family structure of church members. Vehicles entering and exiting the site were quantified as well as additional vehicles that were parked on adjacent properties and streets associated with church attendees. To capture multiple service arrivals and departures, vehicle inventories were conducted between 7:30 am and 2:00 pm in 15-minute increments. The data was then processed to develop inbound and outbound trip generation rates that were then utilized to project the estimated trips associated with a larger, yet demographically similar, congregation.

As stated by the TIA, the proposed project is anticipated to contribute approximately 3,098 daily trip-ends on a typical Sunday (fully occupied) with 1,413 vehicles per hour (VPH) during the AM peak hour between services, and 763 VPH during the midday (MD) peak hour after the second service. For project Phase 1 Opening Year (2020) conditions, approximately 1,868 trip-ends per fully occupied Sunday, with 644 vehicles per hour (VPH) during the AM peak hour between services, and 247 VPH during the midday (MD) peak hour after the second service are anticipated.

Five study area intersections were selected for the TIA based on consultation with City of Indio staff.

1. Jefferson Street/Avenue 38
2. Jefferson Street/Avenue 39
3. Jefferson Street/Avenue 40
4. Jefferson Street/Youngs Way
5. Jefferson Street/South Driveway

The TIA states that in accordance with discussions with Indio staff, the following scenarios on a typical Sunday morning were analyzed:

- Existing Peak Season Conditions

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- Existing plus Project (E+P) Conditions
- Opening Year (2020) Ambient Conditions
- Opening Year (2020) with Project Conditions
- Project Buildout Year (2025) Ambient Conditions
- Project Buildout Year (2025) With Project Conditions

Level of Service (LOS) is a measure of transportation system performance based upon the ratio of traffic volume relative to the capacity of the roadway or intersection. The volume-to-capacity ratio (V/C) indicates the overall performance of the roadway segment or intersection and corresponds to a rating of A through F identifying its level of capacity utilization and relative level of congestion. LOS A represents free-flow traffic with little or no delay whereas LOS F represents a breakdown of traffic flow and a high incidence of delay.

The TIA indicates that the report considered that a significant impact would occur (a) if the proposed Project causes the LOS to degrade to below D, or (b) if the proposed Project causes the level of service to change from LOS E to LOS F.

Additionally, a significant impact would be projected to occur at an intersection if the proposed Project causes an increase in delay of 2 seconds or more to an intersection currently operating at LOS E; or 1 second to an intersection currently operating at LOS F.

Existing Intersection Conditions

The three existing study area intersections operated at an acceptable LOS during the peak hours.

1. Jefferson Street/Avenue 38 - LOS “A” AM and MD peak hours
2. Jefferson Street/Avenue 39 - LOS “A” AM and MD peak hours
3. Jefferson Street/Avenue 40 - LOS “B” AM and MD peak hours

The following table represents the LOS at the study intersections for the existing year 2018 conditions. The table compares two scenarios of conditions per intersection at buildout.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table XVI – 1
Intersection Analysis Summary For Existing (2018) Conditions

#	Intersection	Traffic Control *(Note 3)*	Intersection Approach Lanes *(Note 1)*				Delay (Secs) *(Note 2)*		Level of Service *(Note 2)*	
			Northbound	Southbound	Eastbound	Westbound	AM	MD	AM	MD
			L/T/R	L/T/R	L/T/R	L/T/R				
1	Jefferson St./ Avenue 38	AWS	0/1!/0	0.5/0.5/d	1/1/0	1/1/d	8.2	8.3	A	A
2	Jefferson St./ Avenue 39	TS	1/1/1	1/1/d	1/1/1>	1/1/d	5.4	6.3	A	A
3	Jefferson St./ Avenue 40	TS	1/1/1	1/1/0	1/1/0	1/1/1>	17.5	16.5	B	B
4	Jefferson St./ Youngs Way	-	Future Intersection							
5	Jefferson St/ S. Project Driveway	-	Future Intersection							

1. *When a right turn is designated the land can either be striped or unstriped. To function as a right turn lane there must be sufficient for right turning vehicles to travel outside the through lanes.*
   L = Left; T = Through; R = Right; > = Right Turn Overlap Phasing; d = Defacto Right Turn Lane
2. *Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.*
   For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
   Delay and level of service is calculated using Synchro 10.1 analysis software.
3. *TS = Traffic Signal; AWS = All Way Stop*

Proposed Intersection Conditions

As discussed previously, the peak hours that were selected for analysis were:

- Sunday AM Peak Hour (peak hour between 9:30 AM and 11:30 AM)
- Sunday MD Peak Hour (peak hour between 12:00 PM and 2:00 PM)

Table XVI – 2
The Garden Fellowship Trip Generation Summary

Sunday Trip Generation Rates									
Land Use	ITE LU Code	Quantity	AM Peak Hour			MD Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Church	*(Note 1)*	1800 Seats	0.357	0.428	0.785	0.018	0.406	0.424	1.721

Sunday Trip Generation Rates									
Land Use	ITE LU Code	Quantity	AM Peak Hour			MD Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Phase 1 (2020)									
Church	*(Note 1)*	900 Seats	293	351	644	14	333	347	1,868
Project Buildout (2025)									
Church	*(Note 1)*	1800 Seats	643	770	1,413	32	731	763	3,098

1. *Source: Sunday survey data at existing site.*

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Table XVI – 3
Intersection Analysis Summary For Existing Plus Project Buildout Conditions

#	Intersection	Traffic Control *(Note 3)*	Intersection Approach Lanes *(Note 1)*				Delay (Secs) *(Note 2)*		Level of Service *(Note 2)*	
			Northbound	Southbound	Eastbound	Westbound	AM	MD	AM	MD
			L/T/R	L/T/R	L/T/R	L/T/R				
1	Jefferson St./ Avenue 38	AWS	0/1!/0	0.5/0.5/d	1/1/0	1/1/d	9.0	9.0	A	A
2	Jefferson St./ Avenue 39	TS	1/1/1	1/1/d	1/1/1>	1/1/d	6.0	5.8	A	A
3	Jefferson St./ Avenue 40	TS	1/1/1	1/1/0	1/1/0	1/1/1>	14.9	13.3	B	B
4	Jefferson St./ Youngs Way	**CSS**	**1**/1/0	0/0.5/0.5	**1**/0/**1**	0/0/0	13.0	11.5	B	B
5	Jefferson St/ S. Project Driveway	**CSS**	0/1/0	0/1/0	0/0/**1**	0/0/0	22.7	18.9	C	C

1. *When a right turn is designated the land can either be striped or unstriped. To function as a right turn lane there must be sufficient for right turning vehicles to travel outside the through lanes.*

   L = *Left;* T = *Through;* R = *Right;* > = *Right Turn Overlap Phasing;* d= *Defacto Right Turn Lane;* **1**=*Improvement*
2. *Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.*
   For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
   BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS)
3. *TS = Traffic Signal; AWS = All Way Stop; CSS = Controlled*

Table XVI – 4
Intersection Analysis Summary For Opening Year (2020) With Project Conditions

#	Intersection	Traffic Control *(Note 3)*	Intersection Approach Lanes *(Note 1)*				Delay (Secs) *(Note 2)*		Level of Service *(Note 2)*	
			Northbound	Southbound	Eastbound	Westbound	AM	MD	AM	MD
			L/T/R	L/T/R	L/T/R	L/T/R				
1	Jefferson St./ Avenue 38	AWS	0/1!/0	0.5/0.5/d	1/1/0	1/1/d	8.6	8.7	A	A
2	Jefferson St./ Avenue 39	TS	1/1/1	1/1/d	1/1/1>	1/1/d	4.9	4.9	A	A
3	Jefferson St./ Avenue 40	TS	1/1/1	1/1/0	1/1/0	1/1/1>	13.9	13.8	B	B
4	Jefferson St./ Youngs Way	**CSS**	**1**/1/0	0/0.5/0.5	**1**/0/**1**	0/0/0	26.3	10.1	D	B
5	Jefferson St/ S. Project Driveway	**CSS**	0/1/0	0/1/0	0/0/**1**	0/0/0	11.4	10.9	B	B

1. *When a right turn is designated the land can either be striped or unstriped. To function as a right turn lane there must be sufficient for right turning vehicles to travel outside the through lanes.*

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

L = *Left;* T = *Through;* R = *Right;* > = *Right Turn Overlap Phasing;* d= *Defacto Right Turn Lane;* **1**=*Improvement*

2. *Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.*
   For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
   BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS)
3. *TS = Traffic Signal; AWS = All Way Stop; CSS = Controlled*

Table XVI – 5

Intersection Analysis Summary For Project Buildout (2025) with Project Conditions

#	Intersection	Traffic Control *(Note 3)*	Intersection Approach Lanes *(Note 1)*				Delay (Secs) *(Note 2)*		Level of Service *(Note 2)*	
			Northbound	Southbound	Eastbound	Westbound	AM	MD	AM	MD
			L/T/R	L/T/R	L/T/R	L/T/R				
1	Jefferson St./ Avenue 38	AWS	0/1!/0	0.5/0.5/d	1/1/0	1/1/d	9.3	9.3	A	A
2	Jefferson St./ Avenue 39	TS	1/1/1	1/1/d	1/1/1>	1/1/d	7.0	6.2	A	A
3	Jefferson St./ Avenue 40	TS	1/1/1	1/1/0	1/1/0	1/1/1>	16.1	14.4	B	B
4	Jefferson St./ Youngs Way	**CSS**	**1**/1/0	0/0.5/0.5	**1**/0/**1**	0/0/0	13.3	11.7	B	B
5	Jefferson St/ S. Project Driveway	**CSS**	0/1/0	0/1/0	0/0/**1**	0/0/0	23.9	19.5	C	C

4. *When a right turn is designated the land can either be striped or unstriped. To function as a right turn lane there must be sufficient for right turning vehicles to travel outside the through lanes.*

   L = *Left;* T = *Through;* R = *Right;* > = *Right Turn Overlap Phasing;* d= *Defacto Right Turn Lane;* **1**=*Improvement*
5. *Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.*
   For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.
   BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS)
6. *TS = Traffic Signal; AWS = All Way Stop; CSS = Controlled*

As indicated in the previous tables, all intersections will operate at LOS D or better following implementation of project improvements and additional recommendations within the TIA. Improvement strategies have been recommended as follows to address potential impacts for With Project.

Access Improvement Strategies for Opening Year (2020) Conditions

The project will construct off-site roadway segment improvements on the following streets:

Roadway Improvements

- **Jefferson Street -** half street improvement on the west side as a 4 lane secondary road and construct adequate transitions and tapers to join existing improvements north and south of Project site.
- **Youngs Way –** full street improvements – as a two lane collector road.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Intersection Improvements

Jefferson Street/Youngs Way (#4)

- Provide stop control for the eastbound approach
- Northbound (NB) Approach: Provide separate left turn lane, maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide separate left turn lane with a receiving refuge lane on Jefferson Street and provide separate right turn lane.

Jefferson Street/South Driveway (#5)

- Restrict South Driveway to right turns in and right turns out only via raised "pork chop" island which restricts the driveway to right turns in/right turns out only and provides a refuge for pedestrians crossing the driveway
- Provide stop control for the eastbound approach
- Northbound (NB) Approach: Maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide right turn lane

The right turn in/out restriction for the Jefferson Street / South Driveway is not anticipated to impact adjacent driveways (such as those on the east side of Jefferson Street.) Some off-site street widening is necessary on the west side of Jefferson Street north of Youngs Way, in order to achieve appropriate directional transitions southbound into the access improvements.

Indio Municipal Code Standard Conditions of Approval

The following items a reflect *Indio Municipal Code* or City of Indio policy requirements that apply to all developments as Conditions of Approval.

1. Jefferson Street shall be improved on and adjacent to the site per the design standards specified by the City of Indio.

2. Clear unobstructed sight distances shall be provided at the site access points and at all internal intersections. Sight distance should be reviewed at the project access points with respect to City of Indio sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

3. The site access design shall accommodate the largest vehicles expected to negotiate the access and internal circulation system. Landscaping, monuments, and other objects shall be avoided in the off-tracking area at the site access connections.

4. The developer shall comply with City requirements regarding the master planned Class I bikeways adjacent to the site on Jefferson street.

5. The project proponent shall provide accessible routes of travel (including compliant curb ramps, sidewalks, and other improvements) along all public streets and within all public spaces and common areas, in accordance with current ADA guidelines and standards.

6. To ensure compliance with City of Indio roadway and access design standards, the final layout and site access design shall be subject to the review and approval of the City Traffic Engineer

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

during the development review process. Entry drives, the internal circulation design, and other features may require additional street widths, as determined by the City Traffic Engineer.

7. A traffic signing, and striping plan shall be developed in conjunction with detailed construction plans for the project site and submitted to the City of Indio for review and approval.

8. The applicant shall coordinate with SunLine Transit Agency regarding the need for public transit facilities on- site such as a lighted covered transit shelter or a bus turnout.

9. The project proponent shall contribute various development fees, as required by the City of Indio.

10. The project proponent shall contribute traffic impact mitigation fees, by participating in the Traffic Uniform Mitigation Fee (TUMF) program (see additional discussion in the following section b).

As the TIA states, with recommended project access improvements, study area intersections are anticipated to operate at acceptable LOS under Existing plus Project, Opening Year (2020), or Project Buildout Year (2025) conditions. No significant off-site intersection impacts were identified.

Therefore, the implementation of the recommendations within the TIA and the project's conditions of approval during design, approval and construction will ensure that the Project results in less than significant impacts relative to the applicable plan, ordinance or Policy establishing measures of effectiveness for the performance of the circulation system.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐

Discussion:

The Congestion Management Program (CMP,) prepared by the Riverside County Transportation Commission (RCTC,) is intended to link land use, transportation and air quality with reasonable growth management methods, strategies and programs that effectively utilize new transportation funds to alleviate traffic congestion and related impacts. As the designated Congestion Management Agency (CMA), the RCTC prepares the CMP that designates a system of highways and roadways to include all State Highway facilities within Riverside County and a system of "principal arterials" to be included as the Congestion Management System (CMS.) Program updates include consultation with local agencies, the County of Riverside, transit agencies and sub-regional agencies like the Coachella Valley Association of Governments (CVAG).

It is the responsibility of local agencies, when reviewing and approving development proposals to consider the traffic impacts to the CMS. All development proposals and circulation projects to be included within the City of Indio are required to comply with the current policies and procedures set forth by the RCTC's CMP. The CMA provides a uniform database of traffic impacts for use in a countywide transportation computer model. The RCTC has recognized use of the Coachella Valley Area Transportation System

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

(CVATS) sub-regional transportation model and the Riverside Transportation Analysis Model (RIVTAM) to analyze traffic impacts associated with development proposals or land use plans. The methodology for measuring LOS must be that contained in the most recent version of the Highway Capacity Manual. Traffic standards must be set no lower than LOS E for any segment or intersection on the CMP system unless the current LOS is lower (i.e., LOS F).

The following facilities are designated as part of the Riverside County CMP System of Highways and Roadways in the Coachella Valley:

- Interstate 10 (San Bernardino County line to State line);
- State Route 111 (Interstate 10 to Imperial County line);
- Ramon Road (Interstate 10 to State Route 111); and
- Monterey Avenue (Interstate 10 to State Route 111).

The project is not anticipated to directly impact the roadway segments designated as part of the CMP.

CVAG has developed a Transportation Uniform Mitigation Fee (TUMF) that complements the objectives of the CMP. The TUMF program is a regional traffic mitigation program. It is intended to address land use and transportation system consistency through an integrated system-wide program that is reviewed annually and based upon local agency general plans and associated ITE trip generation rates. The number of daily trips generated by each land use is derived from the most recent ITE *Trip Generation Manual*.

The TUMF program is implemented throughout the Coachella Valley. The member agencies of CVAG collect a uniform development impact fee to help fund construction of the regional system of roads, streets, and highways (excluding state or federal highways) needed to accommodate growth in the region. The TUMF is assessed on all new developments. No tract map, parcel map, conditional use permit, land use permit or other entitlement shall be approved unless payment of the mitigation fee is a condition of approval for any such entitlement.

Transportation-related improvement projects partially funded by the TUMF program include: arterial street construction, street widening, intersection enhancements, and freeway interchange improvements. Regional transportation funds are meant to supplement, not replace local revenues and/or developer contributions required for approved regional road construction projects.

The Transportation Uniform Mitigation Fee (TUMF) Ordinance became effective July 1, 1989. The TUMF program is a component of the twenty-year Measure A, sales tax program managed by the Coachella Valley Association of Governments (CVAG) and approved by voters in November 1988. In 2002, a thirty-year extension was approved by Riverside County voters and resulted in an expiration date of 2039.

Under the TUMF, developers of residential, industrial and commercial property pay a development fee to fund transportation projects that will be required as a result of the growth the projects create. TUMF will be required as a Condition of Approval for any future development project.

The project is required to implement the payment of TUMF fees, Indio's Travel Demand Ordinance and established LOS requirements. Project implementation is not anticipated to conflict with the regional

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

congestion management program if the project description combined with standard conditions described in this discussion, including the payment of TUMF fees, are implemented prior to project construction. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐

Discussion:

The proposed project is not of such a size or nature to cause noticeable changes in air traffic levels, patterns or a change in traffic location. However, the proposed project is located in the Bermuda Dunes Airport Compatibility Zone E. The Riverside County ALUC issued a finding of Consistency with the 2004 Bermuda Dunes Airport Land Use Compatibility Plan on April 26, 2018. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

Discussion:

The project site plan has been designed according to City of Indio standards. It provides an internal circulation system without sharp curves or dangerous intersections that is subject to review and approval by the City Traffic Engineer during standard City review processes. The project entry consists of two proposed access points. One is a proposed controlled stop entrance at Youngs Lane and Jefferson Street. The second proposed access point is at the south driveway, which is projected to be right in and right out only.

These driveways have been designed to incorporate proper stacking, sight distance and intersection control (e.g. left turn pockets) features. Automobiles would be the primary vehicle type generated by the project. Consequently, the project design will not substantially increase vehicular hazards and impacts would be considered less than significant.

Cumulative Impacts: None
Mitigation Measures: None

e) Result in inadequate emergency access?	☐	☐	☒	☐

Discussion:

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project would be reviewed by the Indio Fire and Police Departments as a standard part of the City's review process. Access points will comply with emergency access requirements. Review and approval of the site design by these agencies would ensure that impacts related to emergency access would be less than significant.

Cumulative Impacts: None
Mitigation Measures: None

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Discussion:

The project is not expected to conflict with the adopted policies, plans or programs regarding public transit, bicycle or pedestrian facilities.

The TIA indicates that the City of Indio General Plan Update – Mobility Technical Report provides roadway classifications under the Preferred Plan. In the project area, the Secondary roadway classification applies to Jefferson Street. Secondary roadways are 4-lane roadways divided by a median with turn pockets or a center left-turn lane.

These roadways provide access to major community resources. Provision for bicycle and pedestrian mobility should be emphasized along boulevards due to the variety of land uses they provide access to including schools, parks and open space, commercial destinations and mixed uses.

The TIA also indicates that Class I Bike lanes and equestrian trails are required along Jefferson Street.

The Sunline Transit Agency operates public bus route along Highway 111, approximately two miles north of the project. SunLine Transit Agency buses are wheelchair accessible and include bicycle racks that can accommodate either two or three bicycles. Bike racks and/or bike lockers are proposed by SunLine Transit at select bus stop locations.

SunLine Transit Agency contracts with a private provider for SunDial, a door-to-door dial-a-ride service. SunDial is a demand response service designed to serve seniors and those with disabilities on an appointment basis between 8:30 a.m. and 9:00 p.m. on weekdays, and between 8:30 a.m. and 4:00 p.m. on weekends. In addition to SunDial, a subscription-based transit service is available through agencies serving people with disabilities who need regular repetitive trips.

The use of local transit services by future project residents is expected to be a less than significant impact. The project proponent is expected to coordinate with this Transit Agency regarding public transit facilities.

The proposed project would improve pedestrian mobility by incorporating external sidewalks and pedestrian walkways. Class I bikeways on Jefferson Street frontage will be included in project design. These would be reviewed and constructed in conformance with City safety standards.

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Improvements resulting from the project are expected to enhance, rather than obstruct or conflict with, the City's established goals on public, pedestrian and bicycle transportation or with any existing facilities. Impacts are expected to be less than significant.

Cumulative Impacts: None
Mitigation Measures: None

XVII. TRIBAL CULTURAL RESOURCES -- Would the project:

Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resource Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local Register of Historical Resources as defined in Public Resource Code Section 5020.1 (k)	☐	☒	☐	☐

Discussion:

As previously discussed in the Cultural discussion of this document, CRM Tech conducted a project and site specific study on historical and archaeological resources. This assessment included a records search, Native American scoping, historical map research and a field survey. The field survey did not encounter onsite buildings or structures. Outside of the project boundaries but within a one-mile radius, EIC records show at least 39 previous studies covering various tracts of land and linear features. In all, more than half of the land within the scope of the records search has been surveyed, which resulted in the identification of 10 historical/archaeological sites within the one-mile radius. Eight of these known sites were of prehistoric, i.e., Native American in origin, including possible habitation sites and scattered ceramic lithic artifacts. The nearest was located roughly 0.3 miles south of the project.

The NAHC sacred lands record search did not identify any Native American cultural resources within the project area, but noted that the general vicinity remains sensitive for such resources. The NAHC recommended that local Native American groups be contacted for further information. On February 1, 2018, CRM Tech sent written requests for comments to 17 local Native American Tribes. At the time CRM Tech concluded their reports, four Tribal representatives responded in writing, they include, the Augustine Band of Cahuilla Indians, Agua Caliente Band of Cahuilla Indians, Twenty-Nine Palms Band of Missions Indians, and the Cahuilla Band of Mission Indians.

Representation for the Augustine Band of Mission Indians indicated that the Tribe was unaware of any Native American cultural resources that may be affected by the proposed project and encouraged further consultation with other Tribes in the vicinity. Additionally, she recommended Native American

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

monitoring of all ground disturbing activities. The remaining three Tribes, Agua Caliente, Twenty-Nine Palms, and Cahuilla Band of Indians, identified the site as part of their Tribes Traditional Use Area, the representative from Agua Caliente also requested an approved Agua Caliente Native American Cultural Resource Monitor. Therefore, less than significant impacts related to historical resources are expected following Mitigation Measure CR-2 of this Initial Study.

Cumulative Impacts: None
Mitigation Measures: **CR-2**

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe:	☐	☒	☐	☐

Discussion:

Public Resource Code 21074 identifies "Tribal Cultural Resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" and that are either included or determined to be eligible for inclusion on the national, state, or local register of historic resources, or that are determined by the lead agency, in its discretion, to be significant when taking into consideration the significance of the resource to a California Native American Tribe. To ensure that significant Tribal Cultural resources are identified and considered, the City of Indio entered into Tribal Consultation as required under AB 52, to solicit input from participating local Native American Tribes about the project site, and whether there are any known Tribal cultural resources significant to them. The City of Indio initiated AB 52 from September 26, 2018 to October 26, 2018. No requests for consultation or additional comments were received.

Therefore, less than significant impacts are expected following the implementation of Mitigation Measure CR-2 of this initial study.

Cumulative Impacts: None
Mitigation Measures: CR-2

XVIII. UTILITIES AND SERVICE SYSTEMS -- Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐

Discussion:

The project site is within the Coachella Valley Water District (CVWD) service area for domestic water and sanitation services. CVWD has developed a Sewer System Management Plan (SSMP) pursuant to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems. The primary goal of the SSMP is to minimize

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

frequency and severity of Sanitary Sewer Overflows (SSOs). The SSMP will cover the management, planning, design, and operation and maintenance of the District's sanitary sewer system. The wastewater system serves approximately 265,000 customers. The system collects municipal waste from residential and commercial users, delivering the collected wastewater to one of six Wastewater Reclamation Plants. The system includes approximately 1,100 miles of sewer, 30 lift stations and approximately 17,000 manholes.

The project proposes to develop a master planned church campus on approximately 18.5 acres of disturbed vacant land. The development would consist of four buildings including a primary worship building, a multi-purpose building (youth center, administration building, and café), a classroom building, maintenance building, an amphitheater, children's playgrounds, lawns, event spaces, and parking facilities. The project is expected to moderately increase wastewater flows and will connect into the existing 15" CVWD sewer line on Jefferson Street, through a 4"/6" sewer line improvements that are proposed as part of the project design. CVWD issued a Will Serve Letter dated February 23, 2018, nothing that the project's proposed land use can be accommodated. CVWD's letter is valid for up to three years from date of issuance.

The infrastructure and design components for the project will be consistent with CVWD requirements and water management plan. The project will also be reviewed by CVWD and City staff to assure compliance with all current and applicable wastewater treatment requirements. Therefore, the project is not expected to exceed wastewater treatment requirements of the Regional Water Quality Control Board. Less than significant impacts are expected as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Discussion:

As previously stated, the project site falls within the service area CVWD. They are the largest water provider of potable water in the Coachella Valley. They operate more than 100 wells and serve a population of 283,000 in its service area. CVWD's 2012 adopted Water Management Plan and 2010 Urban Water Management Plan have been developed to assist the agency in reliably meeting current and future water demands in a cost-effective manner. Additionally, CVWD treats nearly 6.3 billion gallons of wastewater a year. The District operates six (6) water reclamation plants and maintains more than 1,000 miles of sewer pipeline and more than thirty (30) lift stations that transport wastewater to the nearest treatment facility. The nearest wastewater treatment plant to the project site is WRP-7, located in north Indio. The plant is a 50 mgd secondary treatment facility with a current treatment capacity of 2.5 mgd. The average annual flow is 2.11 mgd (2,400 AFY). Per the Coachella Valley Water Management Plan 2010 Update, a plant expansion is under design that would increase the plant capacity to 7.5 mgd.

The proposed project would connect into the existing infrastructure located on Jefferson Street and will

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

comply with the existing water management plan in place. As previously discussed, a Will Serve Letter dated February 2017, has been provided by CVWD and the project's land use and density can be accommodated. The proposed development would be expected to implement water conservation measures to reduce impacts to public water supplies. These measures include low-flow plumbing fixtures, drought tolerant (native) outdoor landscaping, and water efficient irrigation systems. The project will undergo further review by CVWD and City staff to ensure wastewater capacity and compliance with the current wastewater treatment requirements. Additionally, sewer and water installation and connection fees in place at the time of development will be collected by CVWD. No new or expanded treatment facilities are expected as a result of project implementation, and the project is not expected to exceed wastewater capacity. Therefore, less than significant impacts are expected as a result of project implementation.

Cumulative Impacts: None
Mitigation Measures: None

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Discussion:

The Clean Water Act (CWA) of 1972 establishes regulations pertaining to the discharge of pollutants to waters of the U. S. from point sources. Subsequent amendments to the CWA in 1987 established a framework for regulating non-point source stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). The proposed project is located within the Whitewater River Watershed in the Colorado River Region (Region 7). The City of Indio is a permittee of the Whitewater River Watershed MS4. Individual projects, like the proposed development, are required to comply with these existing regulations.

Based on current FIRM panel 06065C1620G, effective since August 28, 2008, the project is located in Zone X, an area of minimal flooding. The project and its surroundings are not located within a Special Flood Hazard Area or a regulatory floodway subject to inundation by the 100-year flood event. As designed the proposed development would not considerably alter the existing flood zone characteristics identified in the FEMA maps. As discussed in the Hydrology section of this initial study, stormwater runoff generated by the project will be managed by an engineered storm drainage system sized to handle the controlling storm event without incurring flooding impacts to the proposed homes. The proposed improvement plans, which will be subject to agency review and approval, ensure that the proposed grading and drainage conditions are acceptable to the City standards.

The project will comply with the City's drainage requirements by preventing the discharge and transport of untreated runoff associated with the project. As a standard requirement, the Project proponent will be required to develop and implement a Project-Specific Water Quality Management Plan (WQMP) to comply with the most current standards of the *Whitewater River Region Water Quality Management Plan for Urban Runoff* and the *Whitewater River Watershed MS4 Permit*. The Project-Specific WQMP will identify a strategy of site design, source controls, and treatment controls with a maintenance and monitoring program that, throughout the life of the Project will address post-construction runoff quality

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

and quantity. No new or expanded stormwater drainage facilities are anticipated from project implementation. Less than significant impacts are anticipated.

Cumulative Impacts: None
Mitigation Measures: None

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

Discussion:

Groundwater is the primary source of domestic water supply in the Coachella Valley. CVWD obtains groundwater from both Whitewater River and the Mission Creek subbasins. CVWD's domestic water system provided 92,974-acre feet (AF) of water per year to 216,861 residents. This amount is 18 percent less than the average use for the previous five years. Annual urban water demands are projected to increase to 194,300 AF by 2040 based on the estimated population growth of the service area. CVWD's 2012 adopted Water Management Plan and 2015 Urban Water Management Plan have been developed to assist the agency in reliably meeting current and future water demands in a cost-effective manner. The comprehensive Water Management Plan guides efforts to eliminate overdraft, prevent groundwater level decline, protect water quality, and prevent land subsidence. The 2015 UWMP serves as a planning tool that documents actions in support of long-term water resources planning and ensures adequate water supplies are available to meet the existing and future urban water demands.

According to CVWD's 2015 UWMP, the district has a 2020 target water use demand of 473 gpcd. The UWMP further states that the district's 2015 actual per capita daily water use of 383 gpcd is currently 19 percent below the 2020 target of 473 gpcd. CVWD has currently achieved its water use target but continues to implement demand management measures to reduce per capita water use. CVWD anticipates the average per capita use by its existing customers will at least maintain the 383 gpcd average observed in 2015. Additionally, CVWD anticipates that future CVWD users will achieve a 291 gpcd average usage across all customer classes due to implementation of plumbing code and updated landscape ordinance requirements. Moreover, the City's Municipal Code has several Ordinances to ensure water supply and conservation measures are in place.

The 2015 UWMP identifies institutional and governmental water users are dedicated to public service. This user class typically includes, among other users schools, higher education institutions, courts, churches, hospitals, government facilities, and non-profit research institutions. CVWD classifies these users as "Public Agency" uses. Most existing and all new institutional customers are required to have separate landscape irrigation services. Public agency use represents about 1.2 percent of water use and less than 0.3 percent of connections. Future public agency use is expected to be lower in response to CalGreen requirements.

The project site currently operates as a palm nursery but does not utilize domestic water. The project is proposing a master planned church campus which will result in an increase to domestic water demand. As previously discussed, a Will Serve Letter dated February 2016, has been provided by CVWD and the project's proposed land use can be accommodated for potable water. The proposed project will connect

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

into the existing infrastructure on Jefferson Street through onsite improvements of a 4" PVC water line and 12" water line for fire. The project will comply with the existing water management program in place.

The infrastructure and design components for the project will be consistent with CVWD requirements and water management plan. The project will also be reviewed by CVWD and City staff to assure compliance with all current and applicable requirements. The proposed development will be expected to implement water conservation measures to reduce impacts to public water supplies.

Additionally, water installation and connection fees in place at the time of development will be collected by CVWD. Therefore, no new infrastructure will be required as a result of project implementation and less than significant impacts are expected.

Cumulative Impacts: None
Mitigation Measures: None

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

Discussion:

Wastewater generated by the Project will be conveyed to the CVWD Wastewater Reclamation Plant. As previously discussed, CVWD operates 6 water reclamation plants and maintains more than 1,000 miles of sewer pipelines and more than 30 lift stations that transport wastewater to the nearest treatment facility and nearly 6.3 billion gallons of wastewater is treated yearly. Per CVWD's website, current expansions and improvements to the wastewater collection system and reclamation plans are taking place throughout the Coachella Valley. Therefore, sufficient capacity is available, and impacts would be less than significant.

Cumulative Impacts: None
Mitigation Measures: None

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

Discussion:

Recycling Solid waste disposal and recycling services for the City of Indio are provided by Burrtec Waste and Services, the City of Indio's franchise trash hauler. Residential waste collected from the proposed project will be hauled to the Coachella Valley Transfer Station. This facility has a permitted daily capacity of 3,700 tons per day (tpd) of solid waste. Waste from this transfer station is then sent to a permitted landfill or recycling facility outside of the Coachella Valley. These include Badlands Disposal Site, El Sobrante Sanitary Landfill and Lamb Canyon Disposal Site. Cal-Recycle data indicates the Bandlands Disposal site has 15,748.799 cubic yards of remaining capacity, the El Sobrante Landfill has a remaining

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

capacity of 145,530,000 tons of solid waste, and Lamb Canyon Disposal has a remaining solid waste capacity of 19,242,950 cubic yards.

As part of its long-range planning and management activities, the Riverside County Waste Management Department (RCWMD) ensures that Riverside County has a minimum of 15 years of capacity, at any time, for future landfill disposal. The 15-year projection of disposal capacity is prepared each year by as part of the annual reporting requirements for the Countywide Integrated Waste Management Plan. The most recent 15-year projection by the RCWMD indicates that no additional capacity is needed to dispose of countywide waste through 2024, with a remaining disposal capacity of 28,561,626 tons in the year 2024 (County of Riverside 2015b).

In addition, all future development would be required to comply with the mandatory commercial and multi-family recycling requirements of Assembly Bill 341. The project will comply with all applicable solid waste statutes, policies and guidelines. Therefore, less than significant impacts are expected relative to solid waste and applicable regulations.

Cumulative Impacts: None
Mitigation Measures: None

g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion:

All solid waste activities will be carried out in compliance with the State, Federal and local statues regulating solid waste. The project is not anticipated to hinder or impede future compliance. No impacts are anticipated relative to compliance with statues and regulations of solid waste.

Cumulative Impacts: None
Mitigation Measures: None

XIX. MANDATORY FINDINGS OF SIGNIFICANCE --

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

	Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Discussion:
As concluded in the Biological and Cultural Resources sections of this document, the proposed project would result in "no impacts" or "less than significant impacts with mitigation" to these resources. The project is compatible with the City of Indio General Plan, Zoning and the surrounding vicinity. The project will not significantly degrade the overall quality of the region's environment, or substantially reduce the habitat of a wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Based upon the information and mitigation measures provided within this Initial Study, approval and implementation of the project is not expected to substantially alter or degrade the quality of the environment, including biological, cultural or historical resources. Less than significant impacts with mitigation are expected.

Cumulative Impacts: None
Mitigation Measures: See previous sections.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐

Discussion:
The proposed project and its location is found to be adequate and consistent with existing federal, state and local policies and is a consistent land use with the City of Indio General Plan and Zoning. Approval and implementation of the proposed project will result in less than significant impacts related to cumulatively considerable impacts.

Cumulative Impacts: None
Mitigation Measures: None

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion:
The proposed project will not result in impacts related to environmental effects that will cause substantial adverse effects on human beings as analyzed in this IS/MND. Additionally, the project has been designed to comply with established design guidelines and current building standards which will be further reviewed by the City as part their approval process. Based upon the findings provided in this document, and mitigation measures and standard conditions incorporated into the project, implementation of proposed project would not cause substantial adverse effects on human beings and lee than significant impacts are expected.

Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Cumulative Impacts: None
Mitigation Measures: See previous sections.

Attached E

Project Master Plan

Return to Agenda

Open Bookmarks

THE GARDEN FELLOWSHIP

Project Master Plan
April 2019

Prepared for:

The Garden Fellowship, Inc.

Prepared by:

MSA Consulting, Inc.
34200 Bob Hope Drive
Rancho Mirage, CA 92270

TABLE OF CONTENTS

FIGURES

TABLES

APPENDIX

CHAPTER I: INTRODUCTION & SETTING

1.1 EXECUTIVE SUMMARY

The Garden Fellowship Project Master Plan (PMP) is organized into five chapters, as described below.

Chapter 1, Introduction & Setting: This section provides an overview of the document, project setting, legislative authority for the PMP, entitlement process and other contextual information.

Chapter 2, Master Plan: This section describes the primary master plan components required for orderly development of the property. These include land use, circulation, landscaped areas, water and sewer, grading and drainage, and phasing.

Chapter 3, Development Regulations: This section establishes the allowable uses and development standards applicable within the PMP boundary.

Chapter 4, Design Guidelines: This section outlines architectural and landscape design approaches and themes intended to guide the visual appearance of future development.

Chapter 5, Plan Administration: This section describes the various processes and procedures used to administer and implement the adopted PMP.

1.2 PURPOSE AND INTENT

The Garden Fellowship PMP is intended to guide future development of land within the PMP boundary, including the establishment of permitted land uses, design guidelines, setbacks, building heights and regulations. The PMP is intended to ensure quality development consistent with the goals, objectives and policies of the City of Indio General Plan.

The PMP has been prepared pursuant to the provisions of California Government Code Section 65350 et seq. Section 65359 authorizes cities and counties to prepare and adopt a plan of this nature for portions of their areas of jurisdiction as a means to implement the General Plan and requires that the plan be consistent with the General Plan. Pursuant to the City of Indio's General Plan Policy LU-2.2, Project Master Plans may be prepared at the choice of the landowner, as follows:

> *A Project Master Plan (PMP) shall be required for any project within an RPD overlay. Unlike the CSP [Conceptual Specific Plan], which groups together landowners by their geographic location in order to develop a concept plan for an area, the size, shape, and number of parcels/landowners involved in a PMP is decided by the landowners themselves. A single landowner or several working jointly, can prepare and submit a PMP.*

The components and preparation of a PMP is also outlined in City of Indio's General Plan Policy LU 2.2. This plan is consistent with these requirements and referred to throughout this document as the PMP.

Return to Agenda
Open Bookmarks

Proposed development plans or agreements, tentative tract or parcel maps, and any other development approval must be in substantial conformance with the PMP. Projects which are found consistent with the PMP will be deemed consistent with the City's General Plan. Upon adoption by ordinance, the Garden Fellowship PMP shall serve as the official zoning and development plan for the project.

1.3 PROJECT LOCATION

The PMP consists of two parcels totaling approximately 18.5 acres (APN: 691-060-003 & 691-060-004) located along the westerly side of Jefferson Street between 38th and 39th Ave. In its current condition the site contains a palm tree nursery and is therefore mostly undeveloped. The site is bounded to the north, south, and west mostly by undeveloped land and agricultural uses and to the east by single-family residences. Fencing and various types of palm trees and bushes visually screen the property frontage off Jefferson Street which serves as the primary vehicular access route to the site.

Figure 2 *Vicinity Map* depicts the physical setting of the property. Surrounding land uses are identified in Table 1.1

TABLE 1.1 SURROUNDING USES

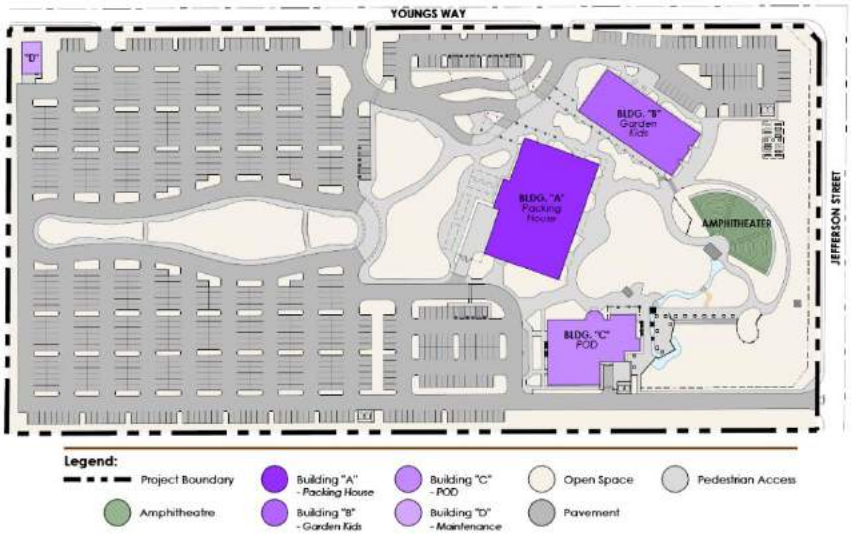
	Jurisdiction	General Plan	Zoning	Existing Use
North	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture, Single Family Residence
South	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture
East	Indio	Equestrian Estates	Equestrian Estates (EE)	Single-Family Residences
West	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture, Palm Tree Farm

1.4 SITE CHARACTERISTICS

As shown in Figure 2 *Aerial Map,* the property consists of a palm tree farm and undeveloped land.

1.5 DEVELOPMENT CONCEPT

The Garden Fellowship PMP proposes to develop a master planned, multi-building church campus on an 18.5 acre site. At buildout it is anticipated the campus will total four (4) buildings and approximately 55,000 sf of building space. Proposed onsite features and amenities include a worship building, church offices, youth and kid ministries, a bookstore/café, an amphitheater, and facilities maintenance building. The arrangement of the buildings is intended to center around a court plaza area that will be designed and landscaped to provide a high quality setting to allow for informal gatherings before, during, and after church activities. To the west of the buildings ample parking will be provided for the different church and community activities held on the campus. Additional on-site amenities include a kid's playground, open lawn/garden areas, and ponds. Off-site street improvements which will include curb and gutter, sidewalk, and fully landscaped parkways will be constructed on Jefferson Street and Young's Way.

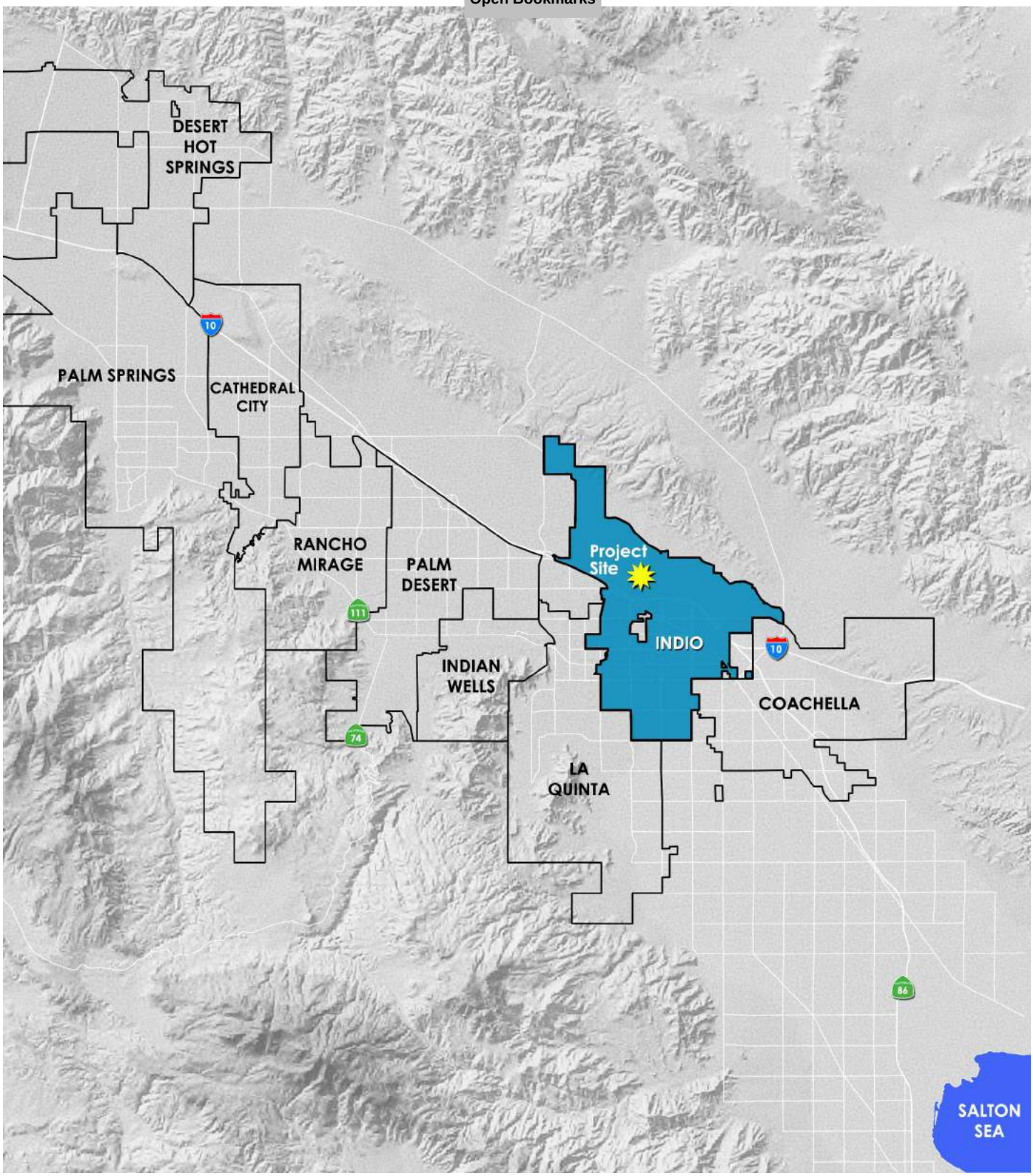


**This illustrative site plan is conceptual and subject to change as the project's design is finalized.*

1.6 PROJECT OBJECTIVES

The PMP contains all components required by State law, as well as other components, design concepts, guidelines, and standards to implement the City of Indio General Plan. The objectives of this PMP are as follows:

- Develop a master planned church campus consisting of a worship center, church offices, youth and kid ministries, cafe/bookstore, and an outdoor amphitheater.
- Provide water, sewer, and drainage systems to adequately service the project.
- Provide a safe and efficient circulation system.
- Develop a flexible phasing plan that provides for multi-year construction of the project in an orderly and efficient manner.
- Establish design guidelines, development regulations, use standards and procedures to guide future project improvements and provide appropriate landscape and architectural themes for the project.



Source: Geographic Information Systems

Exhibit Date: March 2, 2019

REGIONAL LOCATION MAP

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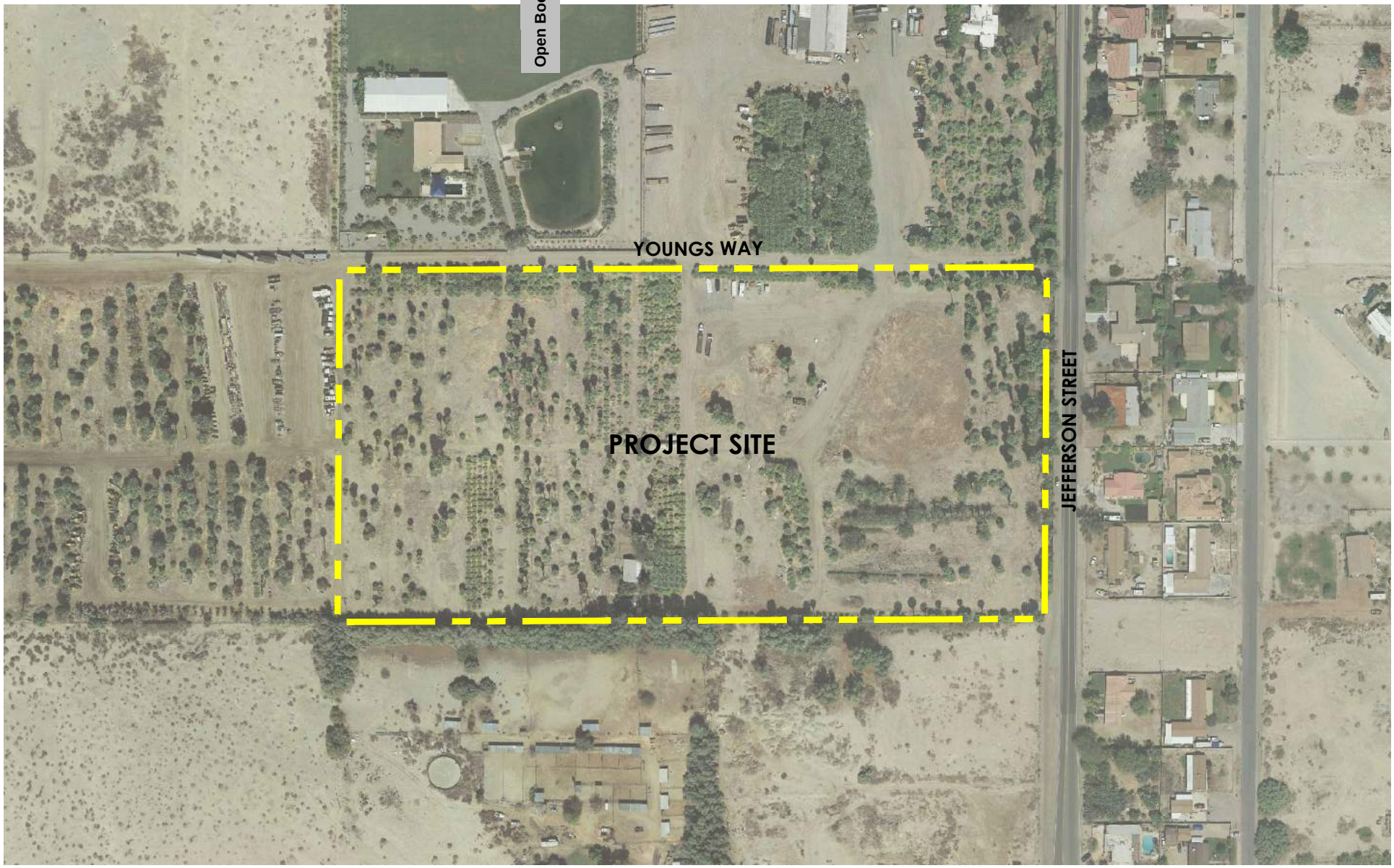
FIGURE 1



Source: City of Indio

Exhibit Date: March 2, 2019

AERIAL PHOTOGRAPH

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FIGURE 2

1.7 GENERAL PLAN & ZONING

The Indio General Plan 2020, adopted in October 1993, established the City's policy relative to the planned future pattern, intensity, density, and relationships of land uses in the City and the various infrastructure systems needed to effectively support those land uses. The Project Master Plan implements the Indio General Plan by bringing detailed policies and regulations together into a focused development plan for the proposed project. It serves as a link between the Indio General Plan and subsequent development proposed within the Project Master Plan area. The Project Master Plan is a regulatory document which, when adopted by the Indio City Council, will govern all facets of project development including the distribution of land uses, location and sizing of supportive infrastructure, as well as development standards and regulations.

Figure 3 *General Plan Map & Zoning*, displays the existing General Plan Land Use and designates the site as Equestrian Estates and the existing zoning for this site as Equestrian Estates (EE).

Zoning implements the General Plan land use by applying appropriate development standards for allowable uses, minimum lot size, yard setbacks and similar development considerations.

1.8 BERMUDA DUNES AIRPORT LAND USE CONSISTENCY

The Garden Fellowship PMP is located within the influence area of the Bermuda Dunes Airport and Airport Compatibility Zone E. The Zone E designation is considered the least restrictive land use zone in regards to prohibited uses and height restrictions and the land use restrictions associated with it are outlined in the 2004 Riverside County Airport Land Use Compatibility Plan (RCALUCP). Airport Land Use Commission (ALUC) review is required when a project is located within an Airport Influence Area and a local jurisdiction processes a legislative action such as a General Plan Amendment, Conditional Use Permit, or Specific Plan/ Project Master Plan. On April 26, 2018 the ALUC reviewed the PMP and associated entitlements and issued a finding of consistency. Copies of the ALUC approval letter and Conditions of Approval are included as Appendix A of this PMP.

1.9 CEQA CONSISTENCY

The project is subject to the requirements of the California Environmental Quality Act (CEQA). Pursuant to the CEQA Guidelines, an Initial Study has been prepared for the Garden Fellowship PMP to analyze the environmental impacts of the project. The following environmental studies were prepared in support of the environmental analysis:

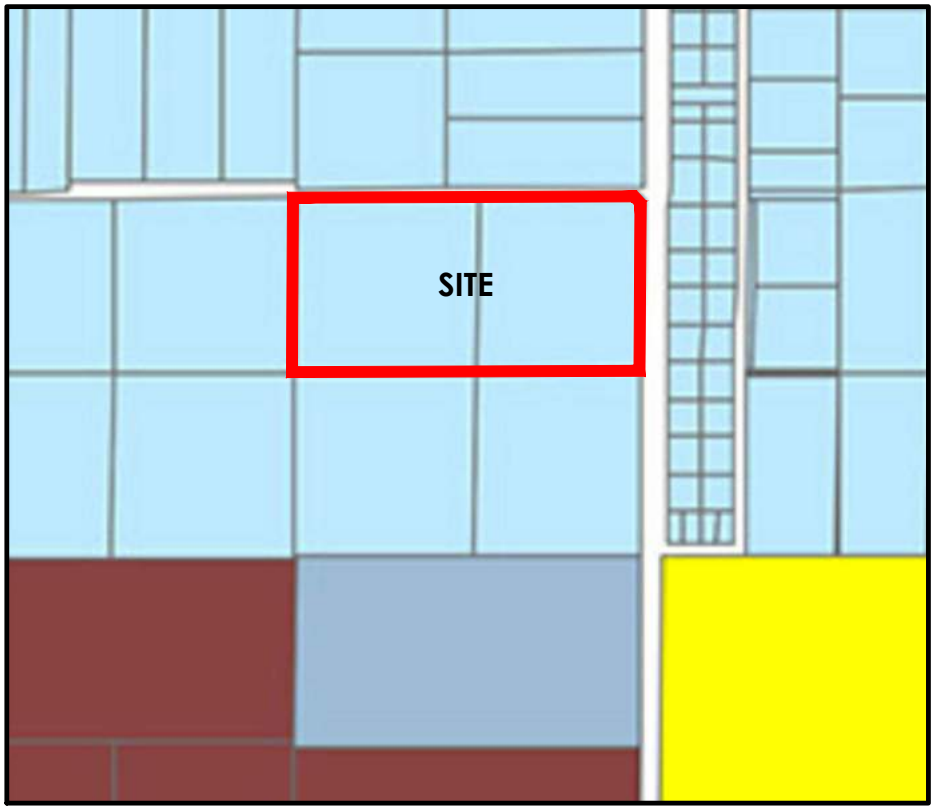
- Air Quality and GHG – Urban Crossroads, March 2018
- Biological Assessment – James W. Cornett Ecological Consultants, February 2018
- Paleontological Assessment - CRM Tech, March 2018
- Cultural Resources – CRM Tech, March 2018
- Geotechnical Report – Sladden Engineering, October 2014 and March 2018 Update

- Traffic Impact Analysis – Urban Crossroads, March 2018

As a result, no substantial adverse impacts were found that could not be mitigated to a level of less than significant. Therefore the City will prepare a Mitigated Negative Declaration (MND) containing an evaluation of potential environmental impacts associated with the project and appropriate mitigation measures for each potential impact. All mitigation measures identified in the Mitigated Negative Declaration shall be identified in a Mitigation Monitoring and Reporting Program (MMRP) to ensure that implementation occurs.

The MND for the PMP will apply to all subsequent implementing entitlements proposed within the Garden Fellowship PMP. All future development projects for the project site will be reviewed with the PMP and the MND to determine whether additional environmental documentation must be prepared pursuant to CEQA Guidelines.

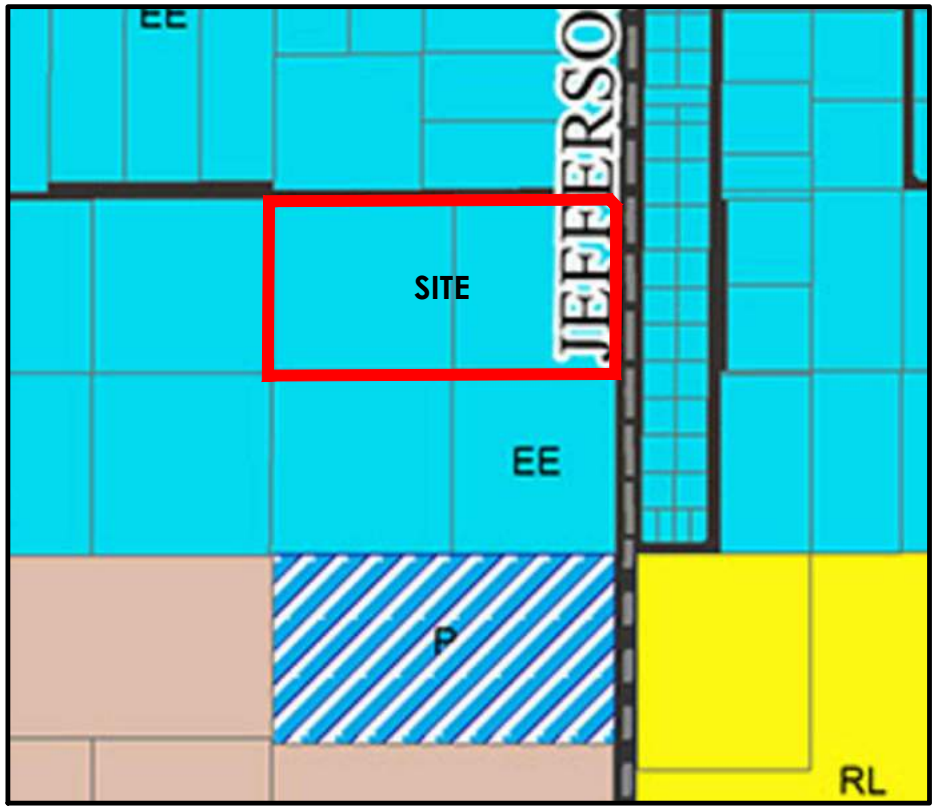
General Plan



Legend:

- Project Boundary
- Equestrian Estates
- Country Estates
- Public
- Residential - Low

Zoning



Legend:

- Project Boundary
- EE
- CEIR - 1/2
- P
- RL

Source: City of Indio

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EXISTING GENERAL PLAN / ZONING MAP

FIGURE 3

1.10 ENTITLEMENT PROCESS

Approval of the following entitlements will implement this project:

Conditional Use Permit (CUP) / Design Review (DR): - Development of a place of worship requires approval of a CUP in compliance with Section 159.097 of the City of Indio Municipal Code. Design Review (DR) is required by the City for approval of landscape and architectural design. The CUP and DR will both require a public hearing before the Planning Commission (Commission) for approval.

Project Master Plan (PMP) - The PMP will cover the entire 18.5 acre site to provide a comprehensive development plan, allowable uses and development standards. The PMP requires public hearings before the Commission and Council.

Airport Land Use Commission Review (ALUC):-ALUC consistency review is required for projects within an airport influence area whenever a local jurisdiction processes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance.

CHAPTER 2: MASTER PLAN

2.1 LAND USE

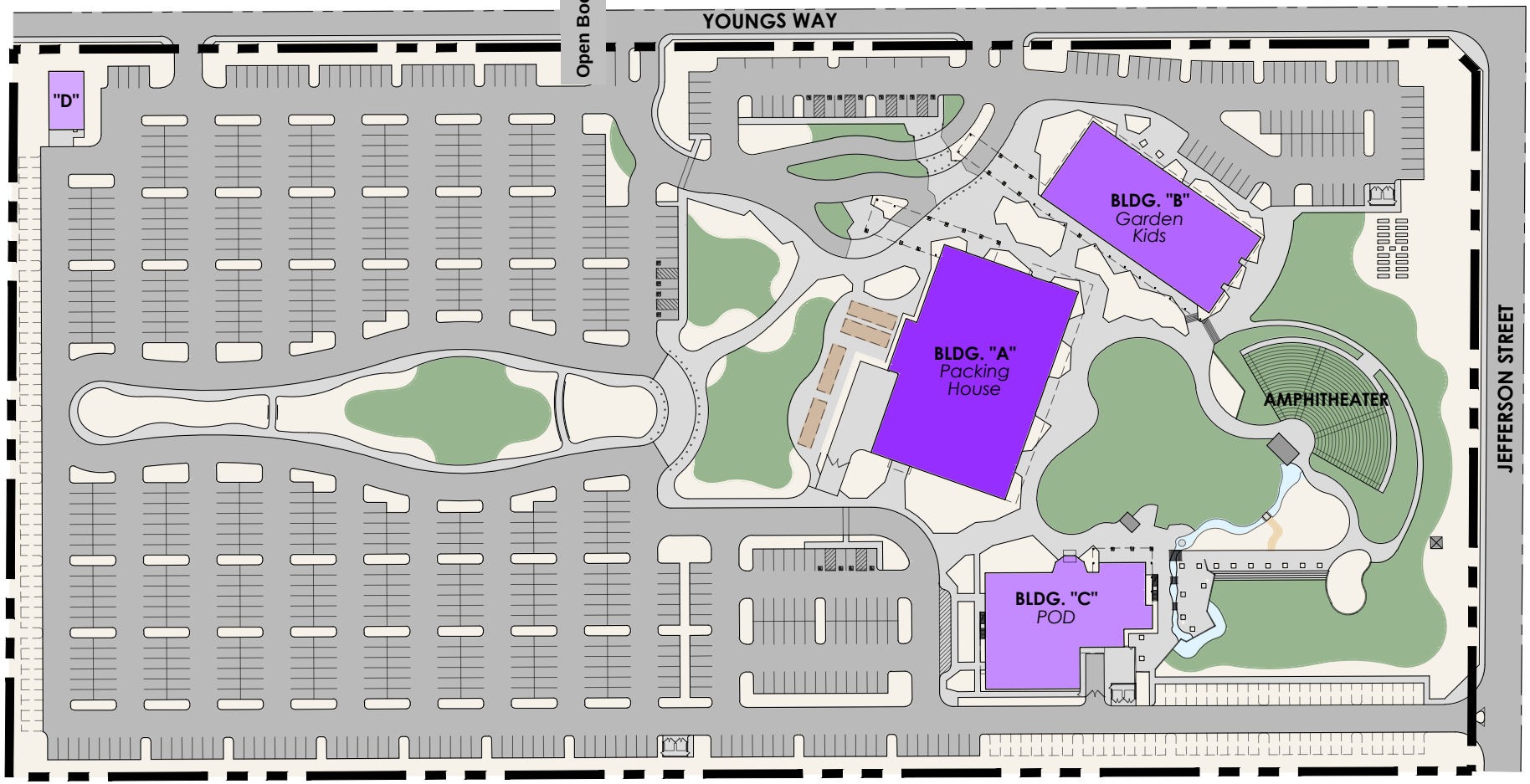
The Project Master Plan proposes the construction of a four building church campus totaling approximately 52,000 sf of building space on 18.5 acres The locations of these buildings as depicted in this PMP (***Figure 4*** – *Conceptual Site Plan*) are conceptual and will be further refined through implementing entitlement approvals as outlined in Section 1.10. Each Project component is described below and accompanied by a detailed discussion of permitted uses and relevant development standards in Chapter 3. Table 2.1 provides a summary tabulation of uses and square footages within the project.

TABLE 2.1 MASTER PLAN PROGRAM

Building	Name	Uses	Building SF
A	"Packing House"	Primary worship/assembly venue	19,300
B	"Garden Kids"	Children's ministries	11,800
C	Mixed Use "POD" Building	Fellowship hall, youth ministries, church offices, café/retail	22,600
D	Maintenance	Facilities maintenance	1,550
	Amphitheater	Outdoor worship/assembly venue	
TOTALS			**55,300**

Notes:

1. *Square footages are approximate and subject to refinement with implementing entitlements and final design plans.*
2. *Refer to Chapter 3: Development Standards for heights, allowable uses, and other development standards.*



Legend:

- Project Boundary
- Amphitheatre
- Building "A" - *Packing House*
- Building "B" - *Garden Kids*
- Building "C" - *POD*
- Building "D" - *Maintenance*
- Open Space
- Retention Area
- Pavement
- Pedestrian Access

Note: See Table 2.1 for Master Plan Program information

Source: MSA Consulting, Inc.

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CONCEPTUAL LAND USE PLAN

FIGURE 4

2.2 CIRCULATION

Vehicular and pedestrian circulation systems are an important component of every development project. The Garden Fellowship development has direct and convenient vehicular access to Jefferson Street and Young's way. Vehicles will circulate through standard parking lots with drive aisles in compliance with City engineering and Fire Department design standards. The circulation system is illustrated in Figure 5 *Conceptual Circulation Plan,* Figure 6 *Typical Cross Sections,* and Figure 7, *Conceptual Pedestrian Plan.* Key aspects of the circulation system include:

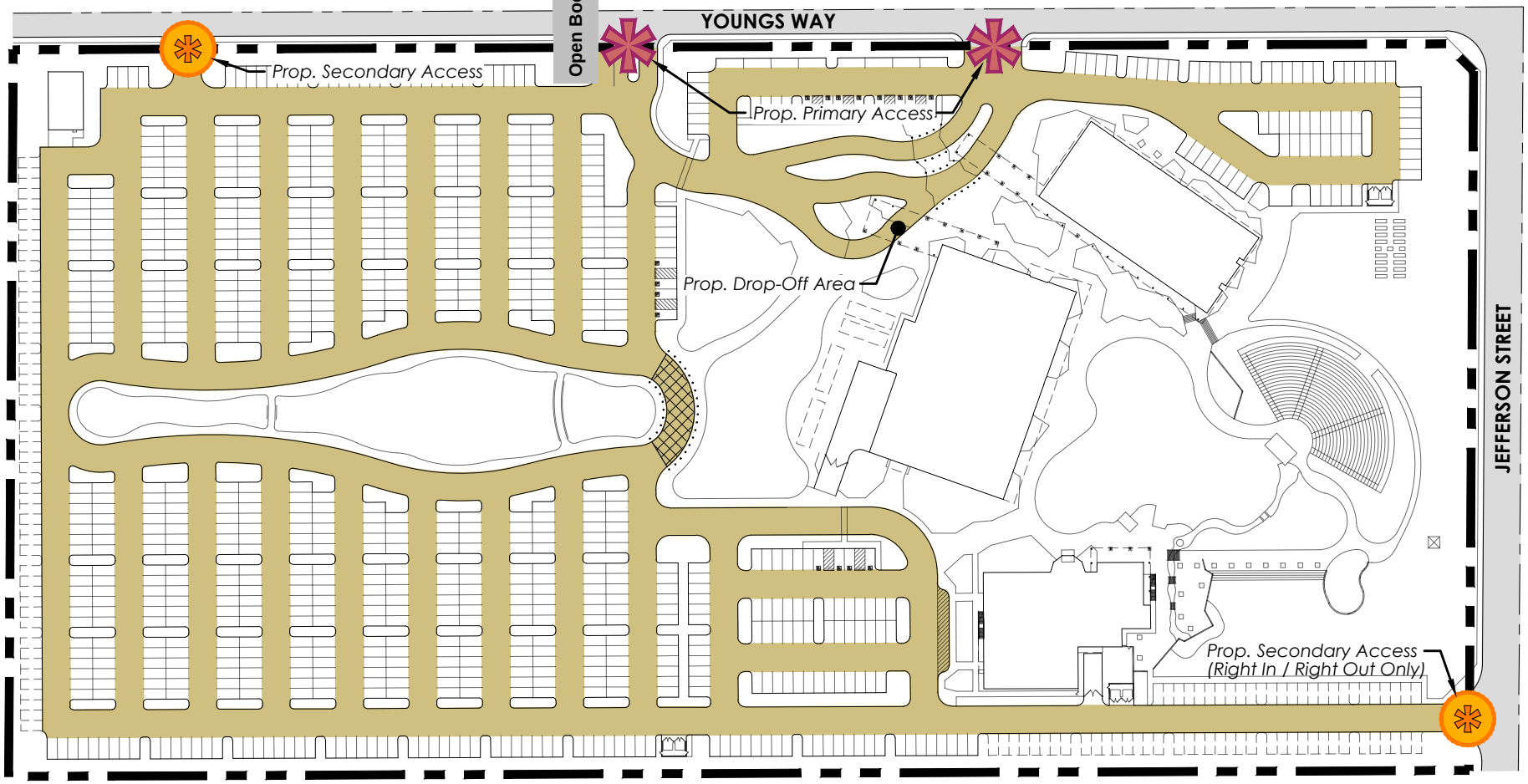
Off-Site Street Improvements - The project will dedicate and construct ultimate public half-street improvements for Jefferson Street (Secondary, 86' ROW) which will include a 7 foot right-of-way vacation along the project frontage (Figure 6 *Typical Cross Sections)*. Young's Way (Collector road, 64') will also be built with ultimate public half-street improvements with a 2 foot proposed right-of-way dedication along the northerly boundary of the property.

Entries – Vehicular access to the site is taken from Jefferson Street and Young's Way via four entry points. Entries would include landscaping, entry signage and pedestrian walkway connections.

Vehicular Circulation – The vehicular circulation system consists of interior drive aisles that provide access to the parking, loading, and service areas associated with each building.

Pedestrian Circulation – Pedestrian circulation to the project is provided via sidewalks along Jefferson Street and Young's Way and interior pathways connecting the various onsite facilities. In addition church parking staff will be available to help direct pedestrians and control traffic with the use of bollards and other traffic control methods. The easterly connection between the north and south parking lots will be controlled with bollards to favor either pedestrian or vehicular access in keeping with the needs of specific activities.

Parking – Sufficient off-street parking will be provided to serve each use. Parking standards for the PMP are subject to City Review and approved site specific traffic study. Per the traffic study (attached as Appendix B) parking demand at project buildout is anticipated to be in the range of 820+ (to 1,019 at maximum capacity during special occasions) required parking spaces. If a parking demand overage is found, overflow parking as depicted on the on-site circulation exhibit, as well as parking management strategies (valet & shuttle services) would need to be evaluated and implemented.



Legend:

- Project Boundary
- Private Driveway *(24' R/W)*
- Jefferson Street (Public / Secondary) *(43' R/W Half Street)*
- Youngs Way (Public / Collector) *(32' R/W Half Street)*
- Controlled Pedestrian / Vehicle Interface Zone
- Primary Access
- Secondary Access

Note: See Figure 6 for Typical Street Sections.

Source: MSA Consulting, Inc.

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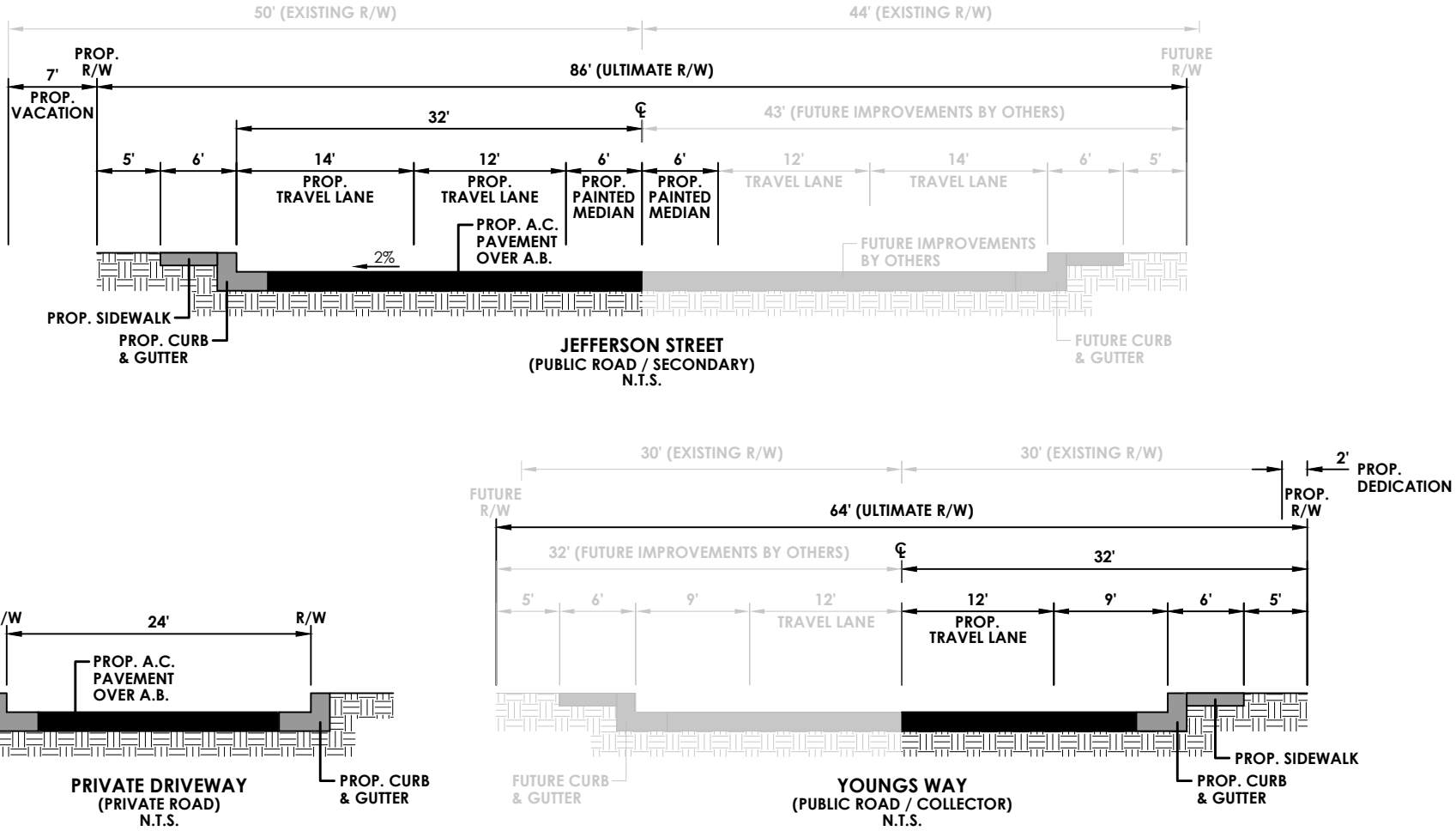
CONCEPTUAL VEHICULAR CIRCULATION PLAN

FIGURE 5



Note: See Figure 5 for Vehicular Circulation.

Source: MSA Consulting, Inc.

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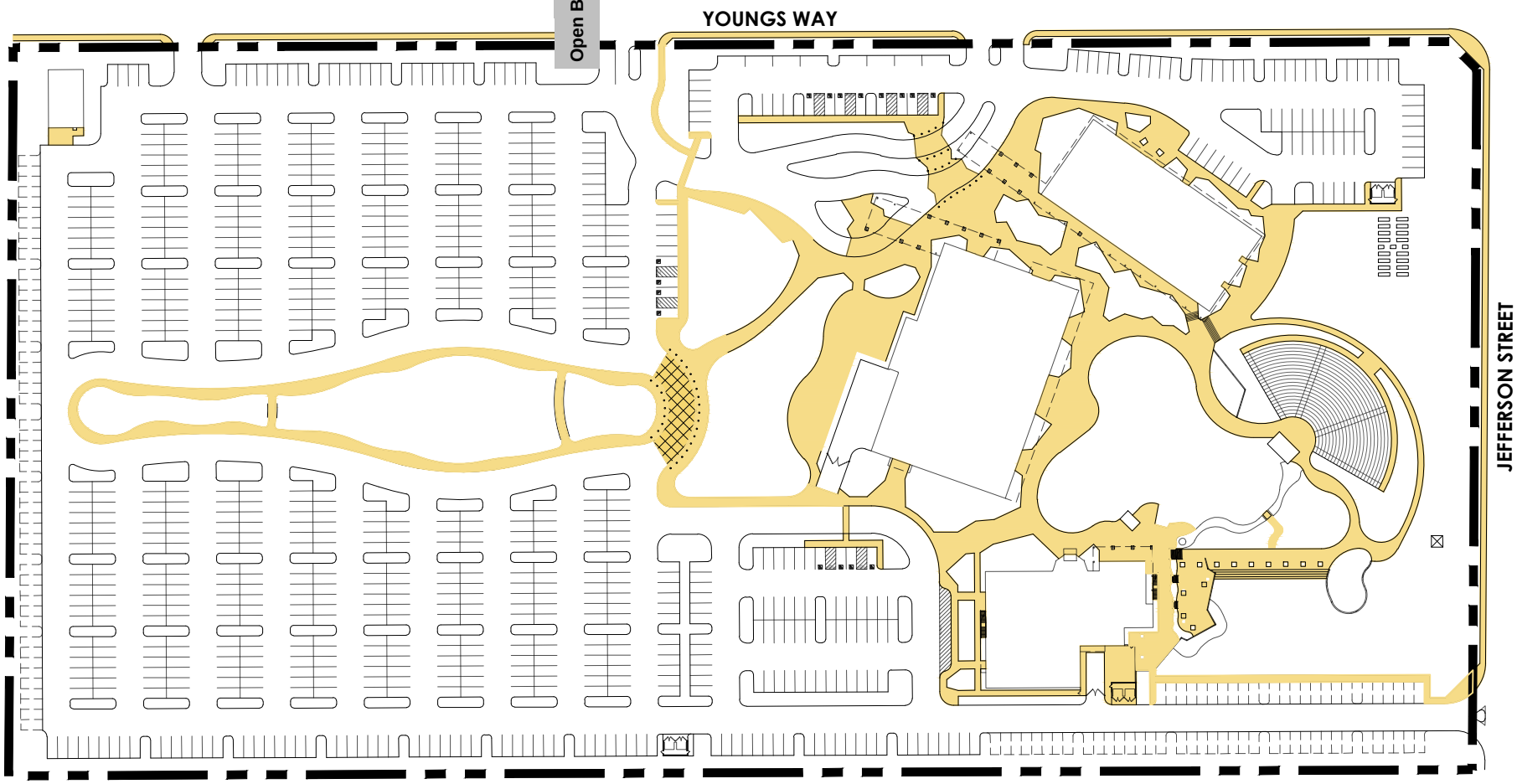
TYPICAL STREET CROSS SECTIONS

FIGURE 6



Legend:

- Project Boundary
- Pedestrian Circulation
- Controlled Pedestrian / Vehicle Interface Zone

Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

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CONCEPTUAL PEDESTRIAN CIRCULATION PLAN

FIGURE 7

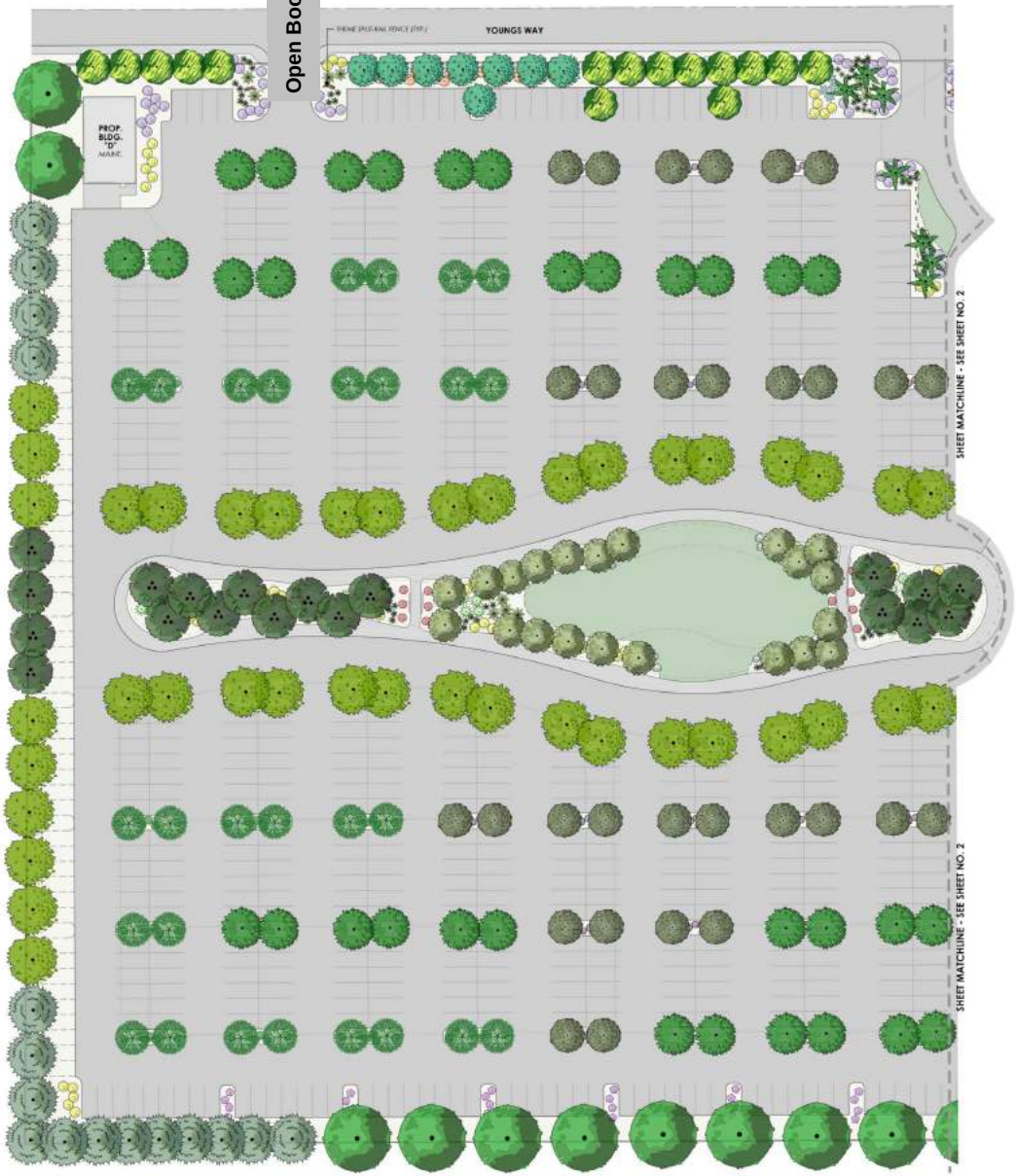
2.3 LANDSCAPED AREAS

Landscaping is an important component of quality development as it introduces greenery to soften and shade urban hardscape. Conceptual landscaping is illustrated in Figures 8 and 9 *Conceptual Landscape Plan* and landscape Design Guidelines are found in Section 4.3. Key aspects of the landscape design include:

Public Streetscapes – Landscaping along the length of Jefferson Street and Young's Way is intended to achieve a consistent, colorful and attractive presentation and soften the project when viewed from the public street.

Entries – Site entries will be attractively landscaped to provide a sense of arrival and identity to each land use type. Entries will be well defined with iconic planting types, and feature signage that will be designed to be an integral part of the entries overall design

Parking Lots – Planter islands will be spaced throughout the parking areas to incorporate shade trees and reduce heat generation on paved surfaces consistent with City parking lot shading requirements.



Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

CONCEPTUAL LANDSCAPE PLAN: WEST PORTION

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FIGURE 8

Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

CONCEPTUAL LANDSCAPE PLAN: EAST PORTION

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FIGURE 9

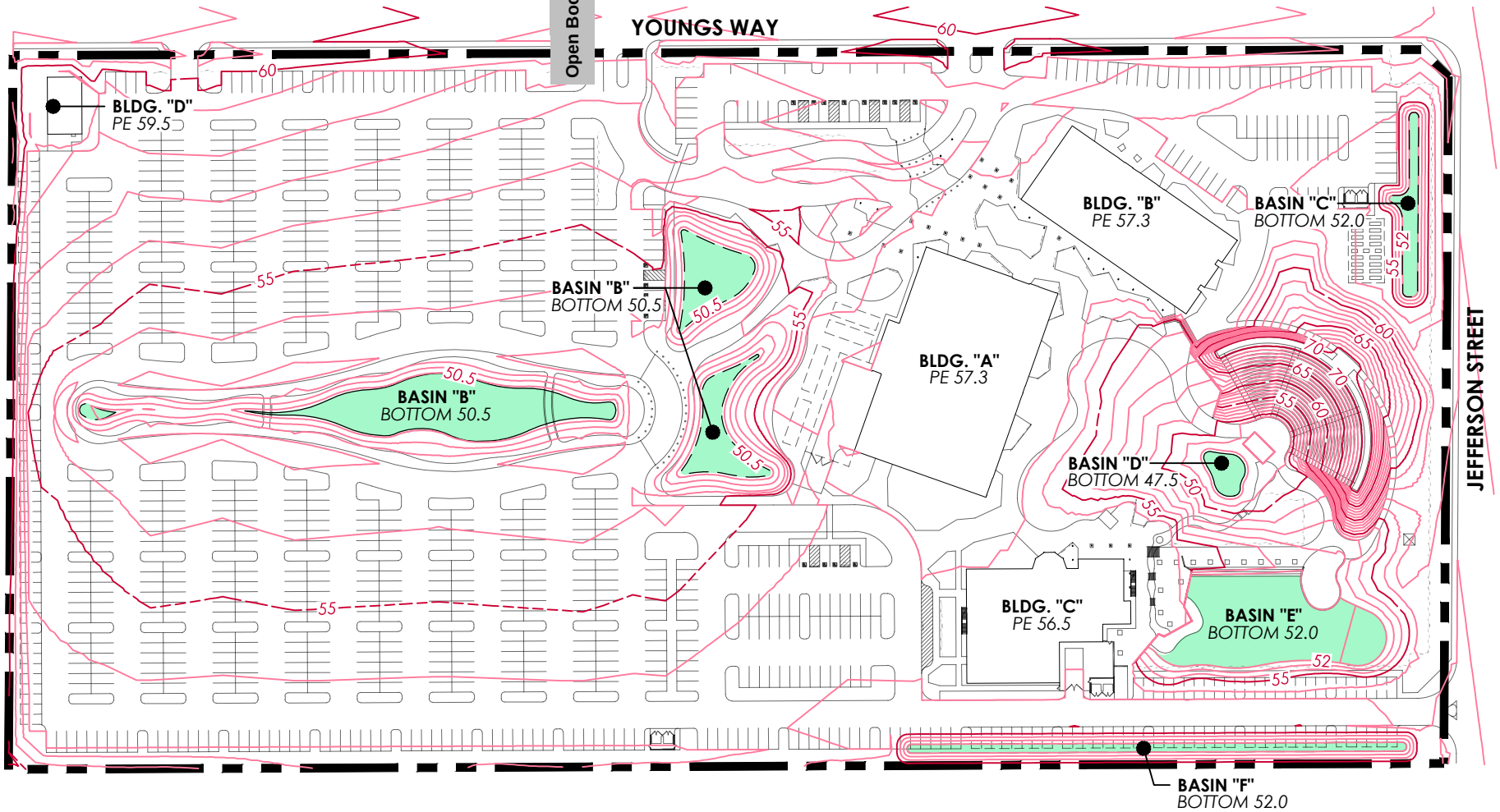
2.4 GRADING & DRAINAGE PLAN

Site topography slopes gently from a high elevation of 60 at the northwest corner of the property to a low elevation of 56 at the southeast corner of the property. Because grading and drainage are closely interrelated, they are addressed jointly in this section.

Grading – The grading concept is intended to create building pads and parking areas while keeping the earthwork balanced on site. Figure 10 *Conceptual Grading Plan,* shows the site contours after grading. The proposed grading will result in ground elevations, which are similar to existing grades. Grading design will be refined and more detailed with final engineering plans for the issuance of grading permits. Grading is also designed to achieve positive surface flows and protect all structures and physical improvements from the 100-year storm, surface runoff, soil erosion and sedimentation both during and after construction.

Drainage – Offsite flows are intercepted along the northern boundary, conveyed through the site and discharged in the existing drainage condition so as not to concentrate flows or negatively affect downstream properties. The incremental increase in runoff created by new impervious surfaces (roofs, pavement) will be retained in basins on site.

As shown in Figure 11, *Conceptual Drainage Plan*, "developed condition" surface drainage will utilize ground retention basins along with an underground storm drain pipe system. The runoff will sheet flow from the buildings and parking areas to concrete curb and gutter along the drive aisles that lead to catch basins that will be connected to underground storm drain pipes flowing to the proposed retention basins, located at various areas throughout the project site. Retention basins are sized appropriately for the project using standard engineering modelling methods and can be adjusted in size and depth to accommodate site design changes during project development.



Legend:

- Project Boundary
- 55 Proposed Index Contour
- Proposed Intermediate Contour
- Proposed Retention Basin

Note:
Grading design is conceptual and subject to change with final construction drawings.

Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

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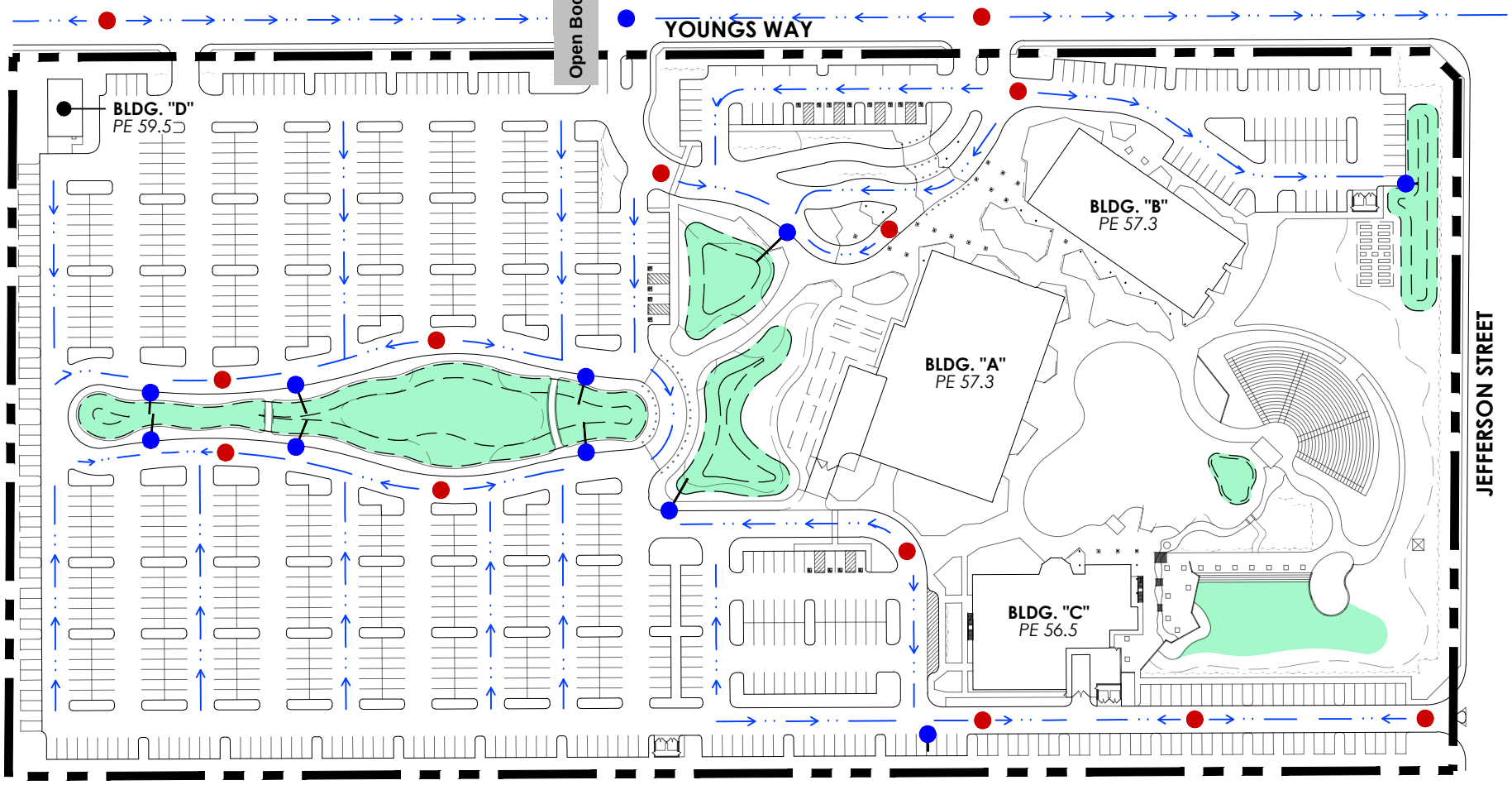
CONCEPTUAL GRADING PLAN

FIGURE 10



Legend:

- Project Boundary
- Drainage Direction
- Proposed Retention Basin
- Drainage High Point
- Drainage Low Point

Notes:

1. *See Figure 10 for Conceptual Grading Plan*
2. *Drainage design is conceptual and subject to change with final construction drawings.*

Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

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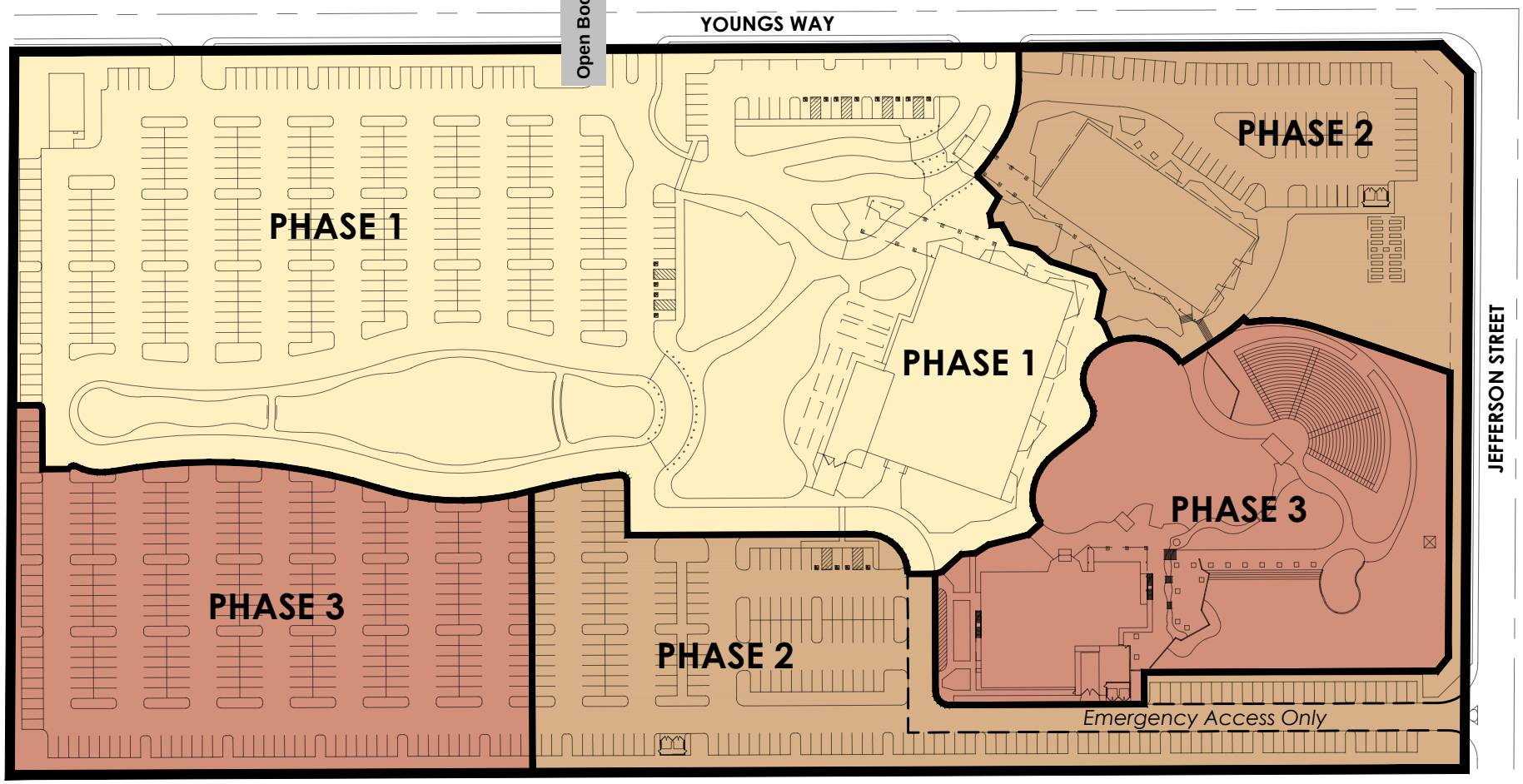
CONCEPTUAL DRAINAGE PLAN

FIGURE 11

2.5 PHASING PLAN

The Garden Fellowship Project Master Plan is designed for construction in three (3) primary development phases with build out over approximately 4-6 years. Construction of Phase 1 is estimated to begin in 2019 with full buildout of the project completed by 2025 Figure 12, *Conceptual Phasing Plan* reflects the anticipated construction sequence. Phased development will be accompanied by the orderly extension of circulation and parking facilities, public utilities, and infrastructure in accordance with the final conditions of approval for the project and the City Engineering Services Division.



Legend:

- Project Boundary
- Phase Boundary
- Phase 1
- Phase 2
- Phase 3

Note: Phasing is conceptual only.

Source: MSA Consulting, Inc.

Exhibit Date: November 8, 2018

CONCEPTUAL PHASING PLAN

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NORTH
N.T.S.

FIGURE 12

Chapter 3: DEVELOPMENT STANDARDS

3.1 OVERVIEW

This chapter identifies the development standards applicable to the Garden Fellowship project, including a statement of development intent and a table of allowable uses and relevant development standards.

3.2 PROJECT MASTER PLAN

Statement of Intent – The Project Master Plan is intended to allow the construction of a four (4) building church campus with affiliated amenities and infrastructure systems. Development standards for PA-1 are shown in Table 3.1A *PMP Permitted Uses* and Table 3.1B *PMP Development Standards.*

Return to Agenda
Open Bookmarks

TABLE 3.1A

PMP PERMITTED USES

	P= Permitted
Allowable Uses	***Category***
Places of worship, churches, or other places used primarily for religious services, including, but not limited to fellowship halls, youth ministries, church offices, etc.	P
Schools and other educational facilities associated with a religious use	P
Charitable, social service, and other programs and activities conducted in conjunction with a religious use	P
Cafe	P
Bookstore	P
Outdoor worship/assembly (i.e amphitheater) venue	P
Facilities maintenance building	P

Notes:

1. *Including ancillary manager's residence, office and related uses that accompany and support a worship facility.*
2. *Multiple uses may be combined in a single building.*

TABLE 3.1B

PMP DEVELOPMENT STANDARDS

Min. Front Setback[1]	30'
Min. Side Setback	15'
Min. Rear Setback[2]	60'
Max. Structure Height	50'

Notes:

1. *Front setback to be measured from Jefferson Street property line.*
2. *15 foot minimum setback for accessory structures, to also include proposed Maintenance Building "D"*

TABLE 3.1C
PMP SIGN STANDARDS

SIGN TYPE	LOCATION	MAXIMUM ALLOWED	MAXIMUM AREA	MAXIMUM HEIGHT
Small Monument Sign	Jefferson and Young's Way Street Frontages	2	75 square feet per sign	7 feet
Large Monument Sign	Jefferson Street Frontage	1	550 sf bounding box, 180 sf for sign	25 feet
Building/Wall Signs	-	2 per building	240 square feet	35 feet
Wayfinding Signs	Anywhere on lot	20	32 square feet	7 feet

Notes:

1. *All signs and materials shall complement the project architecture. See Chapter 4: Design Guidelines for more details.*
2. *Back lit channel lettering allowed for sign illumination purposes.*

Chapter 4: DESIGN GUIDELINES

4.1 OVERVIEW

The guidelines contained in this chapter identify unifying elements for design of permanent buildings and landscaping within the Garden Fellowship project. These guidelines will ensure compatibility with the surrounding community, and enhance the overall image of the City. The exhibits provided are intended as conceptual illustrations and do not depict final designs, nor should they limit the range of expression among the developer or their professional design team.

4.2 SITE PLANNING GUIDELINES

Integration of effective site planning techniques, incorporated with basic design elements will enhance the visual experience of the development.

Building Arrangement

The project site is designed in such a way as to cluster the proposed new structures along the eastern edge of the site along Jefferson Street with the parking and maintenance building located to the west of the buildings. The arrangement of the three buildings creates a central plaza area that will be designed and landscaped to provide a high quality setting that will allow informal gatherings before, during, and after church activities and throughout the week. This plaza area will also be directly accessible from adjacent streets thus enabling it to be used throughout the week as a communal gathering place.

Entries and Driveways

Entries shall be clear, identifiable, and street oriented driveways must be provided at the project and parking entrances. Parking entrances should be designed to ensure safe pedestrian access and provide clean line-of-sight-walkways.

4.3 ARCHITECURAL DESIGN GUIDELINES

Architectural Character

Implementation of this Project Master Plan will result in a high-quality development that complements and enhances the existing neighborhood. Building elevations will be detailed and articulated with projections and recesses to avoid long, plain surfaces. The buildings will be characterized by different massing, materials and colors. The exhibits provided are intended as conceptual illustrations and do not depict final designs, nor should they limit the range of expression among the developer or their professional design team.

Color

- Approach materials to maintain a common, consistent architectural style within the development.
- Apply changes in material purposefully and in a manner corresponding to variations in the building mass.

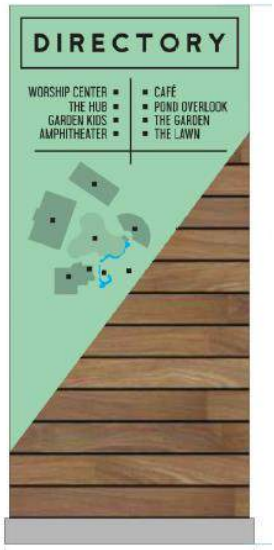
**Conceptual rendering of proposed multi-use "POD" building. This illustration is conceptual and subject to change as the project's design is finalized and approved under the City's Design Review. Refer to project Design Review booklet for building design, dimensions, and materials.*

Mechanical Equipment/Storage

- All air conditioning /heating equipment, gas and electric meters must be screened from public view with landscaping or fencing places outside of public view.
- Rooftop air conditioning must be screened
- Screening materials shall blend with building materials and design and landscaping.
- Exterior storage of equipment, supplies, refuse, or their receptacles is prohibited unless screened by landscape or solid walls.
- All exterior storage, trash receptacles, and dumpsters must be screened by landscaping, fencing or walls.

4.4 SIGNAGE GUIDELINES

Project signage is intended to be adequate, functional and aesthetically pleasing. The project proposes to incorporate signage as a design element that compliments the project architecture, landscape and site plan. A sign design package has been included with the project's Design Review and CUP applications showing the proposed project monuments signs, building signage, and way finding signs. The sign package further describes typical locations, size, color, and lettering style of each sign type.



**Conceptual rendering of proposed signage for illustration purposes. Signage is conceptual and subject to change as the project's design is finalized and approved under the City's Design Review. Refer to project Design Review booklet for sign design, dimensions, and materials.*

The following guidelines shall apply:

- All signs, colors, and materials shall complement the project architecture.
- Once constructed, all signs shall be maintained in an as-new condition.
- Be consistent with *TABLE 3.1C SIGNAGE STANDARDS* of this PMP

4.5 LANDSCAPE DESIGN GUIDELINES

All ornamental landscaping in the project will rely on desert plant materials that comply with the water conservation requirements of Indio Water Authority. Irrigation for all areas will optimize water-conserving delivery techniques. Landscaping, hardscape treatment, lighting, and signage will be coordinated to provide a consistent and complimentary appearance for the project as a whole.

The overall landscape concept for the project is shown on Figure 8 & 9, *Conceptual Landscape Plan (east & west)* and illustrated in Figures 20, *Landscape Character Photos.*

The Garden Fellowship landscape overall is a design intended to give a garden grove experience to the congregation. Long hedge rows of various trees in formal patterns will dominate the overall planting layout with informal groves of trees to compliment. The shrub and groundcover planting design will also alternate between formality and informality.

Grass areas will be available for congregation and events and be flow from the hardscape path areas through the buildings.

The Jefferson Street Frontage will be combinations of tree and shrub planting in a formal pattern and an open informal area on the southwest corner that will enable an open view in to the center of the church complex from the southwest corner. The main signage elements for the project will be also be located in this area.

Along the entire perimeter, rows of trees will wrap the parking and line the north and south streets. The shrub and groundcover planting in these areas will be informal and colorful.

The area surrounding the church buildings will be planted informally with planting areas and low seat walls.

Sign

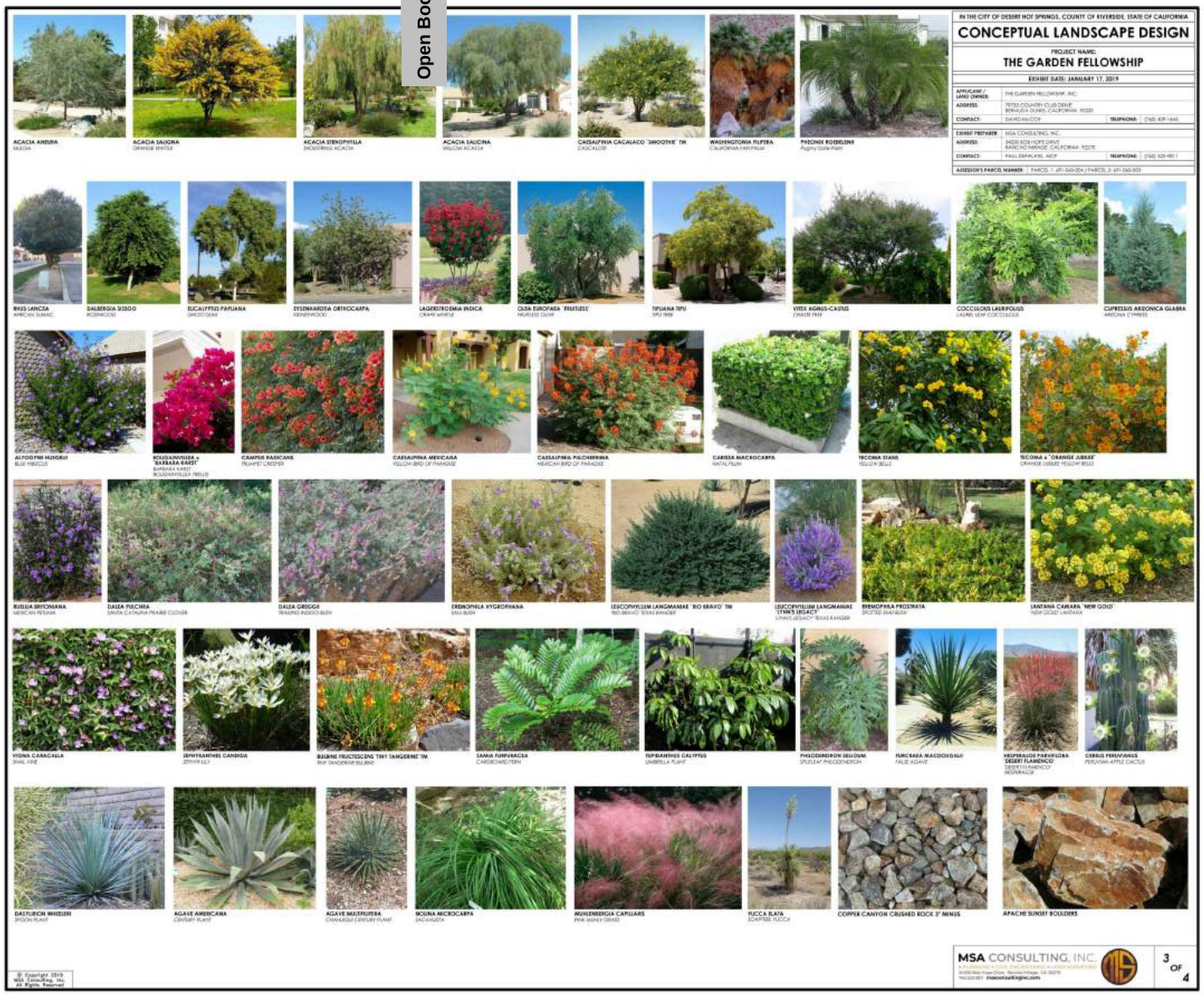
- The primary signage for the church will be located approximately in the southeast corner of property along Jefferson Street. A secondary monument sign will also be located approximately on the northeast corner of the project site.

Parking

- All parking areas will be screened with a continuous 3 ‘ high planting band of shrubs.
- Each parking island will be planting with two 15 gallon trees and five 5 gallon shrubs or groundcovers.

Trash Enclosures

- Trash enclosures shall be screened from public view with walls and planting.



Source: MSA Consulting, Inc.

Exhibit Date: March 2, 2019

LANDSCAPE CHARACTER PHOTOS

MSA CONSULTING, INC.
> PLANNING > CIVIL ENGINEERING > LAND SURVEYING
MSACONSULTINGINC.COM

FIGURE 13

Chapter 5: PLAN ADMINISTRATION

5.1 OVERVIEW

This chapter described the procedures for administration and implementation of the Project Master Plan.

5.2 IMPLEMENTATION

An Implementation Program is hereby established to realize the goals of the project. The program contains a number of legal, procedural and administrative elements. The purpose of this section is to familiarize City agencies and decision-makers as well as interested citizens with the applicant's goals and intentions for the project and to summarize the methodologies and procedures that will apply to subsequent development activities. The implementation program will take effect upon adoption of the Project Master Plan (PMP) and Mitigated Negative Declaration (MND).

The PMP establishes the general intent and comprehensive framework for development of the site. However, prior to construction, implementing approvals with greater design detail are required. As noted below the following implementing approvals will be concurrently processed with this PMP as part of the original project approval.

Conditional Use Permit (CUP) - Development of a place of worship requires approval of a CUP in compliance with Section 159.097 of the City of Indio Municipal Code. The CUP requires a public hearing before the Planning Commission (Commission) for approval.

Design Review (DR) – A Design Review application is required for showing the site and architectural plans in greater detail for the proposed project. The DR requires a public hearing before the Planning Commission (Commission) for approval.

Airport Land Use Commission Review (ALUC): ALUC review is required when a local jurisdiction processes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance.

5.3 AMENDMENT

Administrative Changes - Minor modifications that are consistent with the purpose and intent of the current Garden Fellowship PMP are allowed at the discretion of the Community Development Director or their designee. Therefore, it is intended that this Project Master Plan provide City Staff with the flexibility to interpret the details of project development as well as those items discussed in general terms in the PMP without requiring a PMP Amendment.

Requests for administrative changes shall be made in writing. If and when it is determined that changes or adjustments are necessary or appropriate, these shall be approved administratively by the Community Development Director or their designee for any component of this PMP within a twenty percent (20%) change to the requirements of the PMP. No public hearing shall be required for Administrative Approvals. After approval, any such administrative change shall be attached to the Project Master Plan as an addendum and may be further changed and amended from time to time as necessary.

Representative examples of administrative changes may include, but are not limited to:

- The addition of new information to the Project Master Plan maps or text that do not substantially change the effect of any regulation. The new information may include more detailed, site-specific information.

- Changes to community infrastructure such as drainage systems, roads, water and sewer systems, etc.

- Modification of architectural or landscape design criteria or details.

- Changes to the project design, improvements, or conditions of approval, if the change does not affect the overall concept or intensity of use of the approved project.

Formal Amendments - If the Community Development Director determines that the proposed change is not in substantial conformance with the intent of the current PMP approval, the PMP may be amended in accordance with the procedures set forth in the City of Indio Municipal Code.

5.4 INTERPRETATION

Uses Not Listed - All uses not specifically listed in this PMP are prohibited. However, the Community Development Director may determine that a use not listed is included within or comparable to a listed use and, once so determined; it shall be treated in the same manner as a listed use.

Application of Standards - Where there is ambiguity between the PMP and the Zoning Code, the PMP shall govern. Where a development standard is not specifically addressed in the Project Master Plan, the City Zoning Code shall apply.

5.5 ENFORCEMENT

The enforcement of the provisions of this PMP shall be as follows:

- The City of Indio Community Development Department shall enforce the development standards and design guidelines set forth herein.

- Any administrative decision or interpretation of this Project Master Plan may be appealed to the Planning Commission. Likewise, any decision by the Planning Commission may be appealed to the City Council per the provisions of Chapter 30 Section 30.89 of the City of Indio Municipal Code.

- The City of Indio shall administer the provisions of the Garden Fellowship PMP in accordance with the State of California Government Code, Subdivision Map Act, the City of Indio General Plan, and the City of Indio Municipal Code.

- The PMP development procedures, regulations, standards, and specifications shall supersede the relevant provisions of the City's Municipal Code, as they currently exist or may be amended in the future.

- All regulations, conditions, and programs contained herein shall be deemed separate distinct and independent provisions of this Project Master Plan. In the event that any such provision is held invalid or unconstitutional, the validity of all the remaining provisions of this Project Master Plan shall not be affected.

- Any development regulation and building requirement not addressed in this PMP shall be subject to all relevant City of Indio ordinances, codes, and regulations.

Return to Agenda

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APPENDIX

Return to Agenda

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APPENDIX A

ALUC Staff Report and Conditions of Approval

AIRPORT L COMMISSION
RIVI OUNTY

Return to Agenda
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RCALUC

April 26, 2018

County Administrative Center
4080 Lemon St., 14th Floor,
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

Ms. Leila Namvar, Assistant Planner
City of Indio Planning Department
100 Civic Center Mall
Indio CA 92201

RE: AIRPORT LAND USE COMMISSION (ALUC) DEVELOPMENT REVIEW – DIRECTOR'S DETERMINATION

File No.:	ZAP1073BD18
Related File Nos.:	PMP18-04-61 (Project Master Plan), CUP18-04-1035 (Conditional Use Permit), DR 18-04-433 (Design Review)
APNs:	691-060-003 and -004

Dear Ms. Namvar:

Under the delegation of the Riverside County Airport Land Use Commission (ALUC) pursuant to Section 1.5.2(d) of the Countywide Policies of the 2004 Riverside County Airport Land Use Compatibility Plan, staff reviewed City of Indio Case Nos. PMP18-04-61 (Project Master Plan), CUP18-04-1035 (Conditional Use Permit), and DR 18-04-433 (Design Review) proposing development of a multi-building church campus containing a total of 55,236 square feet of building area on 18.5 acres located on the westerly side of Jefferson Street, northerly of its intersection with Avenue 39 and southerly of its intersection with Avenue 38.

The site is located within Airport Compatibility Zone E of the Bermuda Dunes Airport Influence Area (AIA). **Compatibility Zone E does not restrict nonresidential intensity.**

The site is closer to the westerly terminus of Runway 10-28 at Bermuda Dunes Airport (approximately 6,500 feet) than to its easterly terminus (approximately 8,200 feet), but, due to the lower elevation of the runway at its easterly terminus (39 feet above mean sea level [AMSL], in contrast to 73 feet AMSL at the westerly terminus), the easterly terminus is more critical in the determination of notice requirements for this property located northerly of the runway. At a distance of approximately 8,200 feet from the runway, FAA review would be required for any structures with top of roof exceeding 121 feet AMSL. (The critical number at the westerly terminus would be 138 feet AMSL in this case.) The project site elevation is 60 feet AMSL, and the maximum height of its proposed structures is 45 feet, for a maximum top point elevation of 105 feet AMSL. Therefore, Federal Aviation Administration (FAA) obstruction evaluation review for height/elevation reasons is not required.

As ALUC Director, I hereby find the above-referenced project **CONSISTENT** with the 2004 Bermuda Dunes Airport Land Use Compatibility Plan, provided that the City of Indio applies the follow recommended conditions:

CONDITIONS:

1. Any new outdoor lighting that is installed shall be hooded or shielded as to prevent either the spillage of lumens or reflection into the sky.

2. The following uses are prohibited:

   (a) Any use which would direct a steady light or flashing light of red, white, green, or amber colors associated with airport operations toward an aircraft engaged in an initial straight climb following takeoff or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA-approved navigational signal light or visual approach slope indicator.

   (b) Any use which would cause sunlight to be reflected towards an aircraft engaged in an initial straight climb following takeoff or towards an aircraft engaged in a straight final approach towards a landing at an airport.

   (c) Any use which would generate smoke or water vapor or which would attract large concentrations of birds, or which may otherwise affect safe air navigation within the area. (Such uses include landscaping utilizing water features, aquaculture, composting operations, production of cereal grains, sunflower, and row crops, trash transfer stations that are open on one or more sides, recycling centers containing putrescible wastes, construction and demolition debris facilities, fly ash disposal, and incinerators.)

   (d) Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.

3. The attached notice shall be provided to all potential purchasers of the property and to any tenants and/or lessees of the proposed buildings thereon.

4. Any new detention basin(s) on the site shall be designed so as to provide for a maximum 48-hour detention period following the conclusion of the storm event for the design storm (may be less, but not more), and to remain totally dry between rainfalls. Vegetation in and around the detention basin(s) that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping.

If you have any questions, please contact Paul Rull, Urban Regional Planner IV, at (951) 955-6893, or John Guerin, Principal Planner, at (951) 955-0982.

Sincerely,
RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION

Simon A. Housman, ALUC Director

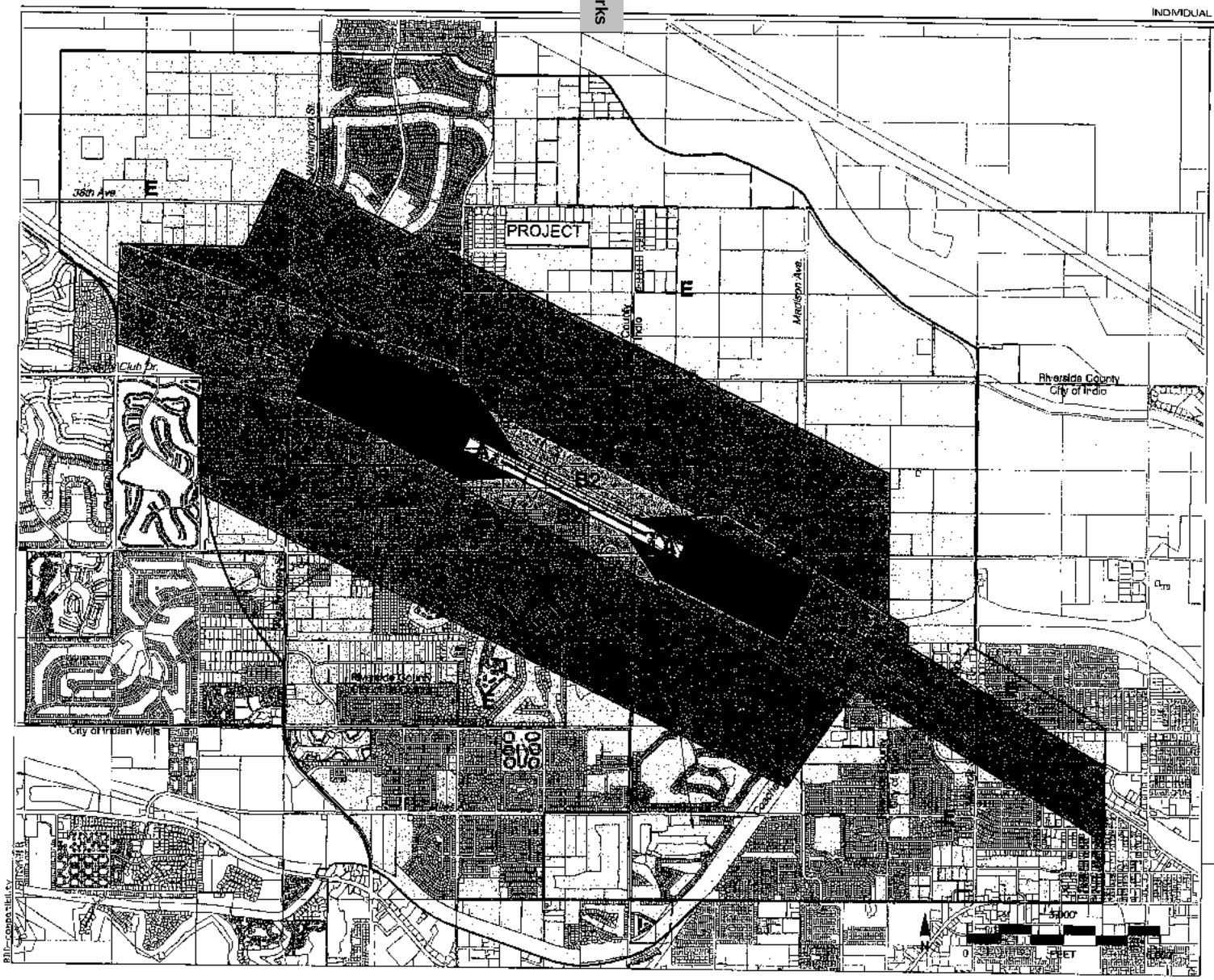
Attachments: Notice of Airport in Vicinity

cc: The Garden Fellowship, Inc., Dave McCoy (applicant/property owner)
MSA Consulting Inc., Christopher Brizuela (representative)
Ann Goodwyn, Airport Manager, Bermuda Dunes Executive Airport
ALUC Case File

Y:\AIRPORT CASE FILES\Bermuda Dunes\ZAP1073BD18\ZAP1073BD18.LTR.doc

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances [can vary from person to person. You may wish to consider what airport annoyances], if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Business & Professions Code Section 11010 (b)(13)(A)



Legend

Compatibility Zones

- Airport Influence Area Boundary
- Zone A
- Zone B1
- Zone B2
- Zone C
- Zone D
- Zone E

Boundary Lines

- Airport Property Line
- City Limits

Note

Southwestern edge of Airport Influence Area boundary measured from a point 200 feet beyond runway ends in accordance with FAA airspace protection criteria (FAR Part 77). All other dimensions measured from runway ends and centerlines.

See Chapter 2, Table 2A for compatibility criteria associated with this map.

Riverside County
Airport Land Use Commission

Riverside County
Airport Land Use Compatibility Plan
Policy Document

(Adopted December 2004)

Map BD-1

Compatibility Map

Bermuda Dunes Airport

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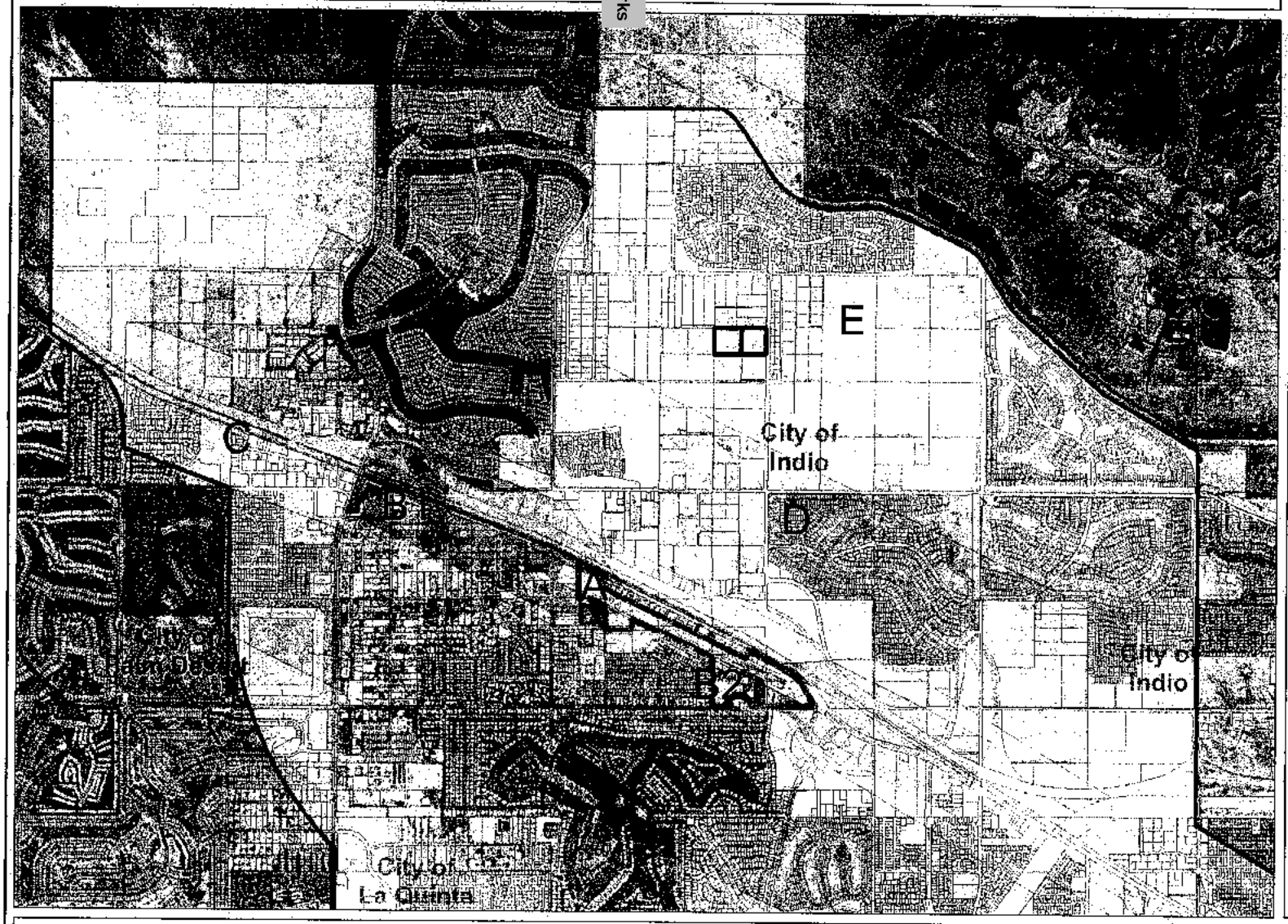
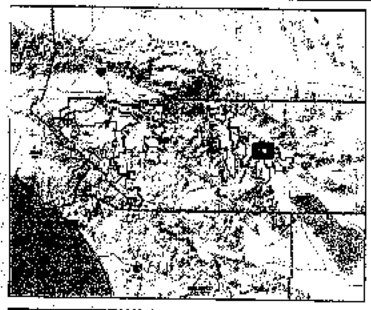
Map





Legend

- Airports
- AIA

Airport Compatibility

- OTHER ZONE
- A
- A-EXC1
- B1
- B1-APZ I
- B1-APZ I-EXC1
- B1-APZ II
- B1-APZ II-EXC1
- B1-EXC1
- B2
- B2-EXC1
- C
- C1
- C1-EXC1
- C1-EXC3
- C1-EXC4
- C1-HIGHT
- C2
- C2-EXC1
- C2-EXC2
- C2-EXC3
- C2-EXC5
- C2-EXC6
- C2-HIGHT

0 4,452 8,905 Feet

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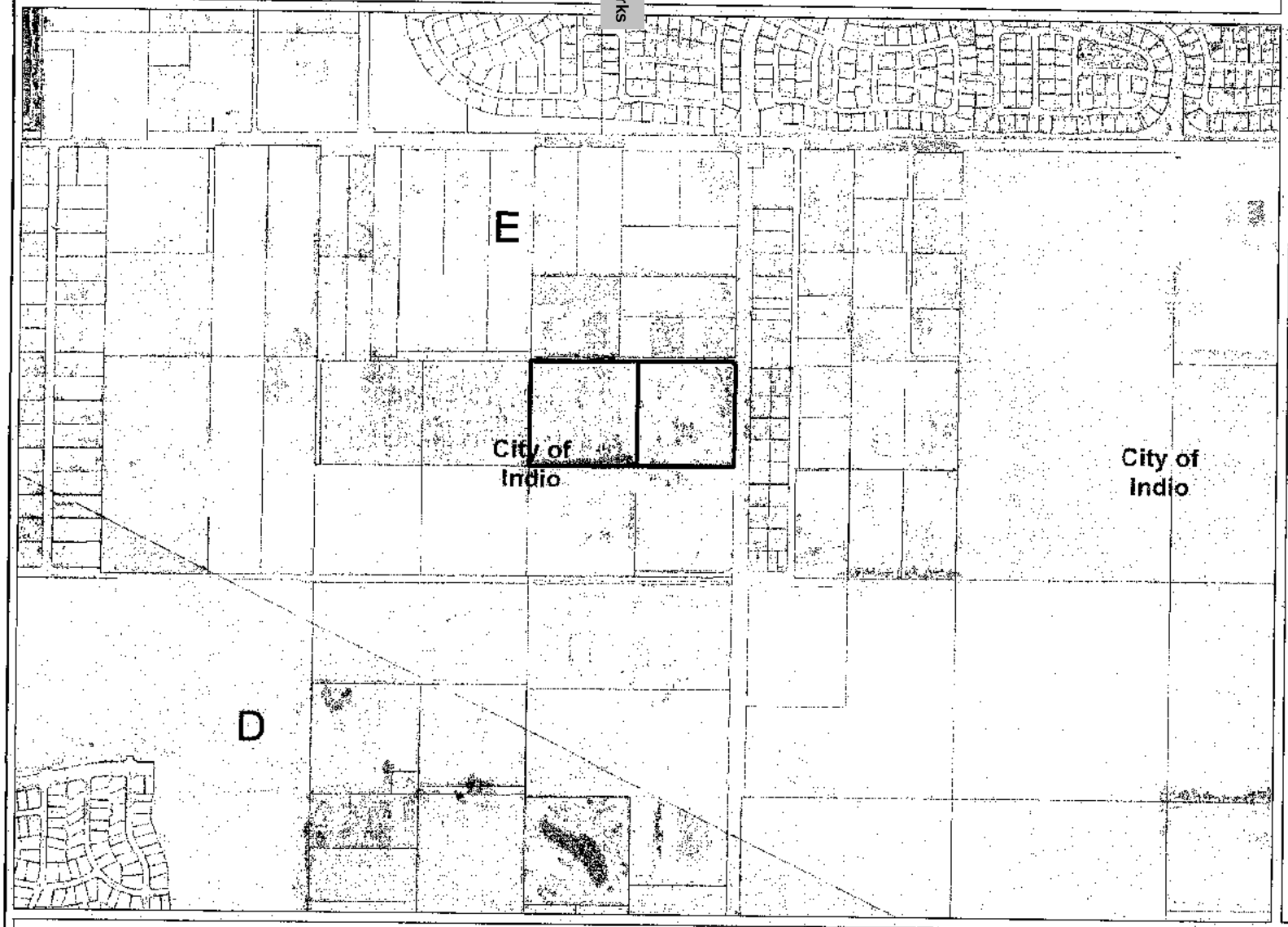
Notes

Map



Legend

- Airports
- AIA

Airport Compatibility

- OTHER ZONE
- A
- A-EXC1
- B1
- B1-APZ I
- B1-APZ I-EXC1
- B1-APZ II
- B1-APZ II-EXC1
- B1-EXC1
- B2
- B2-EXC1
- C
- C1
- C1-EXC1
- C1-EXC3
- C1-EXC4
- C1-HIGHT
- C2
- C2-EXC1
- C2-EXC2
- C2-EXC3
- C2-EXC5
- C2-EXC6
- C2-HIGHT

0 1,113 2,226 Feet

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Notes

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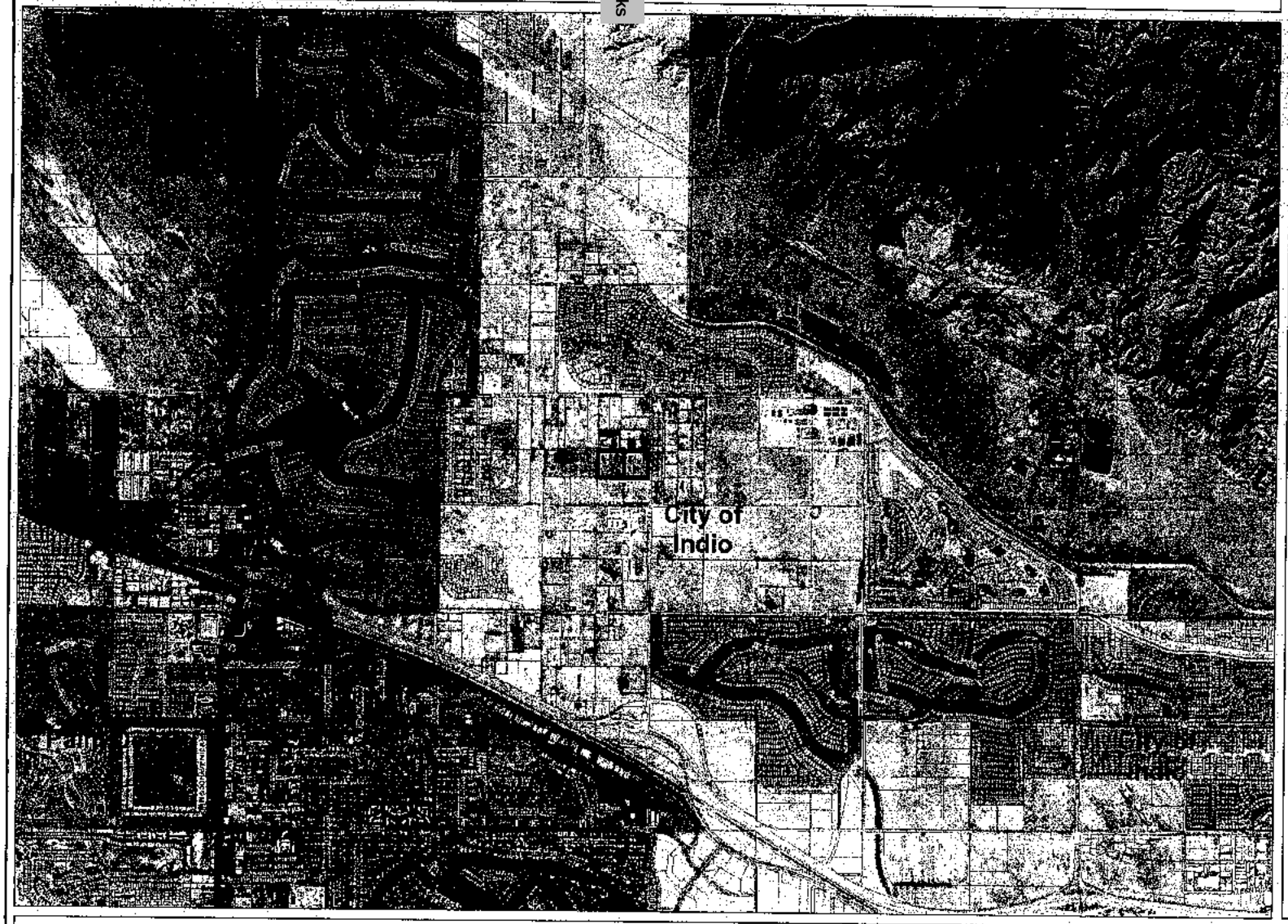
Map



Legend

- City Boundaries
- Cities
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- majorroads
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 4,452 8,905 Feet

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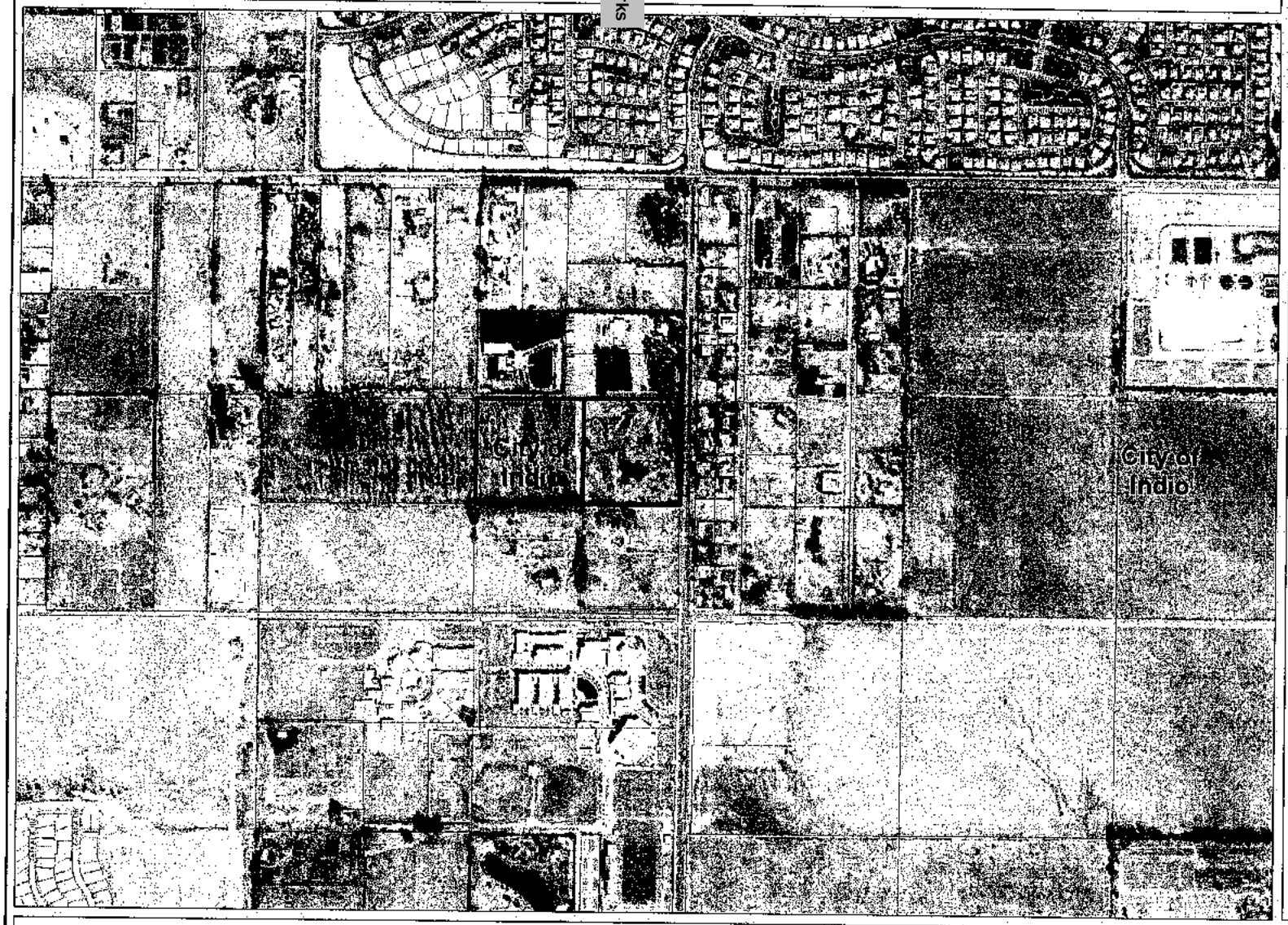
Map



Legend

- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 1,113 2,226 Feet

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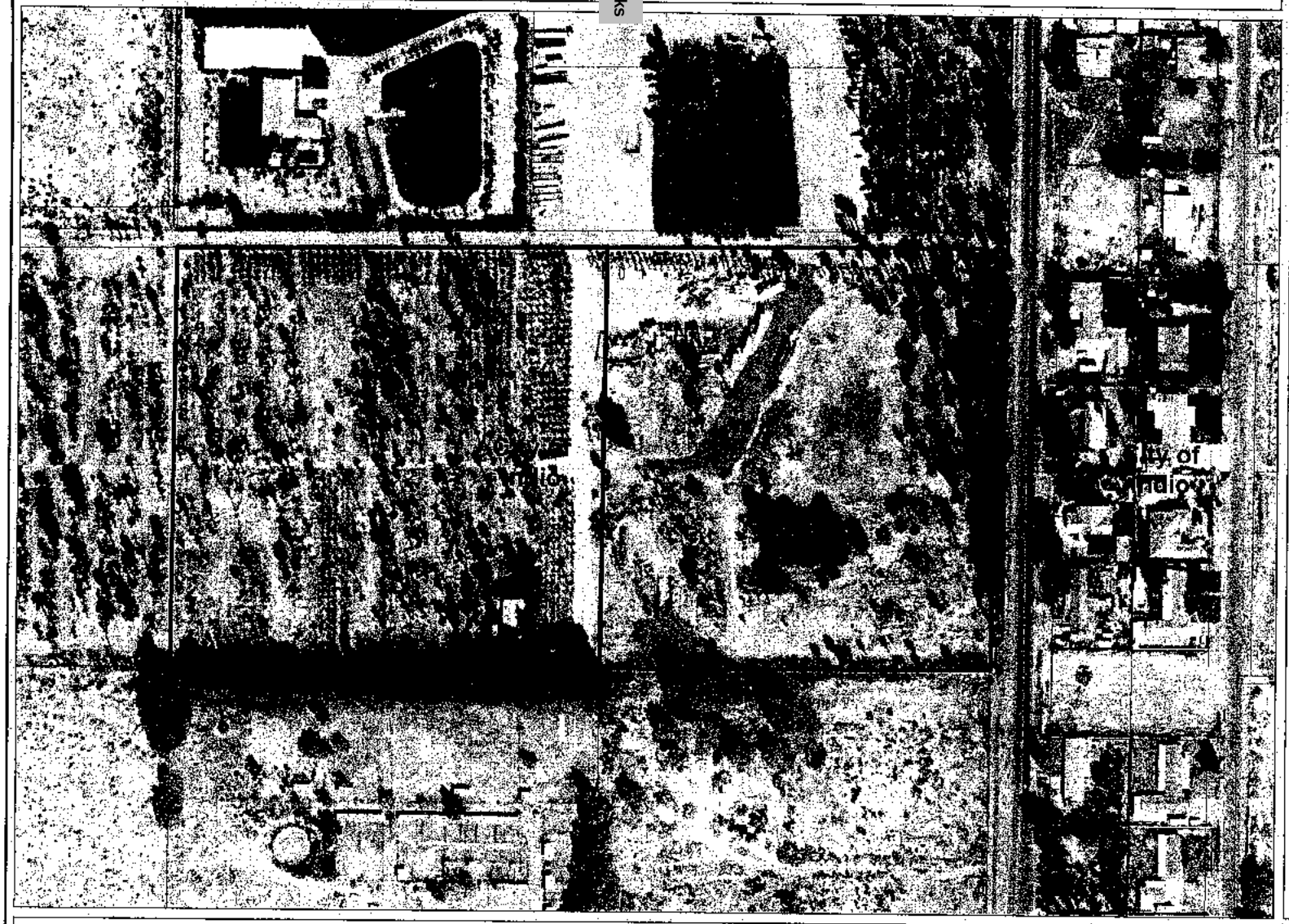
Map



Legend

- City Boundaries
- Cities
- roadsanno
- highways
  - HWY
  - INTERCHANGE
  - INTERSTATE
  - OFFRAMP
  - ONRAMP
  - USHWY
- counties
- cities
- hydrographylines
- waterbodies
  - Lakes
  - Rivers

0 278 557 Feet

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Notes

IN THE CITY OF INDIO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TECHNICAL SITE PLAN

EXHIBIT DATE: APRIL 2, 2013

DATA TABLE

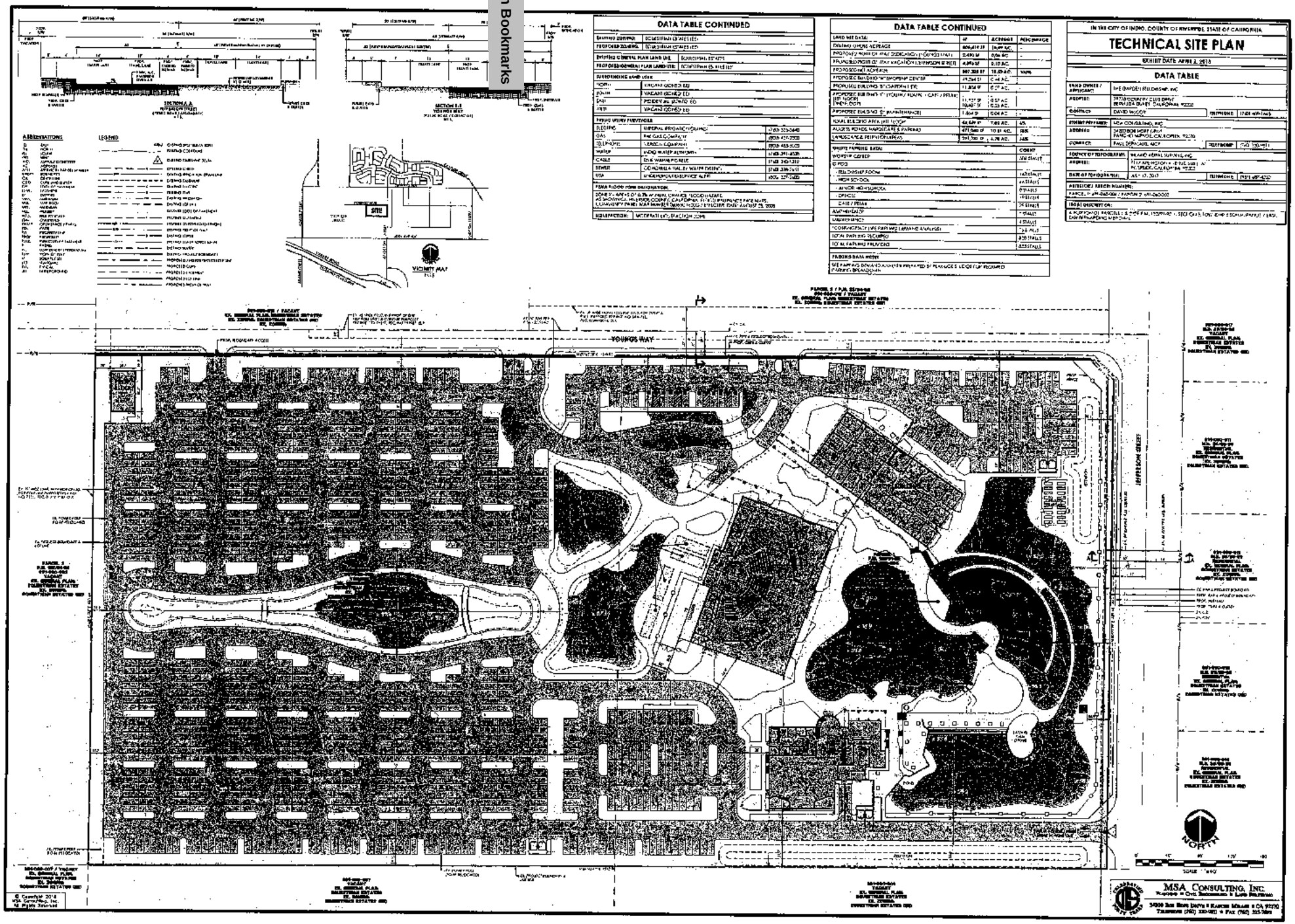
LAND OWNER / APPLICANT:	THE GARDEN RIVERSIDE, INC
ADDRESS:	34300 MONTE VISTA DRIVE BERMUDA DUNES, CALIFORNIA 92203
CONTACT:	DAVID MOODY — TELEPHONE: (760) 409-7445
EXHIBIT PREPARER:	MSA CONSULTING, INC
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270
CONTACT:	PAUL DEPAOLI, AICP — TELEPHONE: (760) 320-9811
SOURCE OF TOPOGRAPHY:	WILLIAMS AERIAL SURVEYS, INC
ADDRESS:	73177 ARMINTA STREET, UNIT A PALM DESERT, CALIFORNIA 92260
DATE OF TOPOGRAPHY:	JULY 17, 2012 — TELEPHONE: (760) 346-4230
ASSESSOR'S PARCEL NUMBER:	
PARCEL 1: 604-060-004 / PARCEL 2: 604-060-005	
LEGAL DESCRIPTION:	
A PORTION OF PARCELS 1 & 2 OF P.M. 35786-1, RECORDED JUNE 2, 1992 IN BOOK 155, PAGES 90 AND 91 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS	

DATA TABLE CONTINUED

EXISTING ZONING:	ECONOMIC DEVELOPMENT (ED)
PROPOSED ZONING:	ECONOMIC DEVELOPMENT (ED)
EXISTING GENERAL PLAN LAND USE:	ECONOMIC DEVELOPMENT
PROPOSED GENERAL PLAN LAND USE:	ECONOMIC DEVELOPMENT (ED, MIXED USE)
SURROUNDING LAND USE:	
NORTH:	VACANT (ZONED ED)
SOUTH:	VACANT (ZONED ED)
EAST:	PRESERVE (ZONED ED)
WEST:	VACANT (ZONED ED)
PUBLIC UTILITY PROVIDER:	
ELECTRIC:	IMPERIAL IRRIGATION DISTRICT — (760) 339-9440
GAS:	THE GAS COMPANY — (800) 427-2200
TELEPHONE:	VERIZON COMPANY — (800) 483-5000
WATER:	INDIO WATER AUTHORITY — (760) 391-4038
CABLE:	TIME WARNER CABLE — (760) 340-1310
SEWER:	COACHELLA VALLEY WATER DISTRICT — (760) 398-2651
USA:	UNDERGROUND SERVICE ALERT — (800) 227-2600
FEMA FLOOD ZONE DESIGNATION:	
ZONE X - AREA OF 0.2% ANNUAL CHANCE FLOOD HAZARD, AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 06065C0955G, COMMUNITY PANEL NUMBER 06065C0955G, EFFECTIVE DATE AUGUST 28, 2008	
SEISMIC FAULT ZONE:	NO FAULT ZONE

DATA TABLE CONTINUED

LAND USE DATA:	SF	ACRES	PERCENTAGE
EXISTING GROSS ACREAGE	806,410 SF	18.51 AC.	-
PROPOSED RIGHT OF WAY DEDICATION (CONDO STREET)	22,490 SF	0.52 AC.	-
PROPOSED RIGHT OF WAY VACATION (JOHNSON STREET)	4,356 SF	0.10 AC.	-
PROPOSED NET ACREAGE	787,568 SF	18.09 AC.	100%
PROPOSED BUILDING FOOTPRINT (CENTER)	19,254 SF	0.44 AC.	
PROPOSED BUILDING FOOTPRINT (LIFE)	11,856 SF	0.27 AC.	
PROPOSED SUB TOTAL (BUILDING FOOTPRINT + CARTS / PATIOS) (LIFE ROOM)	11,856 SF	0.27 AC.	
PROPOSED SUB TOTAL (BUILDING FOOTPRINT + CARTS / PATIOS) (NEW ROOM)	10,687 SF	0.25 AC.	
PROPOSED BUILDING SF (MAINTENANCE)	1,800 SF	0.04 AC.	-
TOTAL BUILDING AREA (FOOTPRINT)	44,639 SF	1.02 AC.	6%
PARKING, POND, HARDSCAPES, PATIOS	471,565 SF	10.81 AC.	60%
LANDSCAPE, RESTORATION AREAS	291,364 SF	6.68 AC.	34%
WHITE PARKING DATA:		COUNT	
WORTHY COURT		200 STALLS	
CFDO			
- FELLOWSHIP ROOM		162 STALLS	
- HIGH SCHOOL		45 STALLS	
- JUNIOR HIGH SCHOOL		8 STALLS	
- OFFICES		18 STALLS	
- CAFE / PATIO		24 STALLS	
ANOTHER CAFE		7 STALLS	
MAINTENANCE		4 STALLS	
TOTAL PARKING REQUIRED (BASED ON ANALYSIS)		294 STALLS	
TOTAL PARKING REQUIRED		309 STALLS	
TOTAL PARKING PROVIDED		309 STALLS	
PARKING DATA NOTE:			
SEE PARKING DEMAND ANALYSIS PREPARED BY PLANNING & LEGAL FOR REQUIRED PARKING BREAKDOWN			



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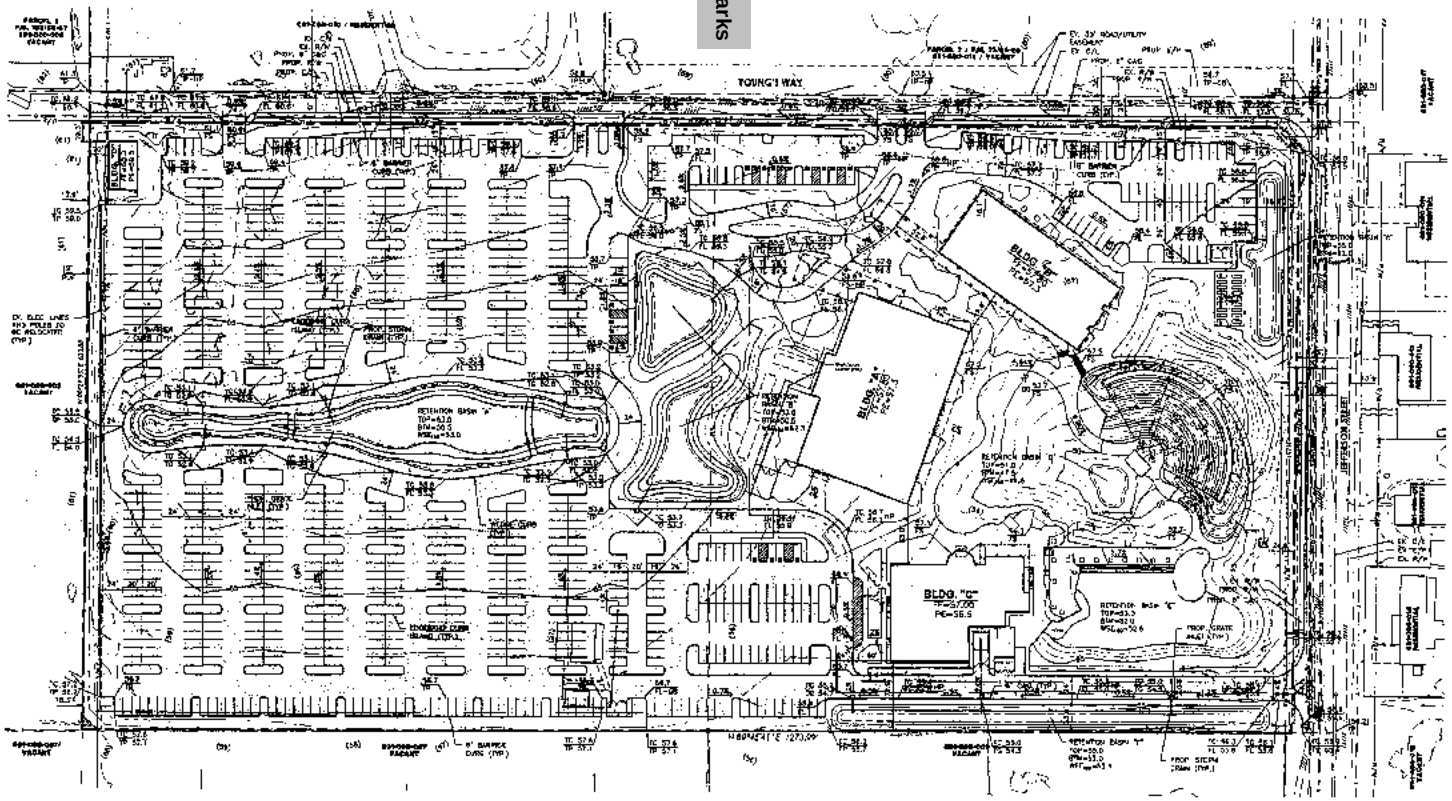


IN THE CITY OF INDIO, THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

GARDEN FELLOWSHIP CHURCH PRELIMINARY GRADING AND DRAINAGE PLAN

EXHIBIT DATE: MARCH 20, 2018

DATA TABLE

LAND OWNER / APPLICANT:	THE GARDEN FELLOWSHIP INC		
ADDRESS:	79733 COUNTRY CLUB DRIVE BERMUDA DUNES, CALIFORNIA 92203		
CONTACT:	DAVID McCOY	TELEPHONE:	(760) 409-1663
EXHIBIT PREPARER:	MSA CONSULTING, INC		
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270		
CONTACT:	PAUL DEPALATIS, AICP	TELEPHONE:	(760) 320-9811
SOURCE OF TOPOGRAPHY:	HEALD ACRIA, SURVEYS, INC.		
ADDRESS:	7117 ARLINGTON AVENUE, SUITE "A" RIVERSIDE, CALIFORNIA 92503		
DATE OF TOPOGRAPHY:	JULY 17, 2017	TELEPHONE:	(951) 687-4257
ASSESSOR'S PARCEL NUMBERS:			
PARCEL 1 691-040-004 / PARCEL 2 691-060-003			
LEGAL DESCRIPTION:			
A PORTION OF PARCELS 1 & 2 OF P.M. 33239/192 IN SECTION 3, TOWNSHIP 5 SOUTH, RANGE 7 EAST, SAN BERNARDINO MERIDIAN.			
FEMA FLOOD ZONE DESIGNATION:			
ZONE X - AREAS OF 0.2% ANNUAL CHANCE FLOOD HAZARD AS SHOWN ON RIVERSIDE COUNTY, CALIFORNIA, FLOOD INSURANCE RATE MAPS; COMMUNITY PANEL MAP NUMBER 06065C1590G / EFFECTIVE DATE: AUGUST 28, 2008			
INDICATION:	MODERATE INDUNDATION ZONE		

PRELIMINARY EARTHWORK

CUT..... 46,425 CY
FILL..... 38,065 CY
EXPORT..... 8,361 CY

EARTHWORK ASSUMPTIONS

"PRELIMINARY GEOTECHNICAL REPORT PREPARED BY: GRIM GEOTECHNICAL, INC.; DATED: 10/15/2014, REPORT # 14-365)

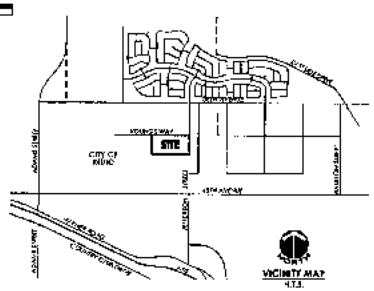
SUBSIDENCE= 1.5'
SHRINKAGE= 15%
BUILDING OVER-EXCAVATION - 4'
AC PAVEMENT SECTION- 4"AC OVER 6" CL II A.B.

PAVING LEGEND

PROPOSED BUILDING
PROPOSED AC PAVEMENT
PROPOSED CONCRETE

NORTH

SCALE 1"=60'



ABBREVIATIONS

(E)	EAST
(N)	NORTH
(S)	SOUTH
(W)	WEST
A.C.	ASPHALT CONCRETE
AC	ACREAGE
ACM	ACREAGES PARCEL MINIMUM
BOUNDARY	BOUNDARY
CL	CENTERLINE
CURB	CURB AND GUTTER
E.P.	LOCK UP PAVEMENT
ESMT	EASEMENT
FL	FINISHED
CFA	CERAMIC FLOOR TILE
MAX	MAXIMUM
MB	MAILBOX
MIN	MINIMUM
N.T.S.	NOT TO SCALE
OH	OVERHEAD
UNPR	UNPAVED SURFACE (PAVE)
PED	PEDESTRIAN
PL	PAGE
P.L.	PROPERTY LINE
PROP	PROPOSED
P.H.T.	PYROTECHNIC HAZARD TEST
R	RADIUS
RL	LOW DENSITY RESIDENTIAL
R/W	RIGHT OF WAY
S.V.	SOUTHERN CALIFORNIA EDISON
SF	SQUARE FEET
ST	STANDARD
TYP	TYPICAL
U.G.	UNDERGROUND

LEGEND

4/4/2	EXISTING FIRE HYDRANT
	EXISTING CONTOURS
	EXISTING GAS LINE
	EXISTING CITY / COUNTY LIMIT
	EXISTING TRACE
	EXISTING SIGNAGE
	EXISTING STREETLIGHT
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING HYDRANT
	PROPOSED RIGHT OF WAY
	EXISTING OVERHEAD TELEPHONE
	EXISTING RIGHT OF WAY
	EXISTING WATER LINE
	PROPOSED PAVEMENT
	PROPOSED BUILDING
	PROPOSED CURB AND GUTTER
	PROPOSED CURB ONLY
	PROPOSED EASEMENT
	PROPOSED FENCE
	PROPOSED RETENTION BASIN
	PROPOSED SIDEWALK
	PROPOSED WATER LINE
	PROPOSED WELLS
50	PROPOSED TOTAL DRAIN

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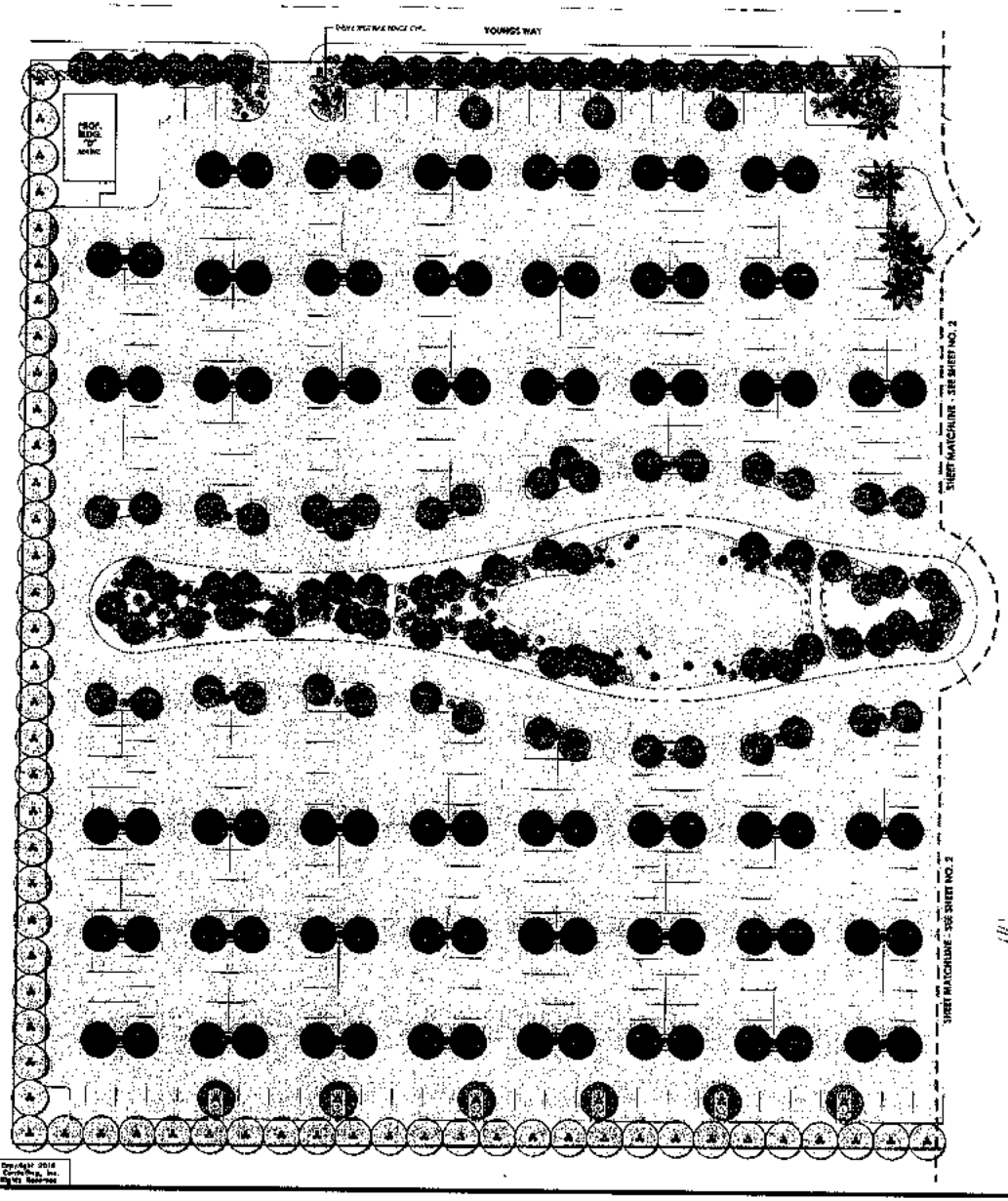
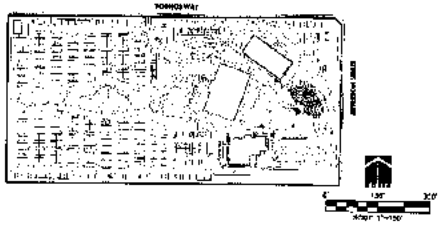
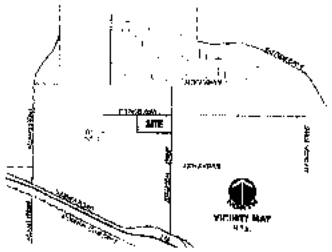
DESIGN BY: RGB
DRAWN BY: MM
CHECK BY: MSA







IN THE CITY OF DESERT HOT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

CONCEPTUAL LANDSCAPE DESIGN

PROJECT NAME:

THE GARDEN FELLOWSHIP

EXHIBIT DATE: APRIL 2, 2010

APPLICANT / LAND OWNER	THE GARDEN FELLOWSHIP, INC.		
ADDRESS:	79735 COUNTRY CLUB DRIVE PALM DESERT, CALIFORNIA 92260		
CONTACT:	DAVID MACCOY	TELEPHONE:	(760) 779-1245
EXHIBIT PREPARED BY:	MSA CONSULTING, INC.		
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270		
CONTACT:	PAUL DEPALMA, ASLA	TELEPHONE:	(760) 320-7911
ASSESSOR'S PARCEL NUMBER:	PARCEL 1: 669-060-004 / PARCEL 2: 669-060-003		

PLANTING LEGEND

TREES

- CASUARINA EQUISETIFOLIA — SHE OAK — 5 GALLON
- DALBERGIA SISSOO — SISSOO TREE — 5 GALLON
- ULMUS PARVIFOLIA — CHINESE ELM — 5 GALLON
- TIPUANA TIPU — TIPU TREE — 5 GALLON
- CHILOPSIS LINEARIS — DESERT WILLOW — 5 GALLON
- EUCALYPTUS PAUPERA — GHOST GUM — 5 GALLON
- WASHINGTONIA HYBRID — HYBRID CALIFORNIA FAN PALM — 5 GALLON HEAVY
- LAGERSTROEMIA INDICA — CRAPE MYRTLE — 5 GALLON
- CHAMAEROPS HUMILIS — MEDITERRANEAN FAN PALM — 5 GALLON HEAVY

SHRUBS

- TECOMA STANS 'GOLD STAR' — GOLD STAR YELLOW BELLS — 5 GALLON
- CAESALPINIA PULCHERRIMA — MEXICAN BIRD OF PARADISE — 5 GALLON
- MUHLENBERGIA EMERSLEYI — BULL GRASS — 5 GALLON
- LEUCOPHYLLUM LANIGERUM 'RIO BRAVO' — 'RIO BRAVO' TEXAS RANGER — 5 GALLON
- SIMMONDSIA HYGROPHILA — JOJOBA — 5 GALLON

GROUND COVERS

- LANTANA 'NEW GOLD' — NEW GOLD LANTANA — 1 GALLON
- LANTANA MONTEVIDENSIS — PURPLE TRAILING LANTANA — 1 GALLON
- LANTANA MONTEVIDENSIS 'WHITE' — WHITE TRAILING LANTANA — 1 GALLON
- BOUTELOUA GRACILIS 'BLONDE AMBITION' — BLONDE AMBITION BOUTELOUA — 1 GALLON

ACCENTS

- BOUGAINVILLEA 'BARBARA KARST' — BARBARA KARST BOUGAINVILLEA — 5 GALLON
- AGAVE WEBERI — WEBER AGAVE — 5 GALLON
- PACHYCEREUS MARGINATUS — MEXICAN FENCE POST — 5 GALLON
- PHILODENDRON SELLOUM — PHILODENDRON — 5 GALLON
- XYLOSMA CONGESTUM — XYLOSMA — 5 GALLON

PLANTING LEGEND CONTINUED

ACCENTS

- CARPOBROTUS RADICANS — SHAMMY REDIRECT — 1 GALLON
- ALYOGYNE HUEGELII — BLUE HIBISCUS — 1 GALLON
- HESPERALOE PARVIFLORA 'DESERT FLAMENCO' — DESERT FLAMENCO HESPERALOE — 1 GALLON
- COCCOLOBIS LAURIFOLIUS — SILVER LEAF COCCOLOBIS — 1 GALLON
- TETRANEURIS CANDIDA — DAISY — 1 GALLON
- HAUSKNECHTIA — DESERT WAX GOLD — 1 GALLON
- YUCCA BLETA — SOAP OR YUCCA — SPECIMEN

INERT MATERIALS

- BLUE CRESTA — 3" MINUS
- BROWN CRESTA BOULDERS — 2-4 FOOT MINIMUM

GENERAL NOTES

1. PLANT QUANTITIES INDICATED IN THE PLANT LIST ARE FOR CONTRACTOR COMPREHENSIVE ONLY. CONTRACTOR TO VERIFY PLANT QUANTITIES PER PLAN TO BID. CONTRACTOR TO PROVIDE AND INSTALL ALL PLANTS INDICATED ON PLAN.
2. THE PROJECT IS TO BE PLANTED AND UNDERGROUND AUTOMATIC LOW WATER USE DRIP IRRIGATION SYSTEM.
3. ALL PLANTING AREAS WILL BE MULCHED WITH A 3" (DECOMPOSED GRANITE) MULCH DEPTH.
4. ALL PLANTING TO CONFORM TO COACHELLA VALLEY WATER DISTRICT GUIDELINES AND LOW WATER USE PLANTING.

NORTH

SCALE: 1"=10'

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IN THE CITY OF BEAUMONT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

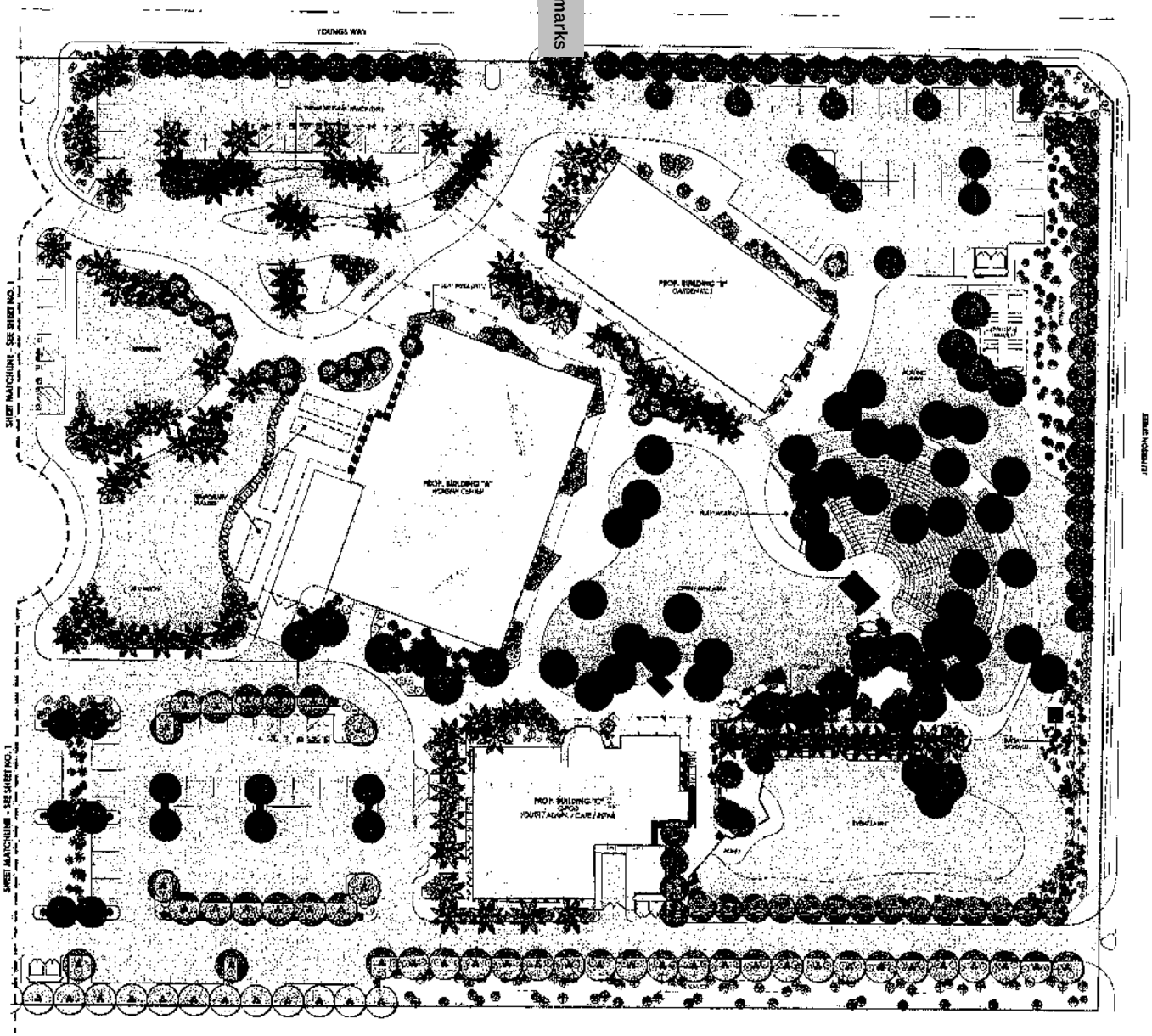
CONCEPTUAL LANDSCAPE DESIGN

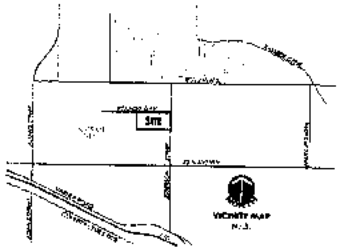
PROJECT NAME:

THE GARDEN FELLOWSHIP

EXHIBIT DATE: APRIL 2, 2018

APPLICANT / LAND OWNER:	THE GARDEN FELLOWSHIP, INC.
ADDRESS:	75750 COUNTRY CLUB DRIVE BEAUMONT SPRINGS, CALIFORNIA 92265
CONTACT:	DAVID DAVIDSON — TELEPHONE: (760) 429-1145
EXHIBIT PREPARER:	MSA CONSULTING, INC.
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270
CONTACT:	KARL DEMARANVILLE — TELEPHONE: (760) 320-9811
ASSESSOR'S PARCEL NUMBER:	PARCEL 1: 669-060-004 / PARCEL 2: 669-060-005





NORTH

SCALE 1"=20'

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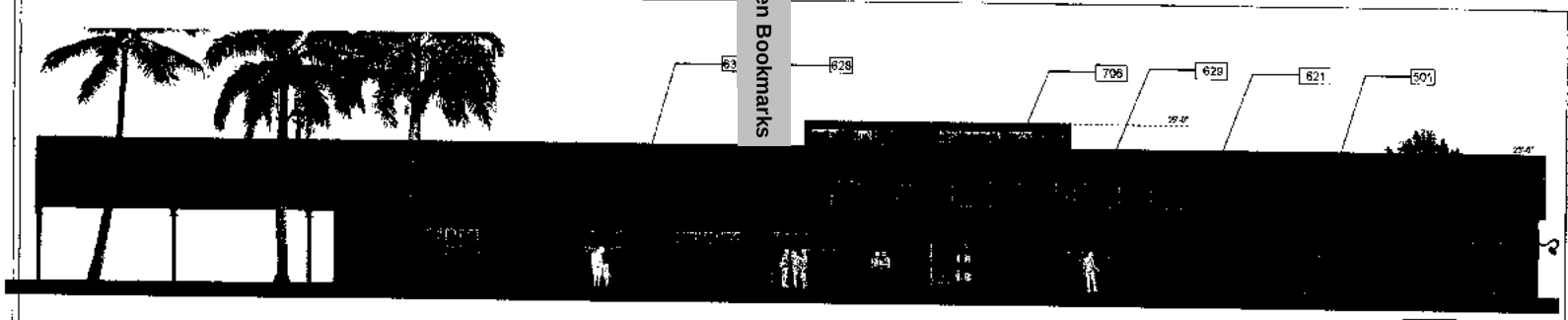
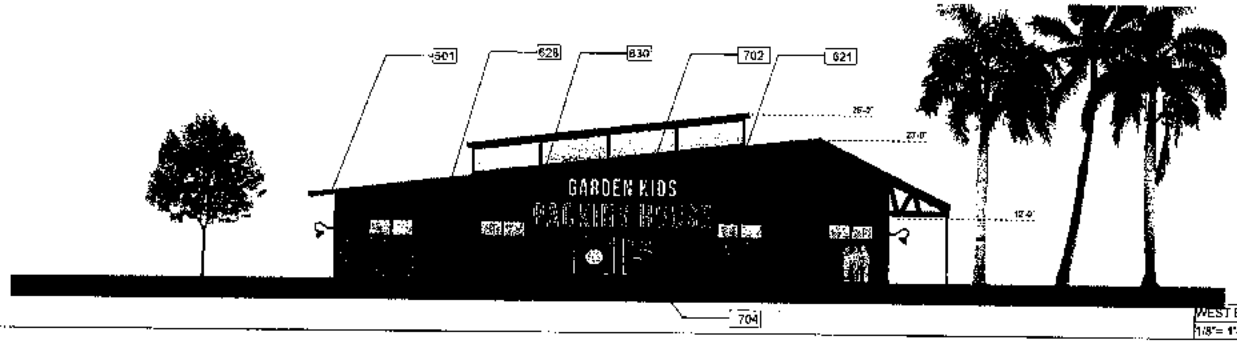
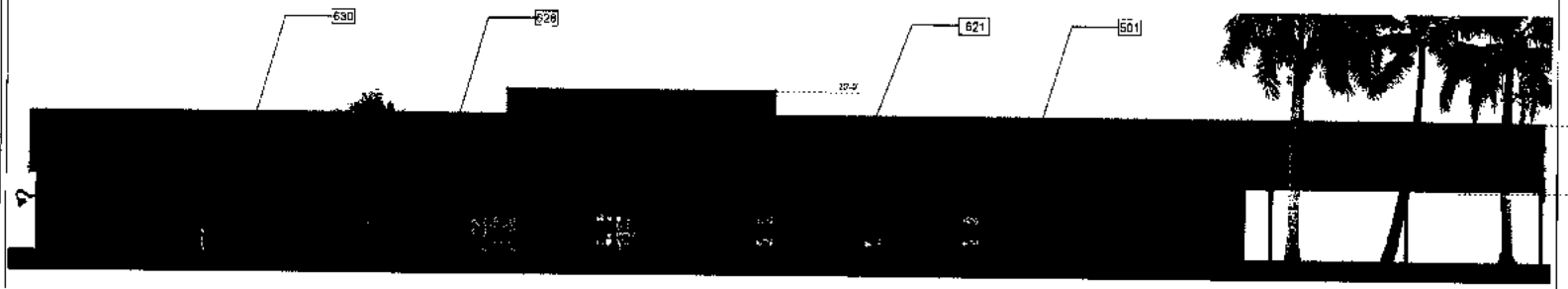


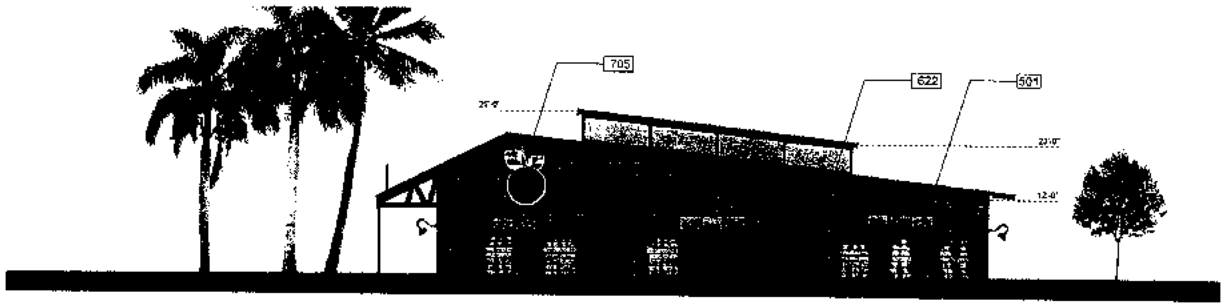
SOUTH ELEVATION
1/8" = 1'-0"
1



WEST ELEVATION
1/8" = 1'-0"
2



NORTH ELEVATION
1/8" = 1'-0"
3



EAST ELEVATION
1/8" = 1'-0"
4

KEYNOTE LEGEND

KEY VALUE	KEY DESCRIPTION
501	STANDING SEAM METAL ROOF
621	CORRUGATED METAL SIDING
622	CEDAR WOOD SIDING
628	SHERWIN WILLIAMS SW6510 ROYAL BLUE
629	SHERWIN WILLIAMS SW6003 KIDS STUFF
630	SHERWIN WILLIAMS SW6718 OVERT GREEN
701	PAINT TREATMENT
702	CUT LETTERING
703	THIRTEEN BARNER GRAPHIC
704	SHAP GRAPHIC FRAME
705	PLANT DIS GRAPHIC
706	DIMENSIONAL TEXT

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ARCHITECTURE
WWW.PLAINJOEFULLION.COM
340 PLATE CREEK DR.
CORONA, CA 92881

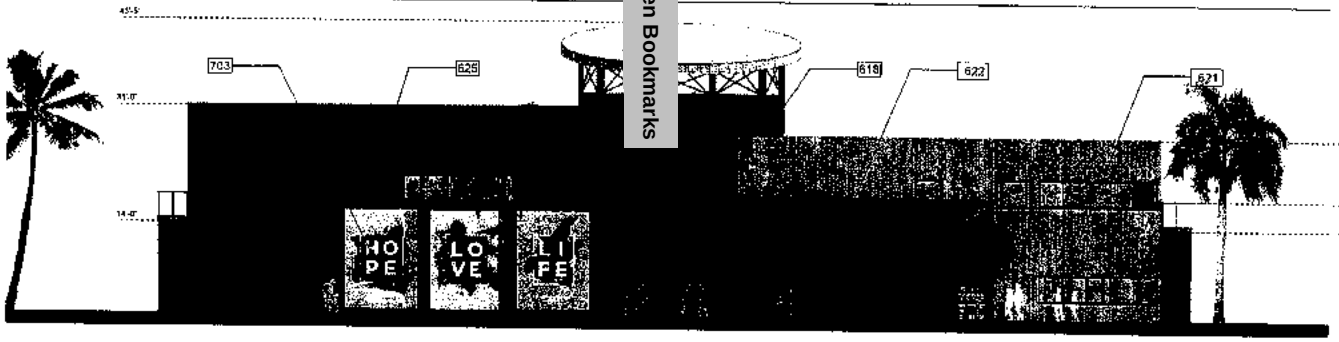
STAMP

REVISIONS		
NO.	DATE	COMMENT

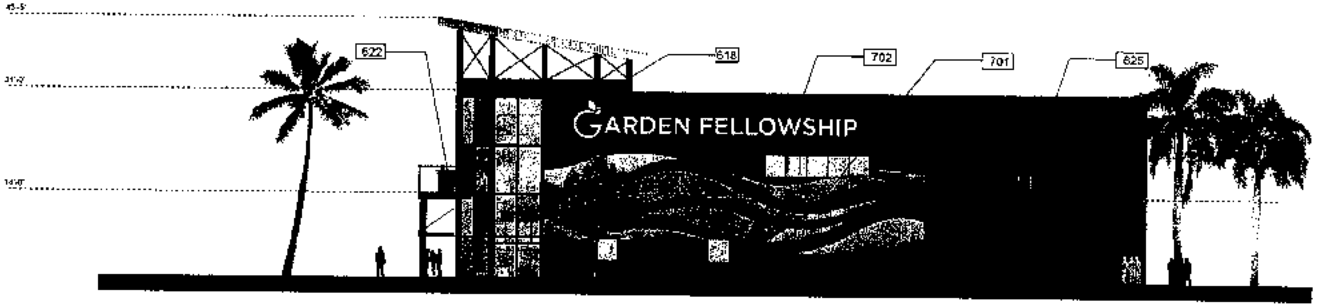
CLIENT NAME: GARDEN FELLOWSHIP
PROJECT NAME: GARDEN KIDS
ADDRESS: Indio, CA
SHEET NAME: ELEVATIONS

BUILDING PERMIT NO.
Checker
USE PERMIT NO.
Approver
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 07/07/2016
PROJECT STATUS
SCHEMATIC DESIGN

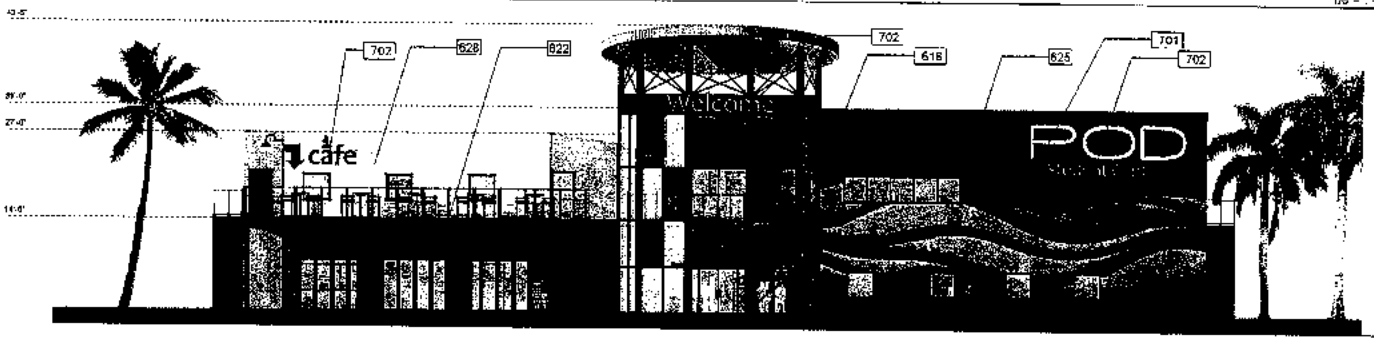
B4



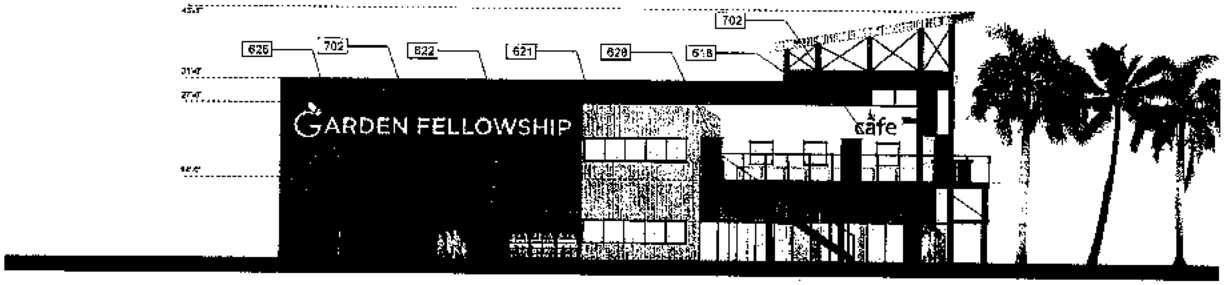
SOUTH ELEVATION 1
1/8" = 1'-0"



WEST ELEVATION 2
1/8" = 1'-0"



NORTH ELEVATION 3
1/8" = 1'-0"



EAST ELEVATION 4
1/8" = 1'-0"

KEYNOTE LEGEND

KEY VALUE	KEY DESCRIPTION
615	STAIRS 7" RISER HEIGHT / 11" TREAD DEPTH
618	AGED CORTEN SHEET METAL SIDING
621	CORRUGATED METAL SIDING
622	CEDAR WOOD SIDING
624	CABLE RAILING
625	STANDING SEAM METAL SIDING
701	PAINT TREATMENT
702	CUT LETTERING
703	TRIPTIC BANNER GRAPHIC
704	SNAP GRAPHIC FRAME

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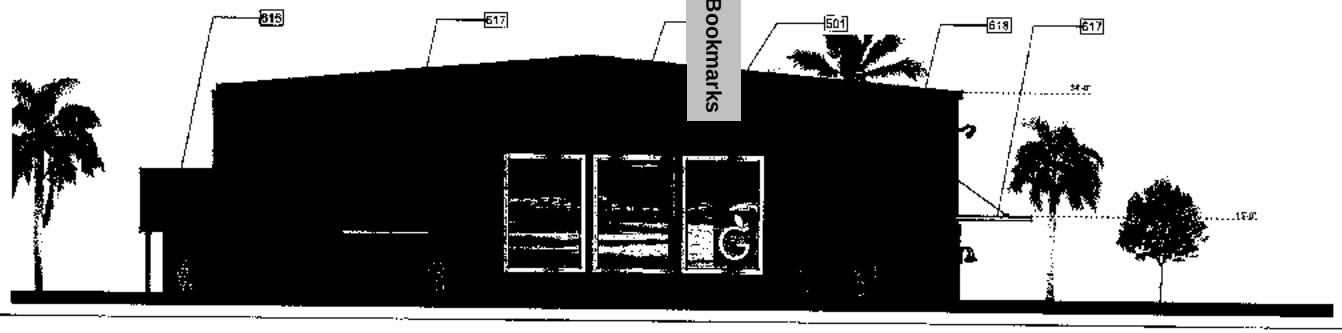
ARCHITECTURE
WWW.PLAINJOESTUDIO.COM 7585 PUTTE STREET DR. CORONA, CA 92881

REVISIONS		
No	DATE	COMMENT

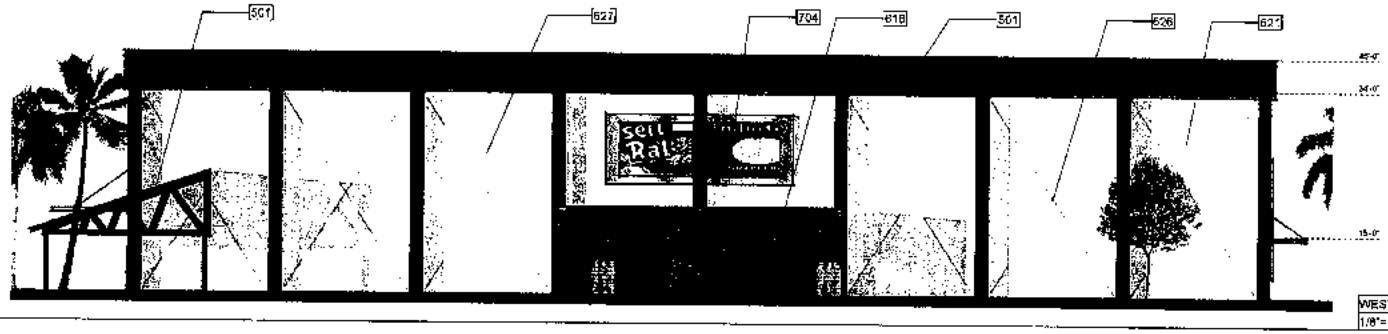
CLIENT NAME: GARDEN FELLOWSHIP
PROJECT NAME: BLDG C - POD / ADMIN
ADDRESS: Indio, CA
SHEET NAME: ELEVATIONS

BUILDING PERMIT NO.
Checker
USE PERMIT NO.
Approver
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 07/07/2016
PROJECT STATUS
SCHEMATIC DESIGN

C 3



SOUTH ELEVATION 1
1/8" = 1'-0"



WEST ELEVATION 2
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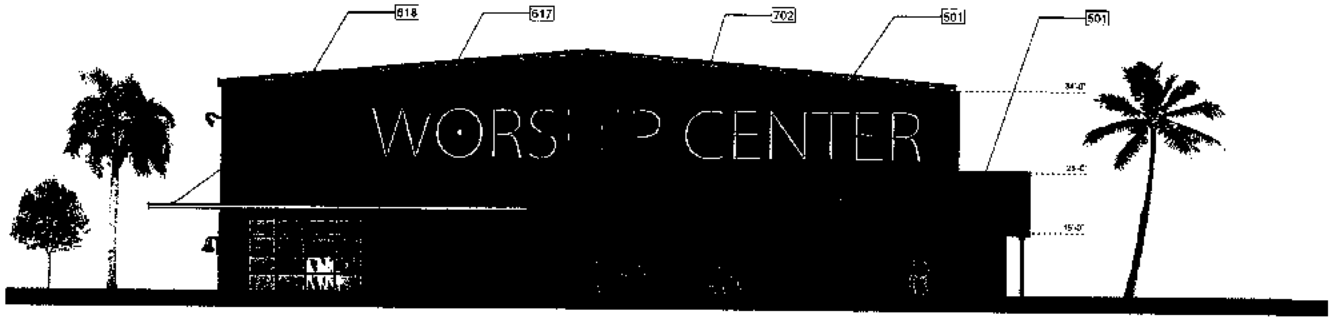
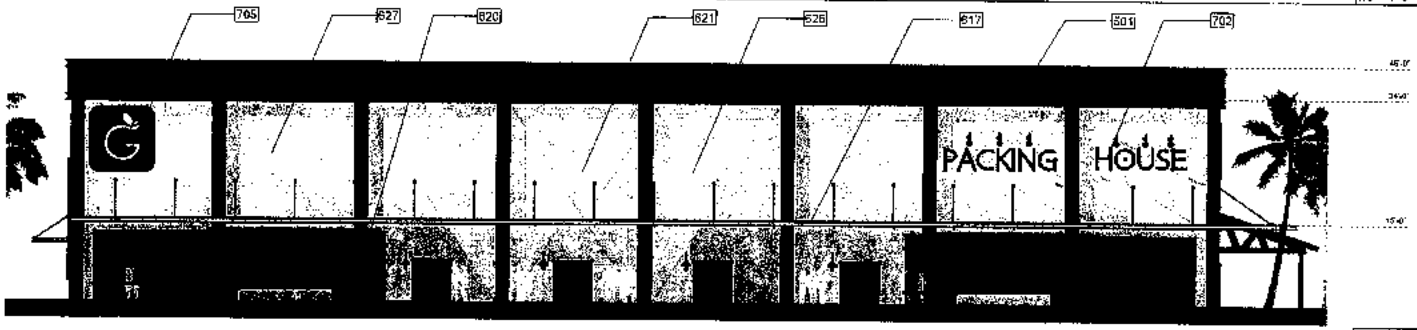


NORTH ELEVATION 3
1/8" = 1'-0"



EAST ELEVATION 4
1/8" = 1'-0"

KEYNOTE LEGEND

Key Value	Keynote Text
501	STANDING SEAM METAL ROOF
618	CEDAR WOOD PANELING
617	SILVER METAL MAWING
616	AGING CORTEN SHEET METAL SIDING
620	SLIDING BARN DOORS
621	CORRUGATED METAL SIDING
626	STEEL CABLE LATERAL BRACING
627	SHERWIN WILLIAMS SW7016 WHITE FLOR
701	PAINT TREATMENT
702	CUT LETTERING
703	TRIPTIC BANNER GRAPHIC
704	SHAP GRAPHIC FRAME
706	PLANT SH GRAPHIC

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REVISIONS

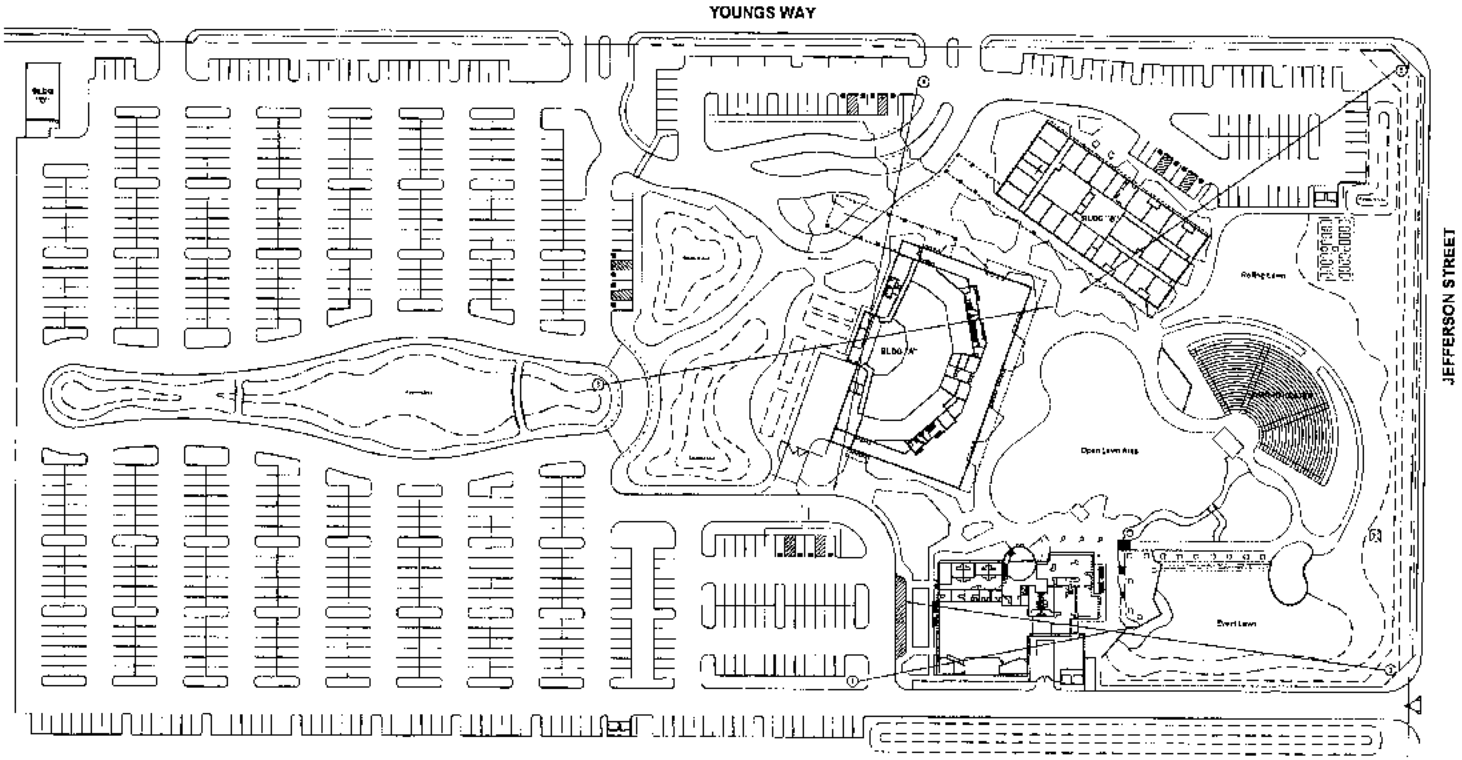
NO.	DATE	COMMENT

CLIENT NAME
PROJECT NAME GARDEN FELLOWSHIP
GARDEN WORSHIP
ADDRESS INDIO, CA
SHEET NAME ELEVATIONS

BUILDING PERMIT NO.
Checker
USE PERMIT NO.
Approver
PROJECT MANAGER
Designer
PROJ. NO. c3153
DATE 12/20/17
PROJECT STATUS
Schematic Design

A7.1

Retur Open Bookmarks



SITE PLAN
1" = 40'-0"

plainjoe ARCHITECTURE

REVISIONS		
NO	DATE	COMMENT

GARDEN FELLOWSHIP CHURCH
NEW CAMPUS
NOVO, CA

SITE PLAN

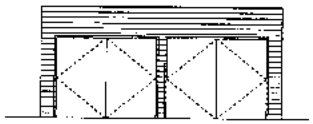
BUILDING PERMIT NO.
N/A
USE PERMIT NO.
N/A
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 12/27/17
PROJECT STATUS
SCHEMATIC DESIGN

SP1

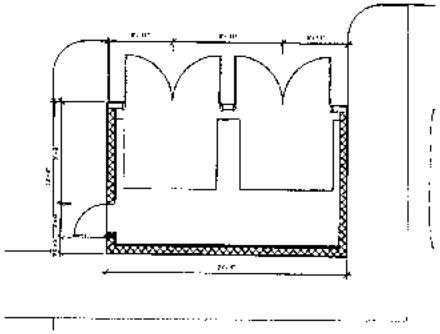
3 WEST ELEVATION 1
1/4" = 1'-0"

5 EAST ELEVATION 1
1/4" = 1'-0"

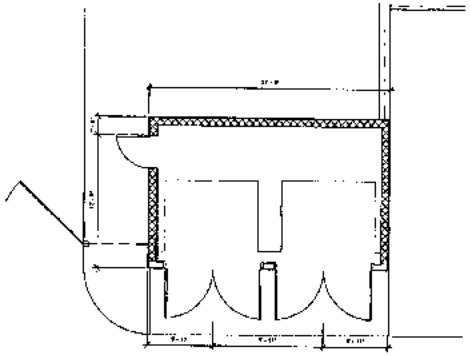
2 SOUTH ELEVATION 1
1/4" = 1'-0"



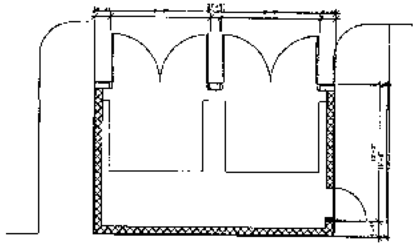
4 NORTH ELEVATION 1
1/4" = 1'-0"



3 TRASH ENCLOSURE 3 PLAN
1/4" = 1'-0"



2 TRASH ENCLOSURE 2 PLAN
1/4" = 1'-0"



1 TRASH ENCLOSURE 1 PLAN
1/4" = 1'-0"

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REVISIONS		
NO.	DATE	COMMENT

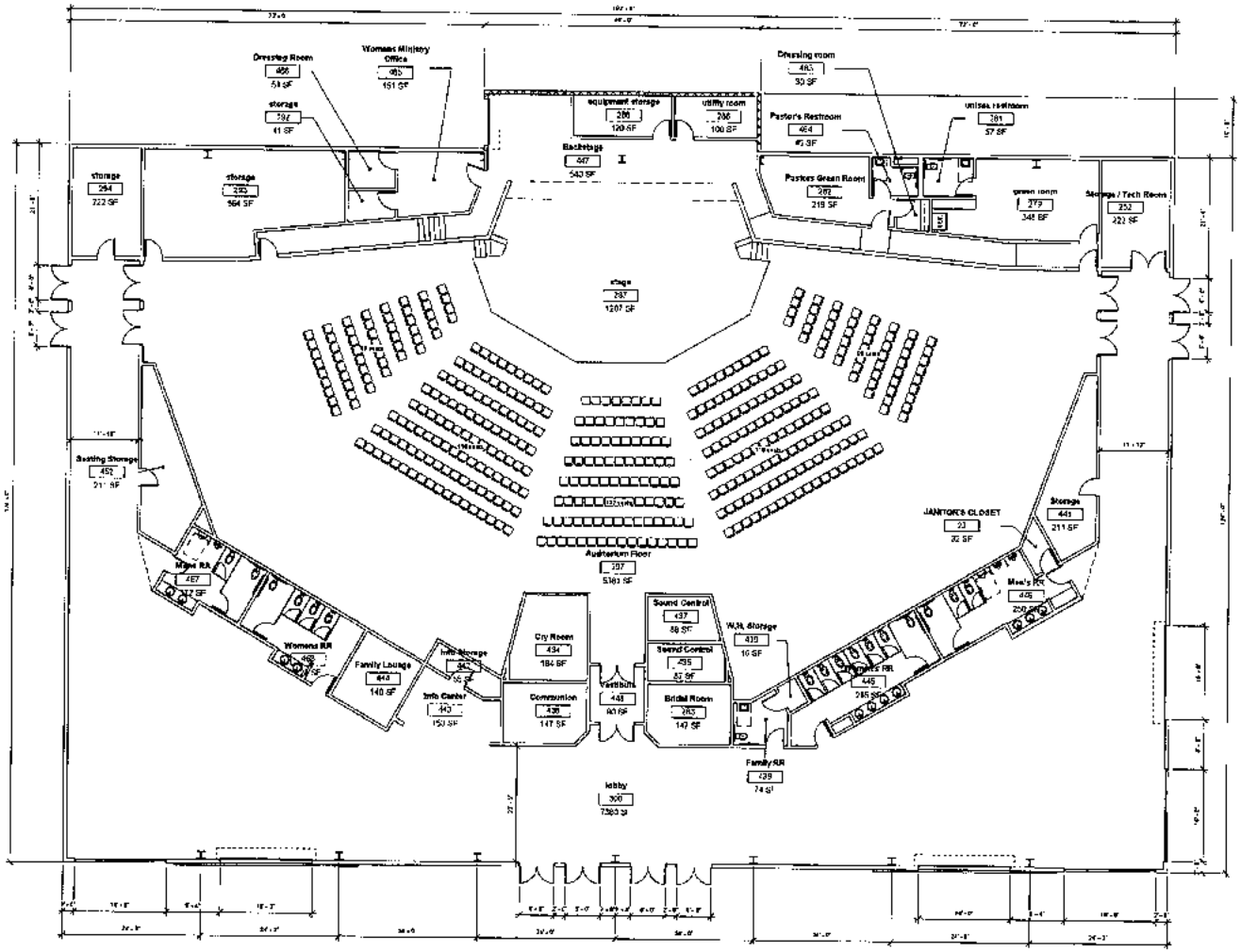
GARDEN FELLOWSHIP CHURCH
NEW CAMPUS
MODIO, CA

ENLARGED TRASH ENCLOSURE

BUILDING PERMIT NO.
Checker
USE PERMIT NO.
Approver
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 12/27/17
PROJECT STATUS
SCHEMATIC DESIGN

SP3

Retur Open Bookmarks



FLOOR PLAN
1/8" = 1'-0"

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REVISIONS

NO.	DATE	COMMENT

CLIENT NAME:
PROJECT NAME: GARDEN FELLOWSHIP
GARDEN WORSHIP
ADDRESS: INDIO, CA
SHEET NAME: FLOOR PLAN

BUILDING PERMIT NO.
N/A
USE PERMIT NO.
N/A
PROJECT MANAGER
Designer
PROJ. NO. c3153
DATE 12/20/17
PROJECT STATUS
Schematic Design

A1

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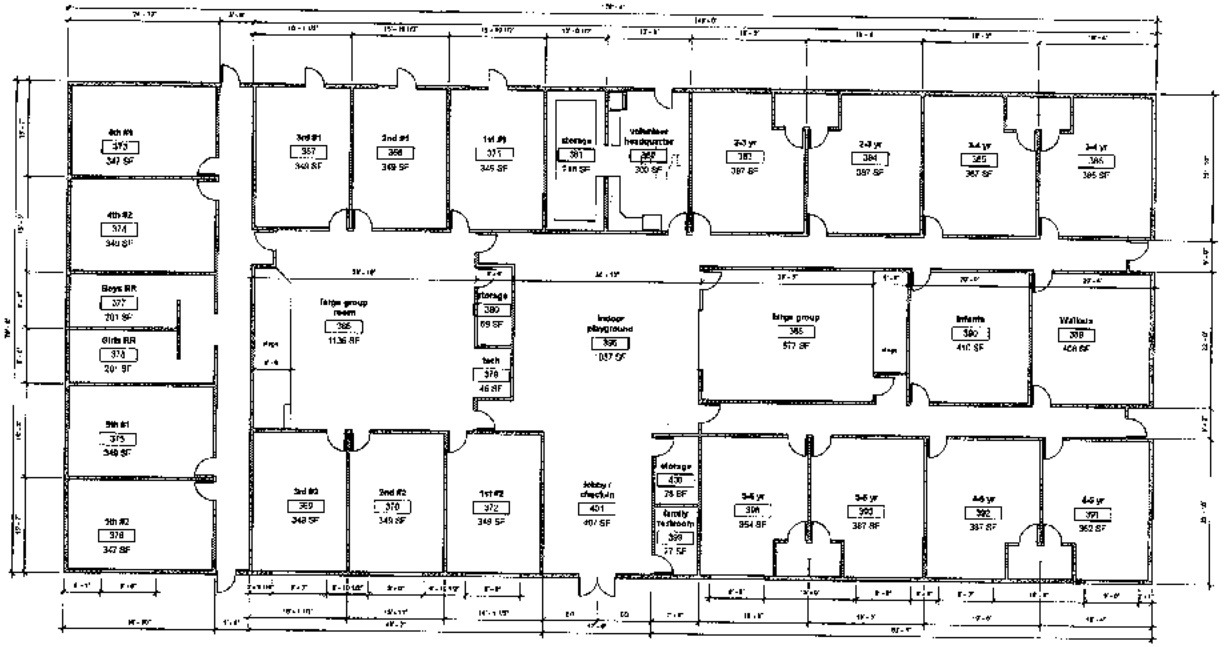

① Ground Floor
1/8" = 1'-0"

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REVISIONS

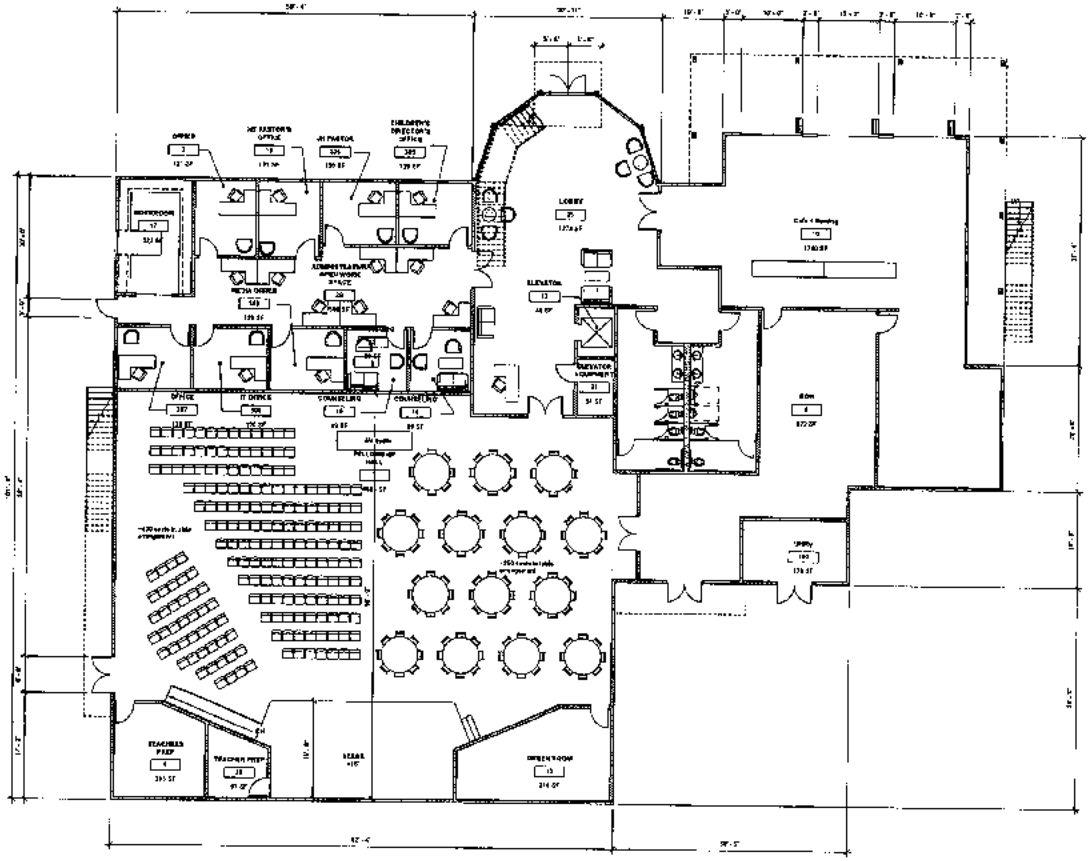
NO.	DATE	COMMENT

CLIENT NAME: GARDEN FELLOWSHIP
PROJECT NAME: GARDEN KIDS
ADDRESS: India, CA
SHEET NAME: FLOOR PLAN

BUILDING PERMIT NO.
N/A
USE PERMIT NO.
N/A
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 07/07/2016
PROJECT STATUS
SCHEMATIC DESIGN

B1

Retur Open Bookmarks



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REVISIONS

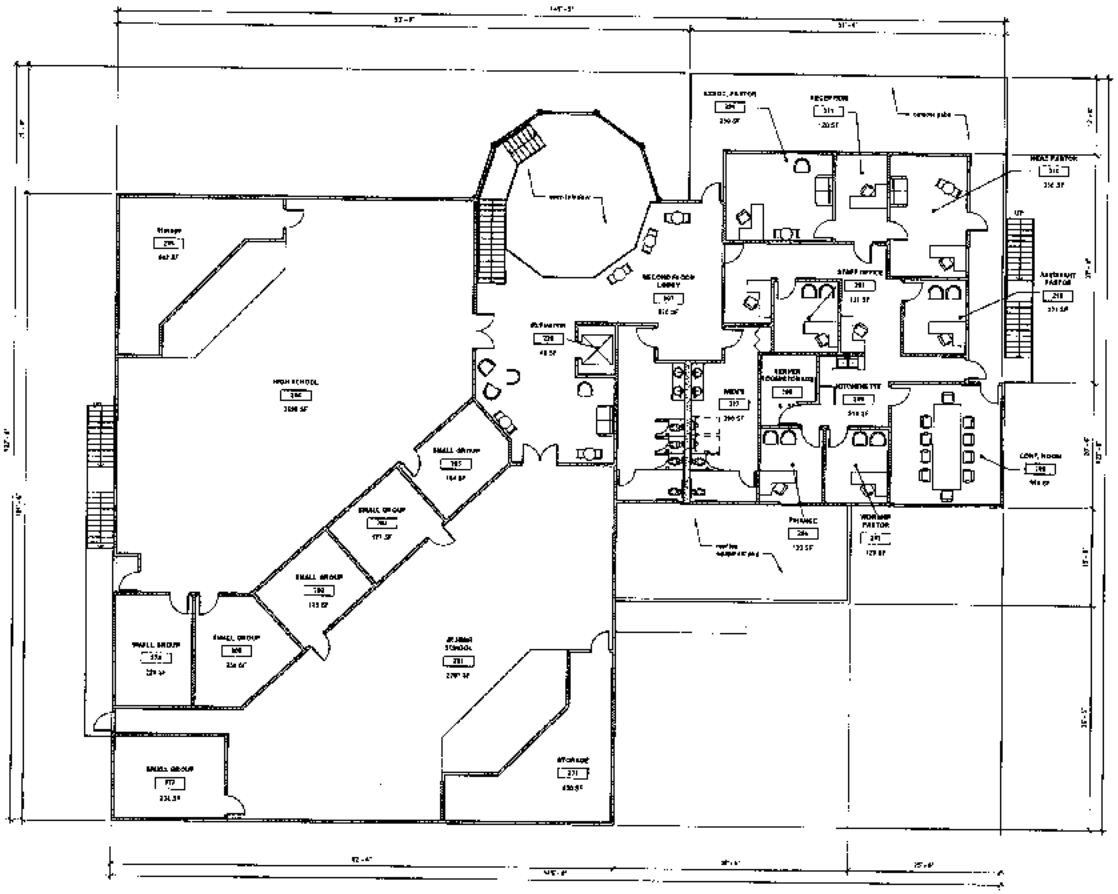
NO.	DATE	COMMENT

CLIENT NAME:
PROJECT NAME: GARDEN FELLOWSHIP
BLDG C - POD / ADMIN
ADDRESS: Indio, CA
SHEET NAME: FIRST FLOOR PLAN

BUILDING PERMIT NO.
N/A
USE PERMIT NO.
N/A
PROJECT MANAGER
Designer
PROJ. NO. 3106
DATE 07/07/2016
PROJECT STATUS
SCHEMATIC DESIGN

C 1

Retur Open Bookmarks



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STAMP

REVISIONS

NO.	DATE	COMMENT

CLIENT NAME: GARDEN FELLOWSHIP

PROJECT NAME: BLDG C - POD / ADMIN

ADDRESS: Indio, CA

SHEET NAME: SECOND FLOOR PLAN

BUILDING PERMIT NO.
N/A

USE PERMIT NO.
N/A

PROJECT MANAGER
Designer

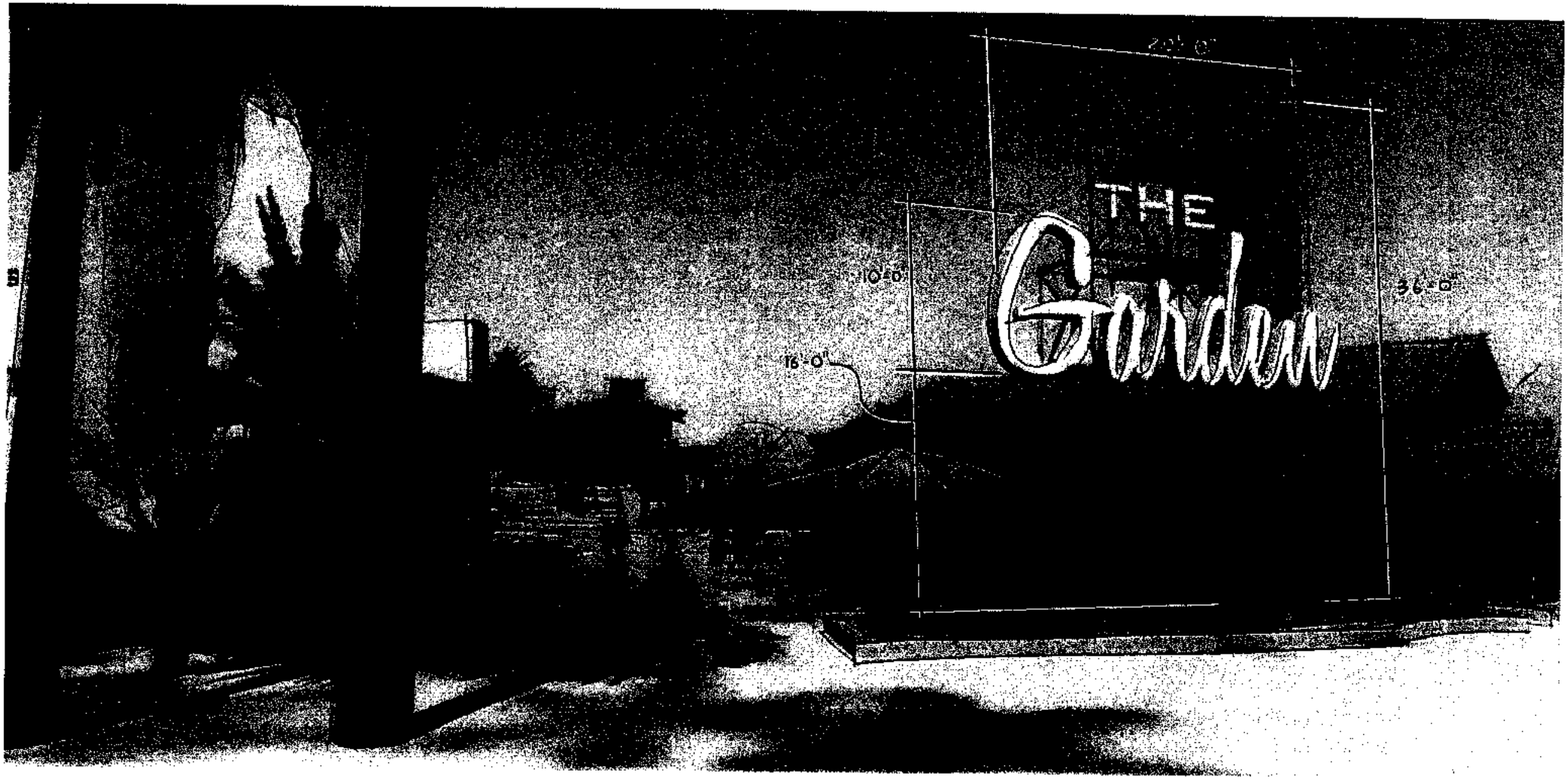
PROJ. NO. 3108

DATE 07/07/2016

PROJECT STATUS
SCHEMATIC DESIGN

C 2

2/5/2016 7:53:21 AM C:\Users\Public\Documents\Autodesk\RVT 2016\Models\Garden PCO_michael@plainjoearch.net.rvt



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THE GARDEN FELLOWSHIP

Project Master Plan
April 2018

Prepared for:

The Garden Fellowship, Inc.

Prepared by:

MSA Consulting, Inc.
34200 Bob Hope Drive
Rancho Mirage, CA 92270

Return to Agenda

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TABLE OF CONTENTS

FIGURES

CHAPTER I: INTRODUCTION & SETTING

1.1 EXECUTIVE SUMMARY

The Garden Fellowship Project Master Plan (PMP) is organized into five chapters, as described below.

Chapter 1, Introduction & Setting: This section provides an overview of the document, project setting, legislative authority for the PMP, entitlement process and other contextual information.

Chapter 2, Master Plan: This section describes the primary master plan components required for orderly development of the property. These include land use, circulation, landscaped areas, water and sewer, grading and drainage, and phasing.

Chapter 3, Development Regulations: This section establishes the allowable uses and development standards applicable within the PMP boundary.

Chapter 4, Design Guidelines: This section outlines architectural and landscape design approaches and themes intended to guide the visual appearance of future development.

Chapter 5, Plan Administration: This section describes the various processes and procedures used to administer and implement the adopted PMP.

1.2 PURPOSE AND INTENT

The Garden Fellowship PMP is intended to guide future development of land within the PMP boundary, including the establishment of permitted land uses, design guidelines, setbacks, building heights and regulations. The PMP is intended to ensure quality development consistent with the goals, objectives and policies of the City of Indio General Plan.

The PMP has been prepared pursuant to the provisions of California Government Code Section 65350 et seq. Section 65359 authorizes cities and counties to prepare and adopt a plan of this nature for portions of their areas of jurisdiction as a means to implement the General Plan and requires that the plan be consistent with the General Plan. Pursuant to the City of Indio's General Plan Policy LU-2.2, Project Master Plans may be prepared at the choice of the landowner, as follows:

> *A Project Master Plan (PMP) shall be required for any project within an RPD overlay. Unlike the CSP [Conceptual Specific Plan], which groups together landowners by their geographic location in order to develop a concept plan for an area, the size, shape, and number of parcels/landowners involved in a PMP is decided by the landowners themselves. A single landowner or several working jointly, can prepare and submit a PMP.*

The components and preparation of a PMP is also outlined in City of Indio's General Plan Policy LU 2.2. This plan is consistent with these requirements and referred to throughout this document as the PMP.

Proposed development plans or agreements, tentative tract or parcel maps, and any other development approval must be in substantial conformance with the PMP. Projects which are found consistent with the PMP will be deemed consistent with the City's General Plan. Upon adoption by ordinance, the Garden Fellowship PMP shall serve as the official zoning and development plan for the project.

1.3 PROJECT LOCATION

The PMP consists of two parcels totaling approximately 18.5 acres (APN: 691-060-003 & 691-060-004) located along the westerly side of Jefferson Street between 38th and 39th Ave. In its current condition the site contains a palm tree nursery and is therefore mostly undeveloped. The site is bounded to the north, south, and west mostly by undeveloped land and agricultural uses and to the east by single-family residences. Fencing and various types of palm trees and bushes visually screen the property frontage off Jefferson Street which serves as the primary vehicular access route to the site.

Figure 2 *Vicinity Map* depicts the physical setting of the property. Surrounding land uses are identified in Table 1.1

TABLE 1.1 SURROUNDING USES

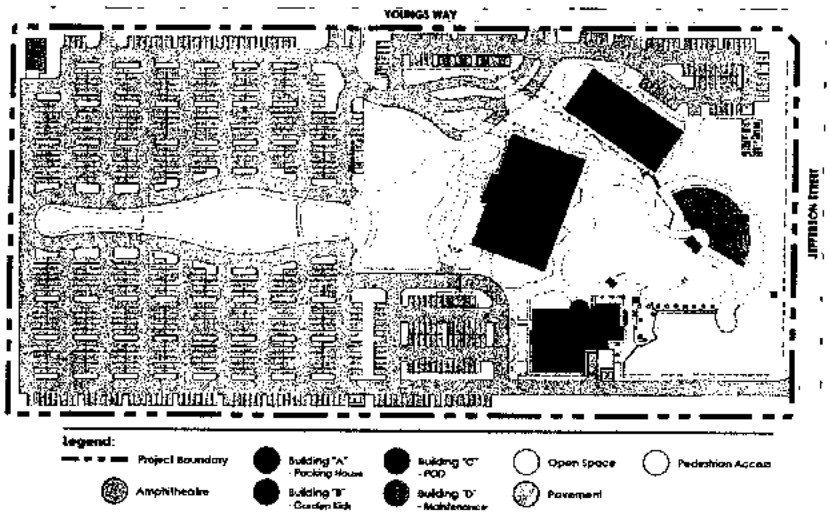
	Jurisdiction	General Plan	Zoning	Existing Use
North	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture, Single Family Residence
South	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture
East	Indio	Equestrian Estates	Equestrian Estates (EE)	Single-Family Residences
West	Indio	Equestrian Estates	Equestrian Estates (EE)	Agriculture, Palm Tree Farm

1.4 SITE CHARACTERISTICS

As shown in Figure 2 *Aerial Map,* the property consists of a palm tree farm and undeveloped land.

1.5 DEVELOPMENT CONCEPT

The Garden Fellowship PMP proposes to develop a master planned, multi-building church campus on an 18.5 acre site. At buildout it is anticipated the campus will total four (4) buildings and approximately 55,000 sf of building space. Proposed onsite features and amenities include a worship building, church offices, youth and kid ministries, a bookstore/café, an amphitheater, and facilities maintenance building. The arrangement of the buildings is intended to center around a court plaza area that will be designed and landscaped to provide a high quality setting to allow for informal gatherings before, during, and after church activities. To the west of the buildings ample parking will be provided for the different church and community activities held on the campus. Additional on-site amenities include a kid's playground, open lawn/garden areas, and ponds. Off-site street improvements which will include curb and gutter, sidewalk, and fully landscaped parkways will be constructed on Jefferson Street and Young's Way.

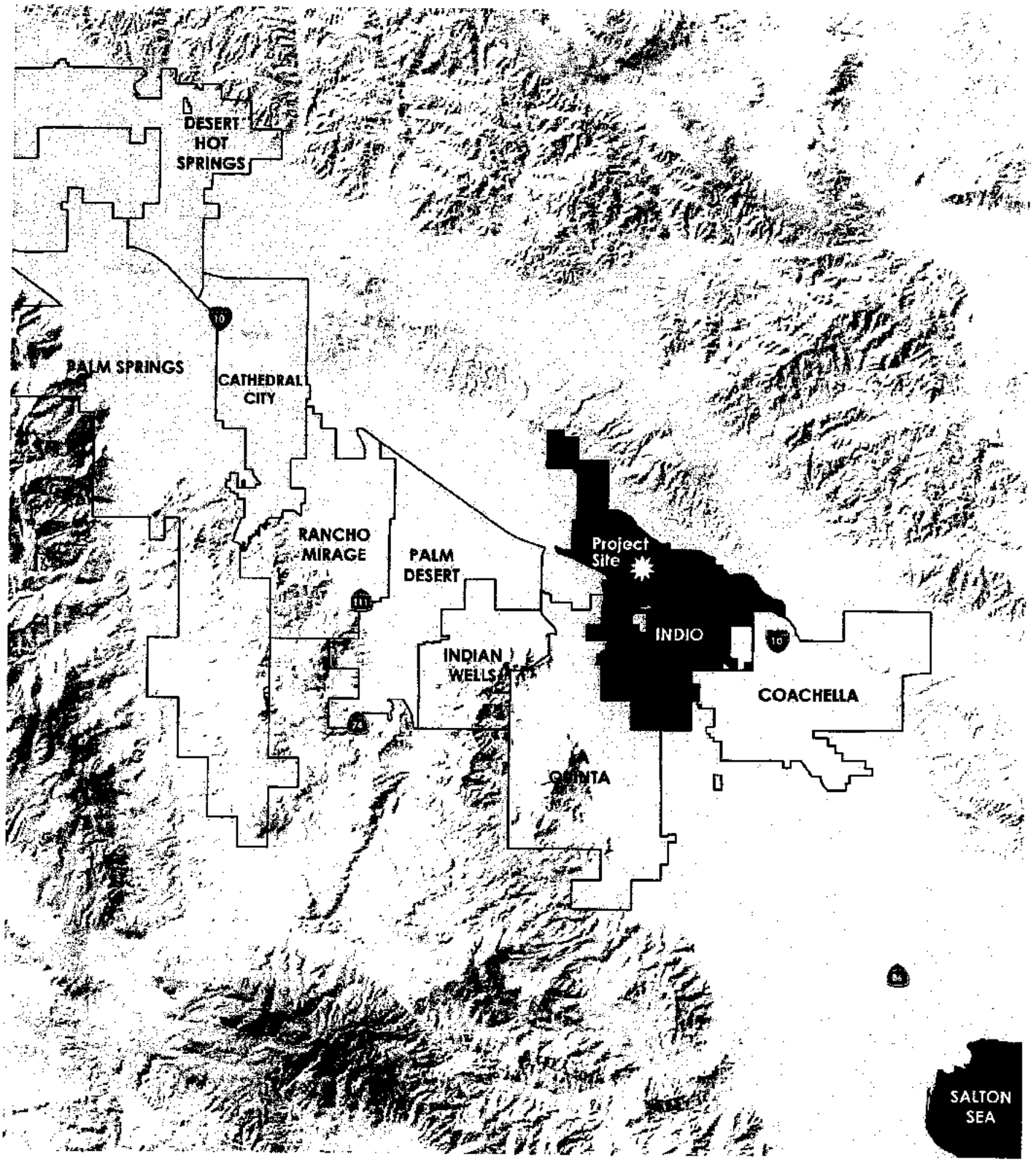


**This illustrative site plan is conceptual and subject to change as the project's design is finalized.*

1.6 PROJECT OBJECTIVES

The PMP contains all components required by State law, as well as other components, design concepts, guidelines, and standards to implement the City of Indio General Plan. The objectives of this PMP are as follows:

- Develop a master planned church campus consisting of a worship center, church offices, youth and kid ministries, café/bookstore, and an outdoor amphitheater.
- Provide water, sewer, and drainage systems to adequately service the project.
- Provide a safe and efficient circulation system.
- Develop a flexible phasing plan that provides for multi-year construction of the project in an orderly and efficient manner.
- Establish design guidelines, development regulations, use standards and procedures to guide future project improvements and provide appropriate landscape and architectural themes for the project.



Source: Geographic Information Systems

Exhibit Date: April 6, 2018

REGIONAL LOCATION MAP

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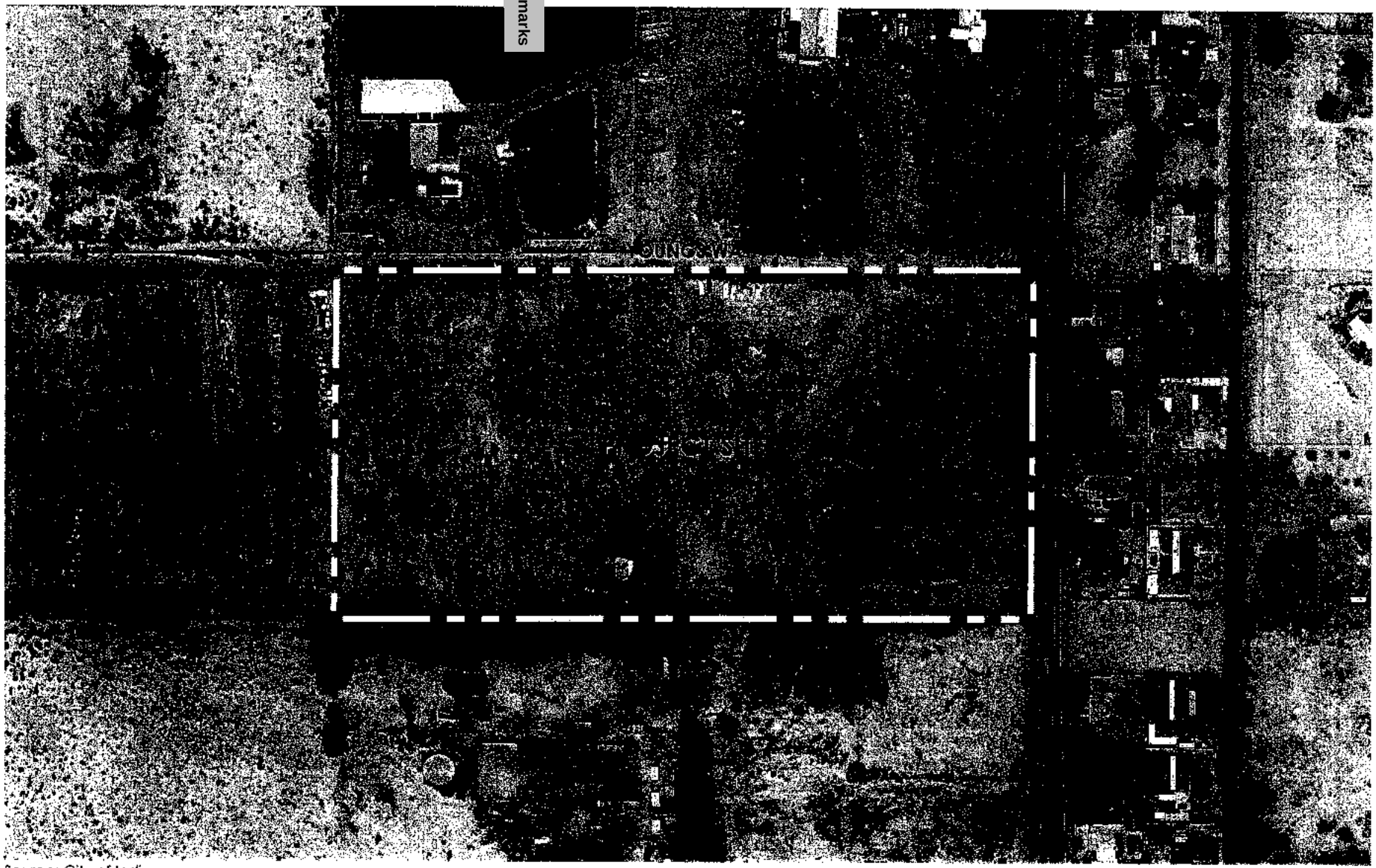
FIGURE 1



Source: City of India

Exhibit Date: April 6, 2018

AERIAL PHOTOGRAPH

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FIGURE 2

1.7 GENERAL PLAN & ZONING

The Indio General Plan 2020, adopted in October 1993, established the City's policy relative to the planned future pattern, intensity, density, and relationships of land uses in the City and the various infrastructure systems needed to effectively support those land uses. The Project Master Plan implements the Indio General Plan by bringing detailed policies and regulations together into a focused development plan for the proposed project. It serves as a link between the Indio General Plan and subsequent development proposed within the Project Master Plan area. The Project Master Plan is a regulatory document which, when adopted by the Indio City Council, will govern all facets of project development including the distribution of land uses, location and sizing of supportive infrastructure, as well as development standards and regulations.

Figure 3 *General Plan Map & Zoning*, displays the existing General Plan Land Use and designates the site as Equestrian Estates and the existing zoning for this site as Equestrian Estates (EE).

Zoning implements the General Plan land use by applying appropriate development standards for allowable uses, minimum lot size, yard setbacks and similar development considerations.

1.8 BERMUDA DUNES AIRPORT LAND USE CONSISTENCY

The Garden Fellowship PMP is located within the influence area of the Bermuda Dunes Airport and Airport Compatibility Zone E. The Zone E designation is considered the least restrictive land use zone in regards to prohibited uses and height restrictions and the land use restrictions associated with it are outlined in the 2004 Riverside County Airport Land Use Compatibility Plan (RCALUCP). Airport Land Use Commission (ALUC) review is required when a project is located within an Airport Influence Area and a local jurisdiction processes a legislative action such as a General Plan Amendment, Conditional Use Permit, or Specific Plan/ Project Master Plan.

1.9 CEQA CONSISTENCY

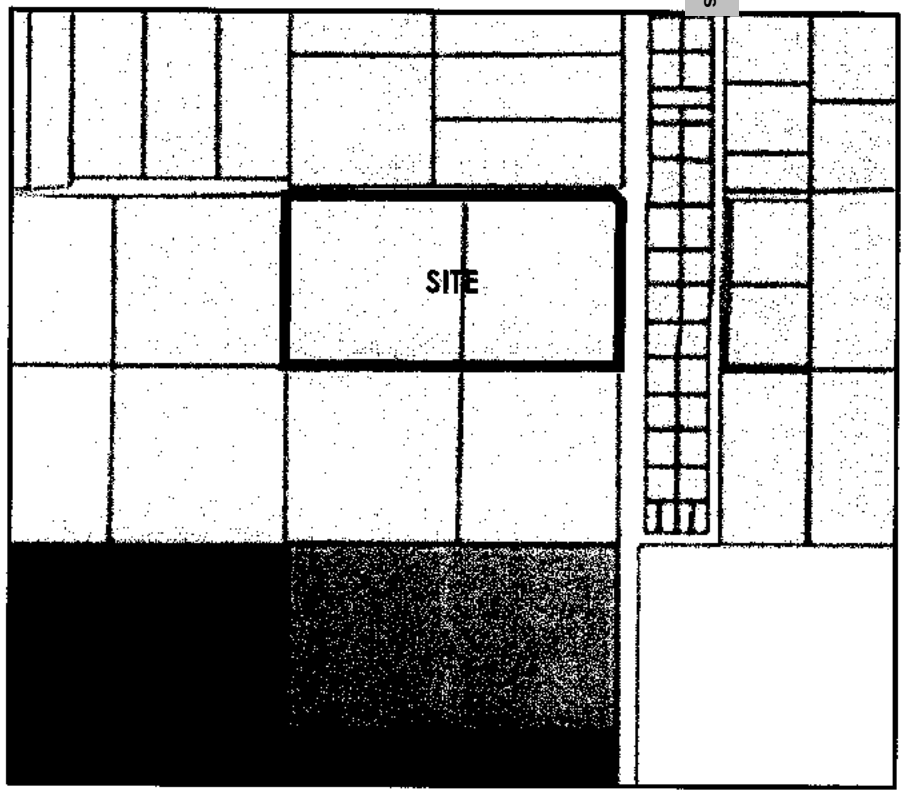
The project is subject to the requirements of the California Environmental Quality Act (CEQA). Pursuant to the CEQA Guidelines, an Initial Study has been prepared for the Garden Fellowship PMP to analyze the environmental impacts of the project. The following environmental studies were prepared in support of the environmental analysis:

- Air Quality and GHG – Urban Crossroads, March 2018
- Biological Assessment – James W. Cornett Ecological Consultants, February 2018
- Paleontological Assessment - CRM Tech, March 2018
- Cultural Resources – CRM Tech, March 2018
- Geotechnical Report – Sladden Engineering, October 2014 and March 2018 Update
- Traffic Impact Analysis – Urban Crossroads, March 2018

As a result, no substantial adverse impacts were found that could not be mitigated to a level of less than significant. Therefore the City will prepare a Mitigated Negative Declaration (MND) containing an evaluation of potential environmental impacts associated with the project and appropriate mitigation measures for each potential impact. All mitigation measures identified in the Mitigated Negative Declaration shall be identified in a Mitigation Monitoring and Reporting Program (MMRP) to ensure that implementation occurs.

The MND for the PMP will apply to all subsequent implementing entitlements proposed within the Garden Fellowship PMP. All future development projects for the project site will be reviewed with the PMP and the MND to determine whether additional environmental documentation must be prepared pursuant to CEQA Guidelines.

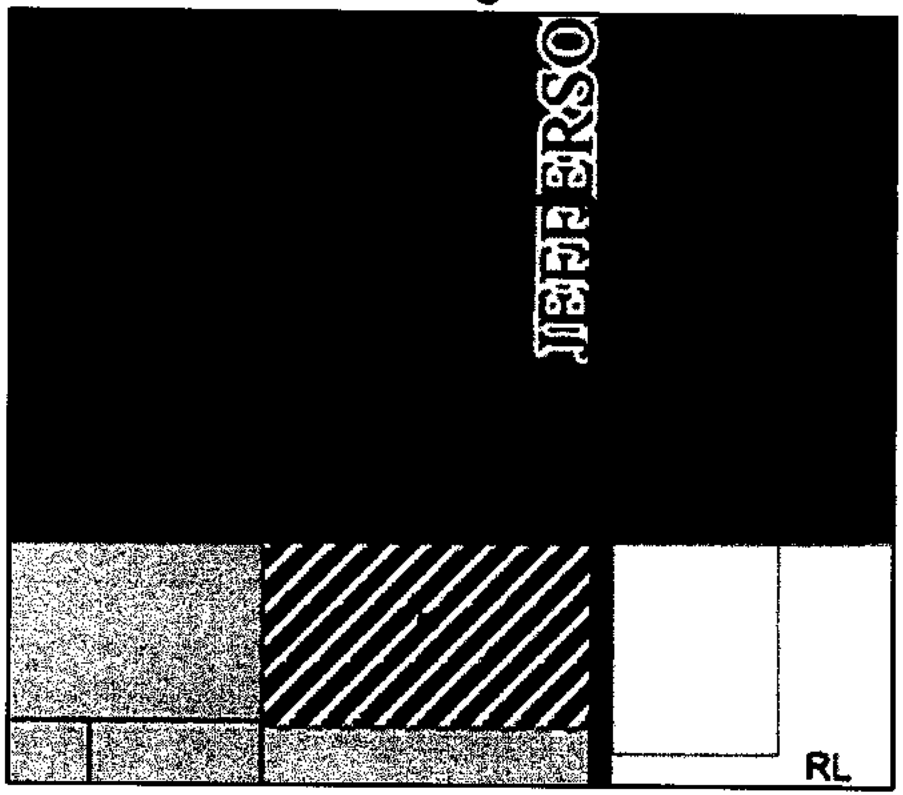
General Plan



Legend:

- Project Boundary
- Equestrian Estates
- Country Estates
- Public
- Residential - Low

Zoning



Legend:

- Project Boundary
- EE
- CEIR - 1/2
- P
- RL

Source: City of Indio

Exhibit Date: April 6, 2018

EXISTING GENERAL PLAN / ZONING MAP

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FIGURE 3

1.10 ENTITLEMENT PROCESS

Approval of the following entitlements will implement this project:

Conditional Use Permit (CUP) / Design Review (DR): - Development of a place of worship requires approval of a CUP in compliance with Section 159.097 of the City of Indio Municipal Code. Design Review (DR) is required by the City for approval of landscape and architectural design. The CUP and DR will both require a public hearing before the Planning Commission (Commission) for approval.

Project Master Plan (PMP) - The PMP will cover the entire 18.5 acre site to provide a comprehensive development plan, allowable uses and development standards. The PMP requires public hearings before the Commission and Council.

Airport Land Use Commission Review (ALUC):, ALUC consistency review is required for projects within an airport influence area whenever a local jurisdiction processes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance.

CHAPTER 2: MASTER PLAN

2.1 LAND USE

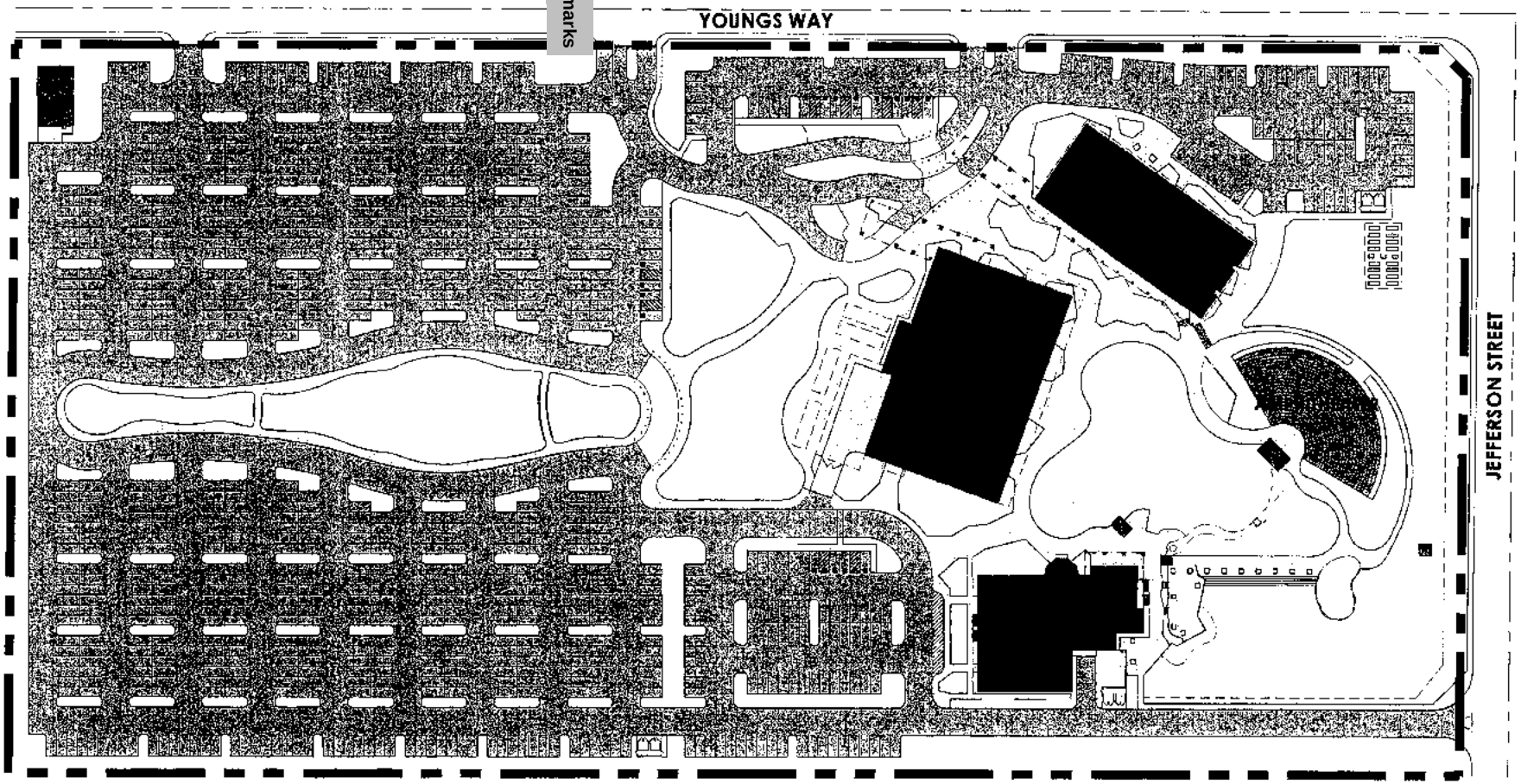
The Project Master Plan proposes the construction of a four building church campus totaling approximately 52,000 sf of building space on 18.5 acres The locations of these buildings as depicted in this PMP (***Figure 4*** – *Conceptual Site Plan*) are conceptual and will be further refined through implementing entitlement approvals as outlined in Section 1.10. Each Project component is described below and accompanied by a detailed discussion of permitted uses and relevant development standards in Chapter 3. Table 2.1 provides a summary tabulation of uses and square footages within the project.

TABLE 2.1 MASTER PLAN PROGRAM

Building	Name	Uses	Building SF
A	"Packing House"	Primary worship/assembly venue	19,300
B	"Garden Kids"	Children's ministries	11,800
C	Mixed Use "POD" Building	Fellowship hall, youth ministries, church offices, café/retail	22,600
D	Maintenance	Facilities maintenance	1,550
	Amphitheater	Outdoor worship/assembly venue	
TOTALS			52,300

Notes:

1. *Square footages are approximate and subject to refinement with implementing entitlements and final design plans.*



Legend:

- Project Boundary
- Building "A" - *Packing House*
- Building "C" - *POD*
- Open Space
- Pedestrian Access
- Amphitheatre
- Building "B" - *Garden Kids*
- Building "D" - *Maintenance*
- Pavement

Note: See Table 2.1 for Master Plan Program information

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL LAND USE PLAN

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FIGURE 4

2.2 CIRCULATION

Vehicular and pedestrian circulation systems are an important component of every development project. The Garden Fellowship development has direct and convenient vehicular access to Jefferson Street and Young's way. Vehicles will circulate through standard parking lots with drive aisles in compliance with City engineering and Fire Department design standards. The circulation system is illustrated in Figure 5 *Conceptual Circulation Plan,* Figure 6 *Typical Cross Sections,* and Figure 7, *Conceptual Pedestrian Plan.* Key aspects of the circulation system include:

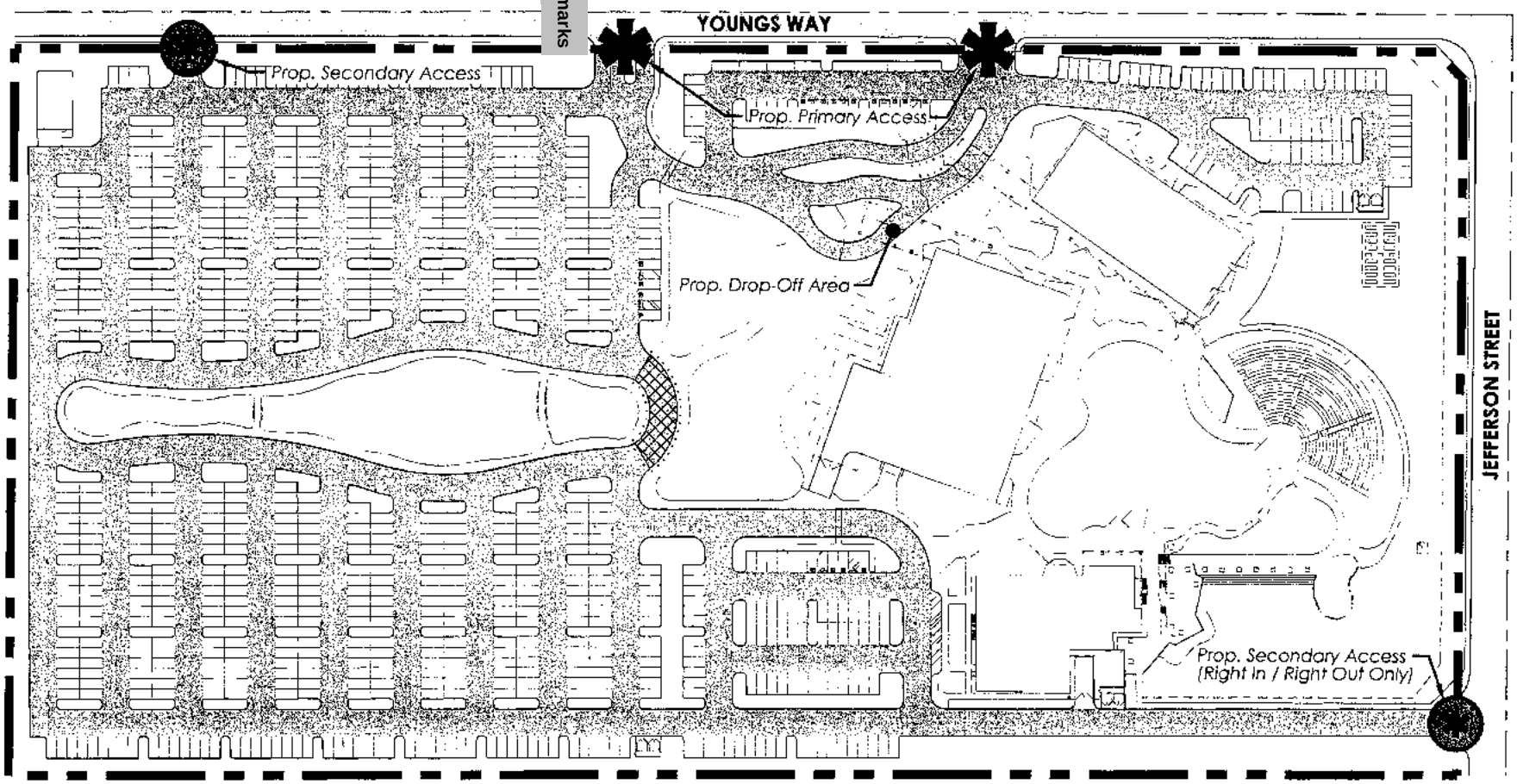
Off-Site Street Improvements - The project will dedicate and construct ultimate public half-street improvements for Jefferson Street (Secondary, 86' ROW) which will include a 7 foot right-of-way vacation along the project frontage (Figure 6 *Typical Cross Sections).* Young's Way (Collector road, 64') will also be built with ultimate public half-street improvements with a 2 foot proposed right-of-way dedication along the northerly boundary of the property.

Entries – Vehicular access to the site is taken from Jefferson Street and Young's Way via four entry points. Entries would include landscaping, entry signage and pedestrian walkway connections.

Vehicular Circulation – The vehicular circulation system consists of interior drive aisles that provide access to the parking, loading, and service areas associated with each building.

Pedestrian Circulation – Pedestrian circulation to the project is provided via sidewalks along Jefferson Street and Young's Way and interior pathways connecting the various onsite facilities. In addition church parking staff will be available to help direct pedestrians and control traffic with the use of bollards and other traffic control methods. The easterly connection between the north and south parking lots will be controlled with bollards to favor either pedestrian or vehicular access in keeping with the needs of specific activities.

Parking – Sufficient off-street parking is provided to serve each use. Parking standards for the PMP are subject to the City's parking standards as outlined in Chapter 159 of the Indio Municipal Code.



Legend:

- Project Boundary
- Private Driveway (24' R/W)
- Jefferson Street (Public / Secondary) (43' R/W Half Street)
- Youngs Way (Public / Collector) (32' R/W Half Street)
- Controlled Pedestrian / Vehicle Interface Zone
- Primary Access
- Secondary Access

Note: See Figure 6 for Typical Street Sections.

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

VEHICULAR CIRCULATION PLAN

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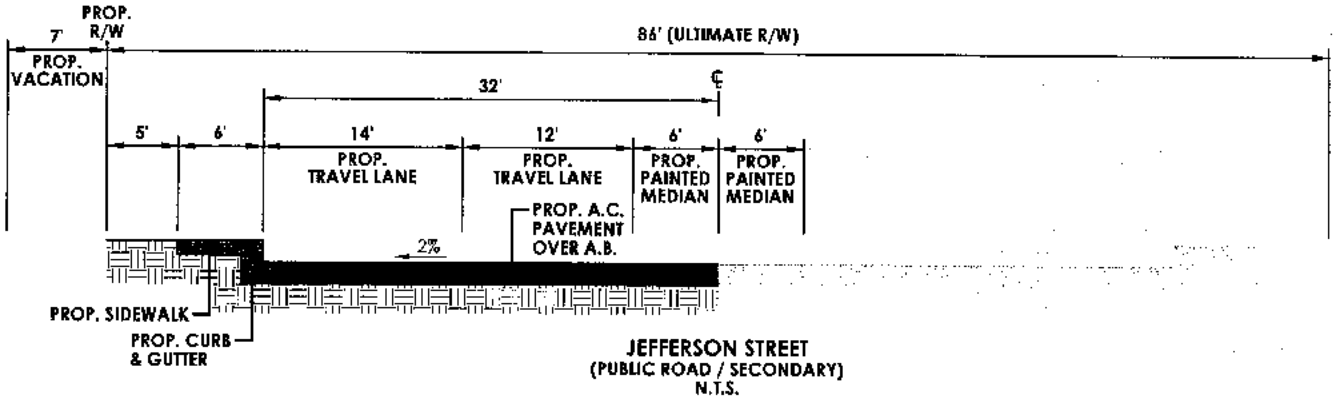
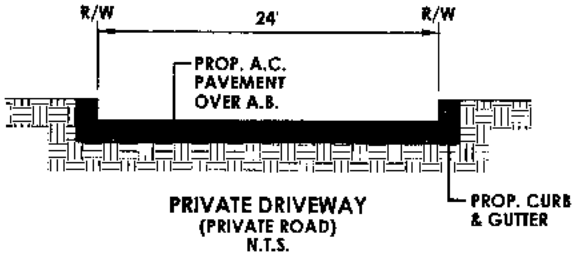
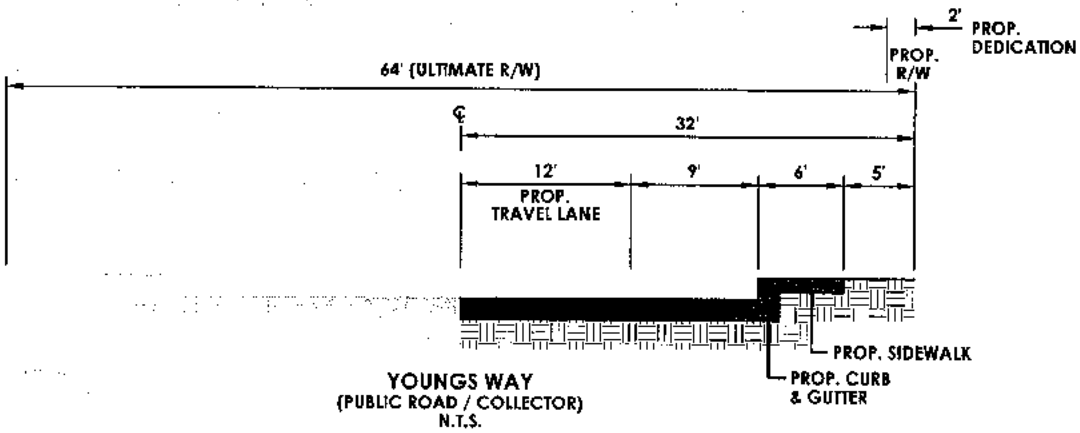
FIGURE 5







Note: See Figure X for Vehicular Circulation.

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

TYPICAL STREET CROSS SECTIONS

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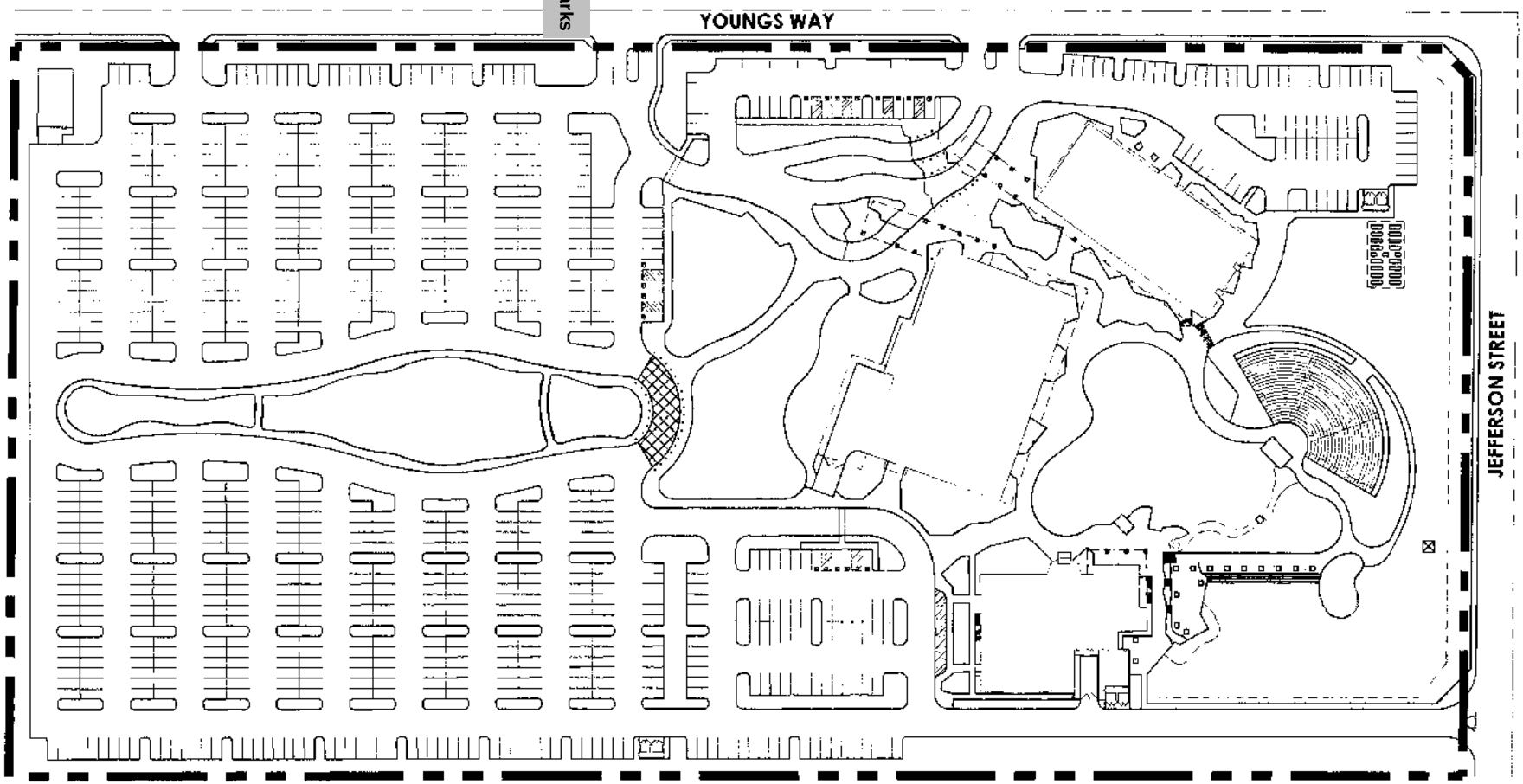
FIGURE 6



Legend:

- Project Boundary
- Pedestrian Circulation
- Controlled Pedestrian / Vehicle Interface Zone

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

PEDESTRIAN CIRCULATION PLAN

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FIGURE 7

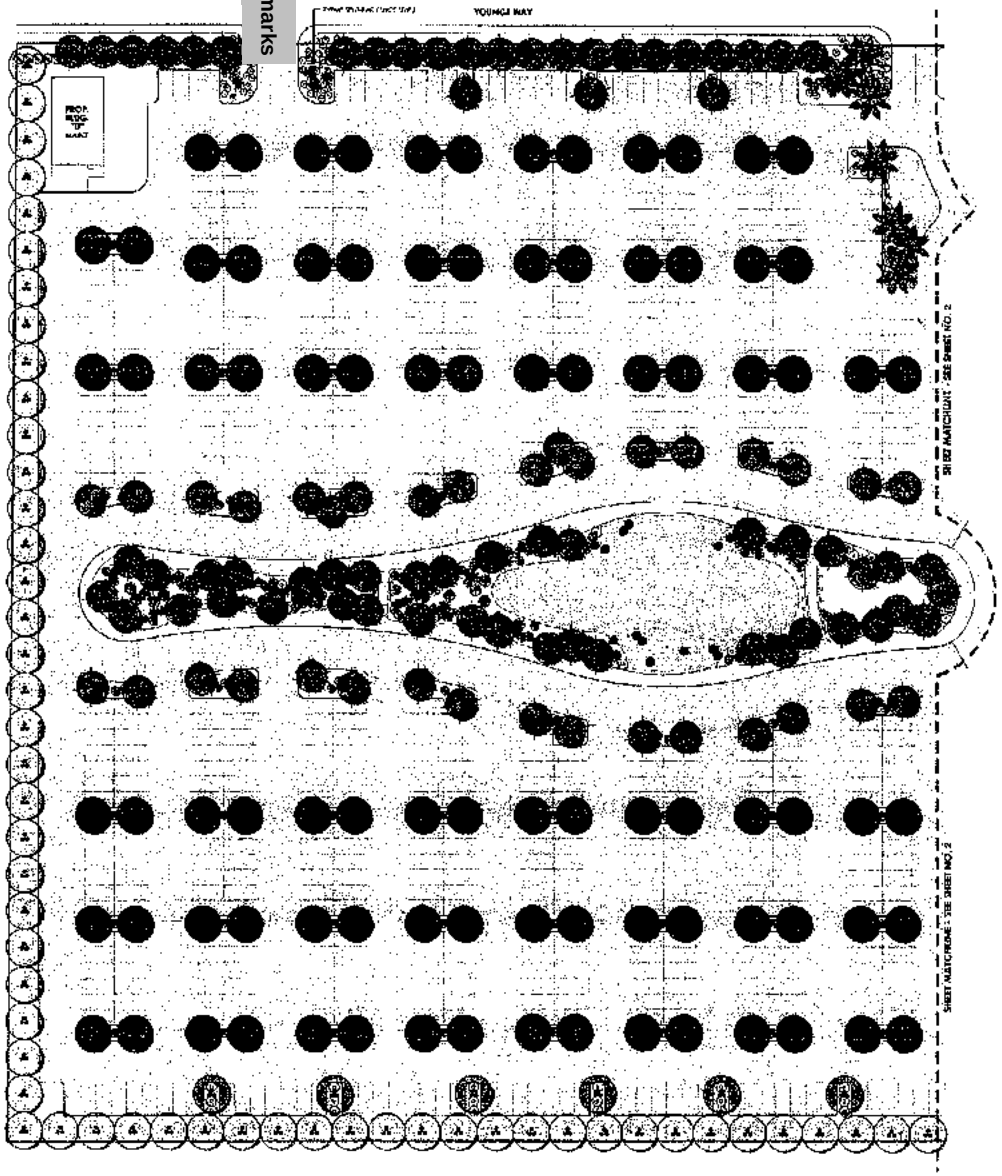
2.3 LANDSCAPED AREAS

Landscaping is an important component of quality development as it introduces greenery to soften and shade urban hardscape. Conceptual landscaping is illustrated in Figures 8 and 9 *Conceptual Landscape Plan* and landscape Design Guidelines are found in Section 4.3. Key aspects of the landscape design include:

Public Streetscapes – Landscaping along the length of Jefferson Street and Young's Way is intended to achieve a consistent, colorful and attractive presentation and soften the project when viewed from the public street.

Entries – Site entries will be attractively landscaped to provide a sense of arrival and identity to each land use type. Entries will be well defined with iconic planting types, and feature signage that will be designed to be an integral part of the entries overall design

Parking Lots – Planter islands will be spaced throughout the parking areas to incorporate shade trees and reduce heat generation on paved surfaces consistent with City parking lot shading requirements.



Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL LANDSCAPE PLAN: WEST PORTION

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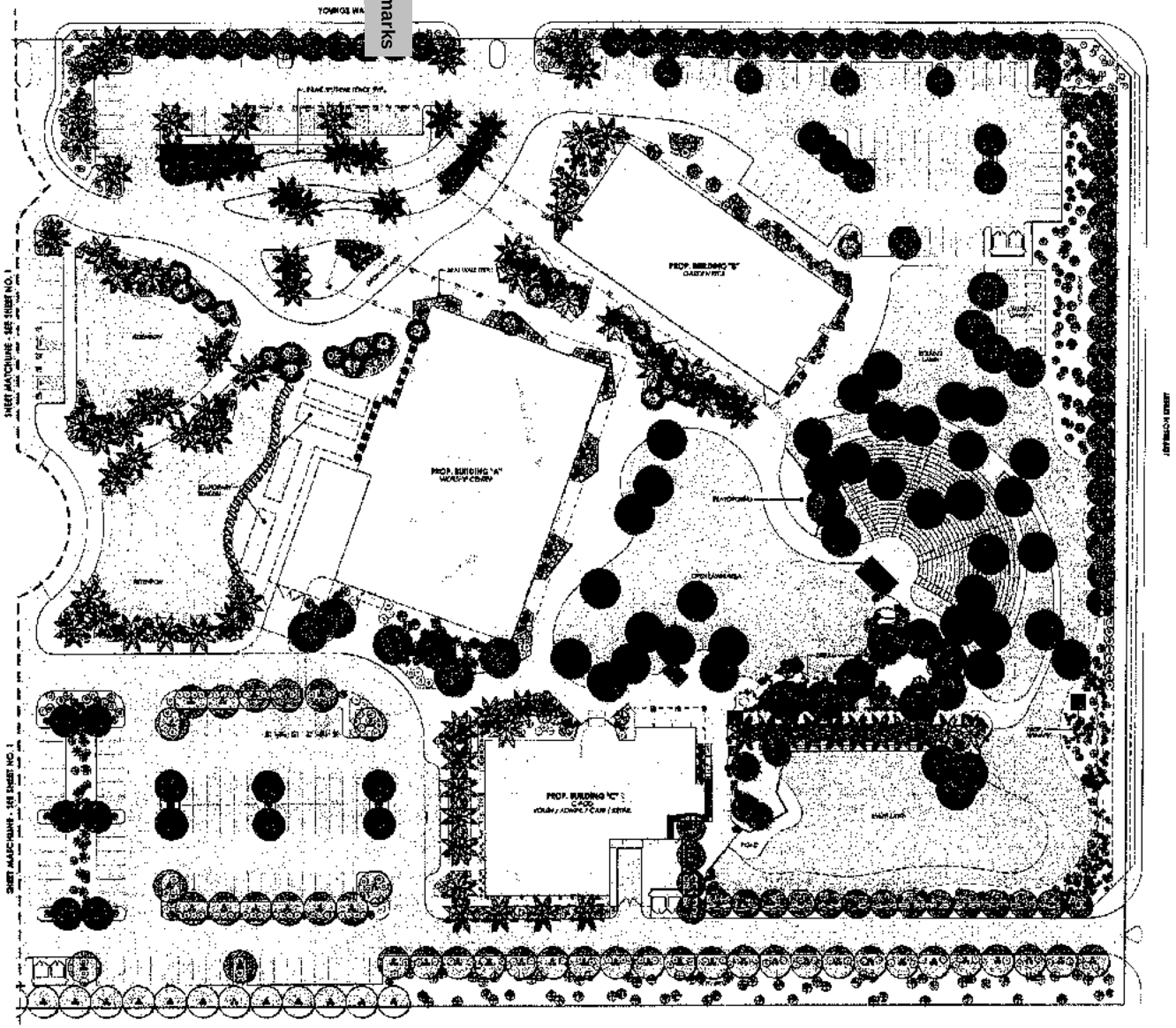
FIGURE 8



Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL LANDSCAPE PLAN: EAST PORTION

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FIGURE 9

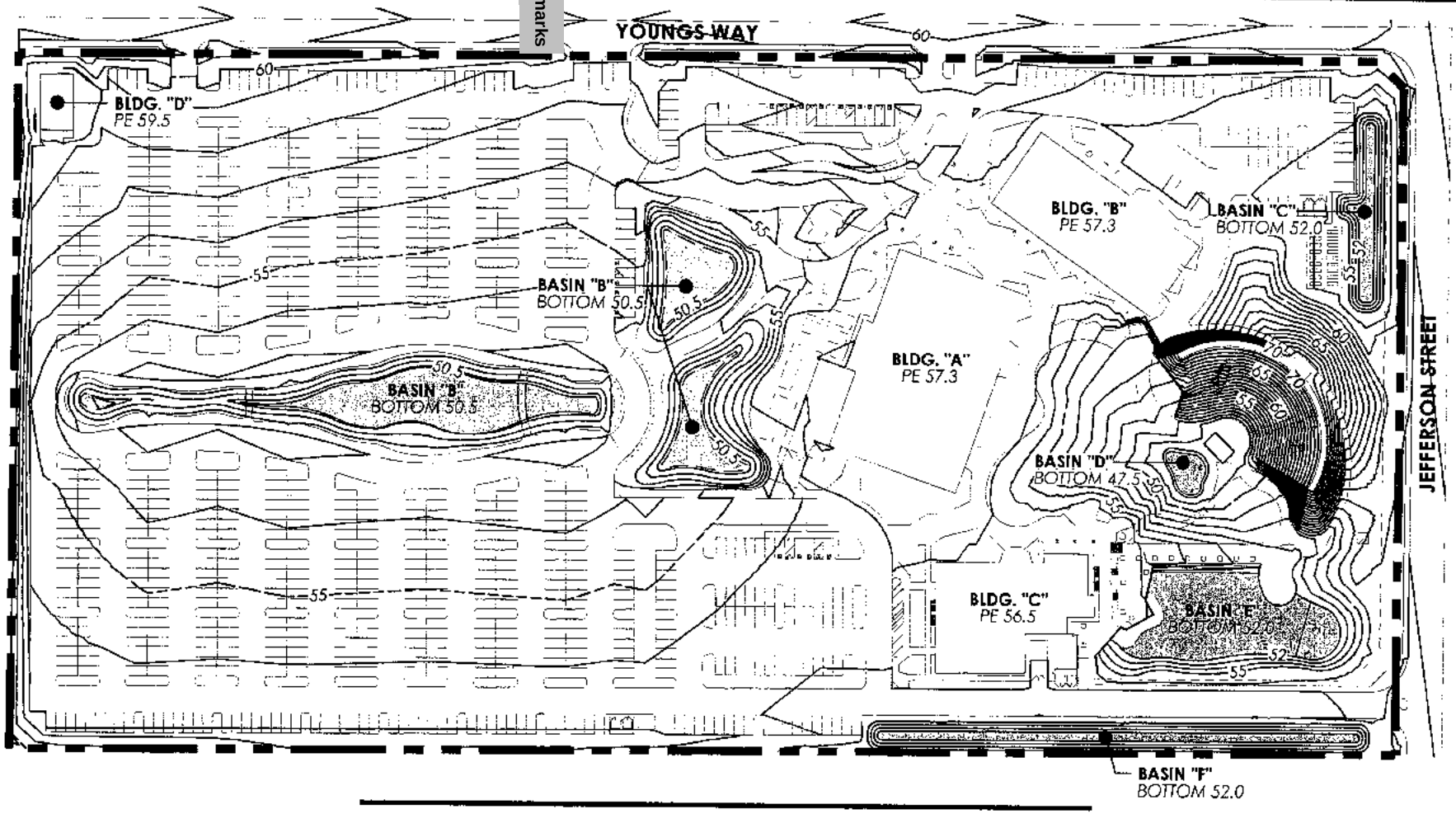
2.4 GRADING & DRAINAGE PLAN

Site topography slopes gently from a high elevation of 60 at the northwest corner of the property to a low elevation of 56 at the southeast corner of the property. Because grading and drainage are closely interrelated, they are addressed jointly in this section.

Grading – The grading concept is intended to create building pads and parking areas while keeping the earthwork balanced on site. Figure 10 *Conceptual Grading Plan,* shows the site contours after grading. The proposed grading will result in ground elevations, which are similar to existing grades. Grading design will be refined and more detailed with final engineering plans for the issuance of grading permits. Grading is also designed to achieve positive surface flows and protect all structures and physical improvements from the 100-year storm, surface runoff, soil erosion and sedimentation both during and after construction.

Drainage – Offsite flows are intercepted along the northern boundary, conveyed through the site and discharged in the existing drainage condition so as not to concentrate flows or negatively affect downstream properties. The incremental increase in runoff created by new impervious surfaces (roofs, pavement) will be retained in basins on site.

As shown in Figure 11, *Conceptual Drainage Plan,* "developed condition" surface drainage will utilize ground retention basins along with an underground storm drain pipe system. The runoff will sheet flow from the buildings and parking areas to concrete curb and gutter along the drive aisles that lead to catch basins that will be connected to underground storm drain pipes flowing to the proposed retention basins, located at various areas throughout the project site. Retention basins are sized appropriately for the project using standard engineering modelling methods and can be adjusted in size and depth to accommodate site design changes during project development.



Legend:

- Project Boundary
- 55 Proposed Index Contour
- Proposed Intermediate Contour
- Proposed Retention Basin

Note:
Grading design is conceptual and subject to change with final construction drawings.

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL GRADING PLAN

MSA CONSULTING, INC.
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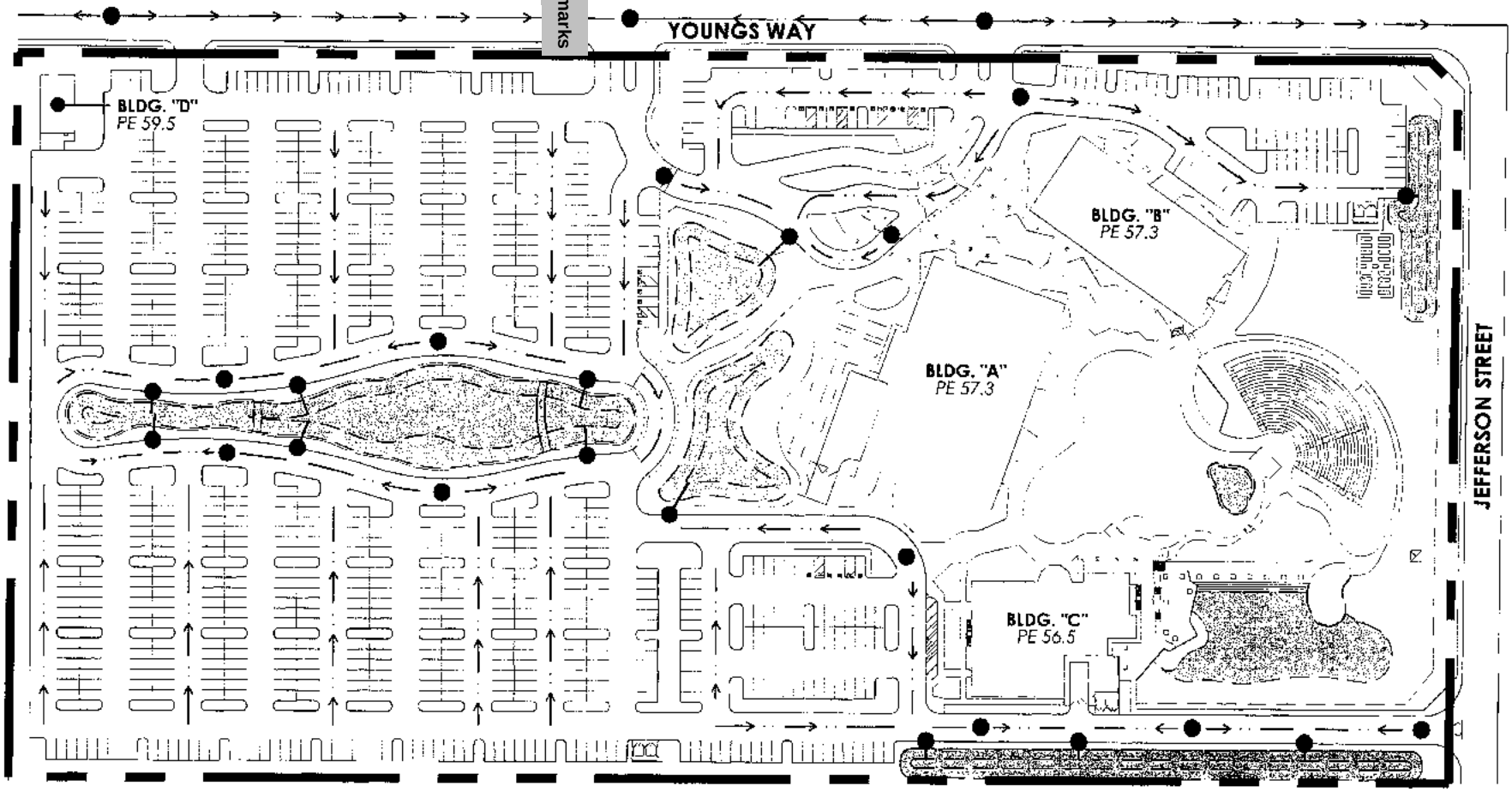
NORTH
N.T.S.

FIGURE 10



Notes:
1. See Figure 10 for Conceptual Grading Plan
2. Drainage design is conceptual and subject to change with final construction drawings.

Legend:

- Project Boundary
- Drainage Direction
- Proposed Retention Basin
- Drainage High Point
- Drainage Low Point

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL DRAINAGE PLAN

MSA CONSULTING, INC.
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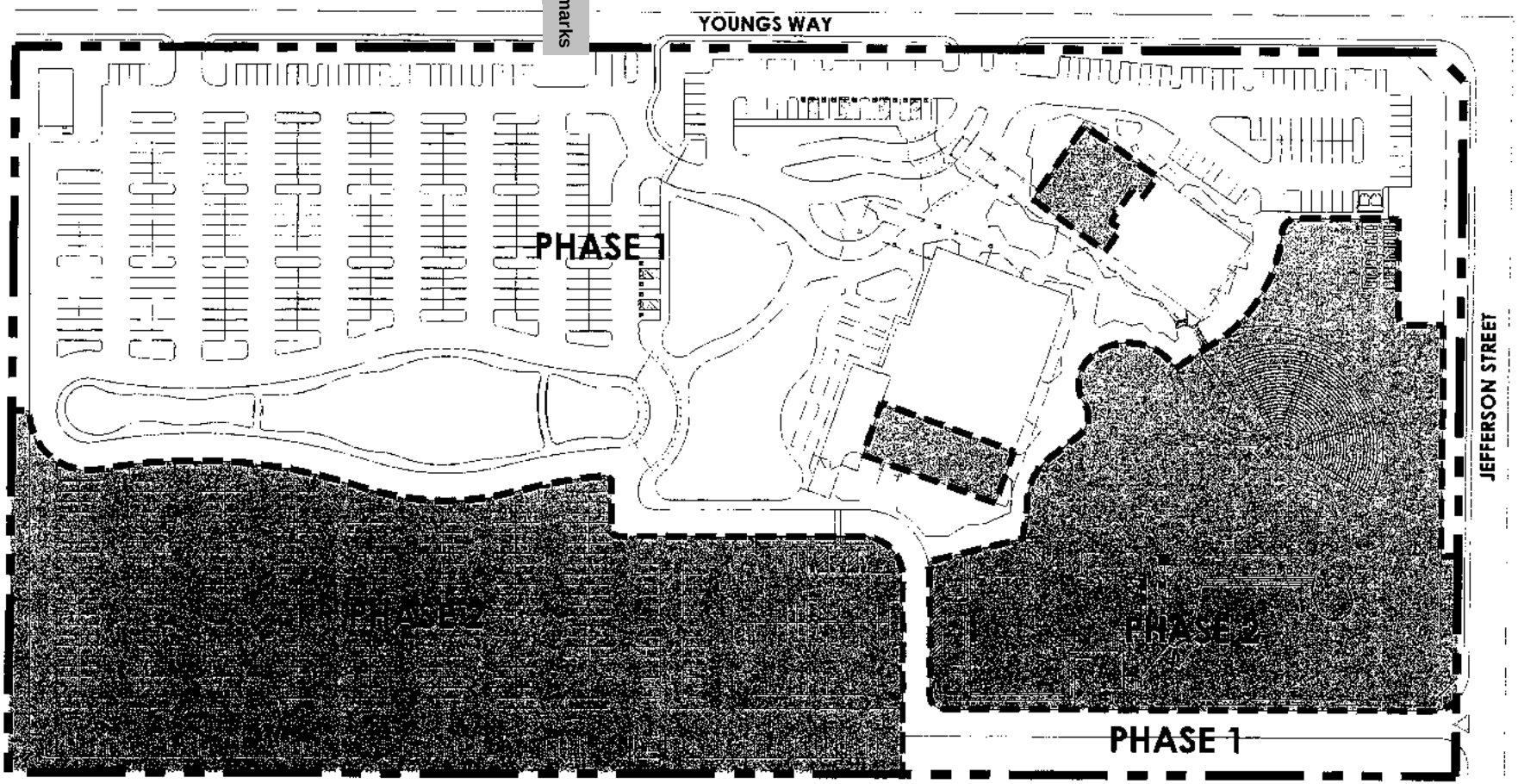
NORTH
N.T.S.

FIGURE 11

2.5 PHASING PLAN

The Garden Fellowship Project Master Plan is designed for construction in two (2) primary development phases with build out over approximately 4-6 years. Construction of Phase 1 is estimated to begin in 2019 with full buildout of the project completed by 2025 Figure 12, *Conceptual Phasing Plan* reflects the anticipated construction sequence. Phased development will be accompanied by the orderly extension of circulation and parking facilities, public utilities, and infrastructure in accordance with the final conditions of approval for the project and the City Engineering Services Division.



Legend:

- Project Boundary
- Phase Boundary
- Phase 1
- Phase 2

Note: Phasing is conceptual only.

Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

CONCEPTUAL PHASING PLAN

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NORTH
N.T.S.

FIGURE 12

Chapter 3: DEVELOPMENT STANDARDS

3.1 OVERVIEW

This chapter identifies the development standards applicable to the Garden Fellowship project, including a statement of development intent and a table of allowable uses and relevant development standards.

3.2 PROJECT MASTER PLAN

Statement of Intent – The Project Master Plan is intended to allow the construction of a four (4) building church campus with affiliated amenities and infrastructure systems. Development standards for PA-1 are shown in Table 3.1A *PMP Permitted Uses* and Table 3.1B *PMP Development Standards.*

TABLE 3.1A

PMP PERMITTED USES

	P= Permitted	Conditional Use Permit and Design Review = CUP/DR
Allowable Uses	*Category*	*Implementing Approval*
Places of worship, churches, or other places used primarily for religious services, including, but not limited to fellowship halls, youth ministries, church offices, etc.	P	CUP/DR
Schools and other educational facilities associated with a religious use	P	CUP/DR
Charitable, social service, and other programs and activities conducted in conjunction with a religious use	P	CUP/DR
Cafe'	P	CUP/DR
Bookstore	P	CUP/DR
Outdoor worship/assembly (i.e amphitheater) venue	P	CUP/DR
Facilities maintenance building	P	CUP/DR

Notes:
1. Including ancillary manager's residence, office and related uses that accompany and support a worship facility.
2. Multiple uses may be combined in a single building.

TABLE 3.1B

PMP DEVELOPMENT STANDARDS

Min. Front Setback[1]	30'
Min. Side Setback	15'
Min. Rear Setback[2]	60'
Max. Structure Height	50'

[illegible]

Chapter 4: DESIGN GUIDELINES

4.1 OVERVIEW

The guidelines contained in this chapter identify unifying elements for design of permanent buildings and landscaping within the Garden Fellowship project. These guidelines will ensure compatibility with the surrounding community, and enhance the overall image of the City. The exhibits provided are intended as conceptual illustrations and do not depict final designs, nor should they limit the range of expression among the developer or their professional design team.

4.2 SITE PLANNING GUIDELINES

Integration of effective site planning techniques, incorporated with basic design elements will enhance the visual experience of the development.

Building Arrangement

The project site is designed in such a way as to cluster the proposed new structures along the eastern edge of the site along Jefferson Street with the parking and maintenance building located to the west of the buildings. The arrangement of the three buildings creates a central plaza area that will be designed and landscaped to provide a high quality setting that will allow informal gatherings before, during, and after church activities and throughout the week. This plaza area will also be directly accessible from adjacent streets thus enabling it to be used throughout the week as a communal gathering place.

Entries and Driveways

Entries shall be clear, identifiable, and street oriented driveways must be provided at the project and parking entrances. Parking entrances should be designed to ensure safe pedestrian access and provide clean line-of-sight-walkways.

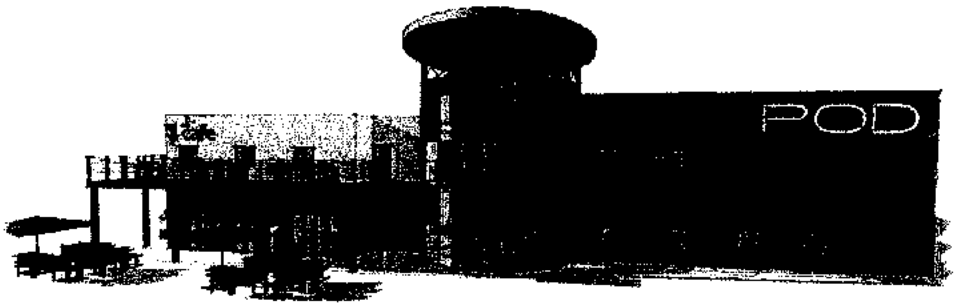
4.3 ARCHITECURAL DESIGN GUIDELINES

Architectural Character

Implementation of this Project Master Plan will result in a high-quality development that complements and enhances the existing neighborhood. Building elevations will be detailed and articulated with projections and recesses to avoid long, plain surfaces. The buildings will be characterized by different massing, materials and colors. The exhibits provided are intended as conceptual illustrations and do not depict final designs, nor should they limit the range of expression among the developer or their professional design team.

Color

- Approach materials to maintain a common, consistent architectural style within the development.
- Apply changes in material purposefully and in a manner corresponding to variations in the building mass.



**Conceptual rendering of proposed multi-use "POD" building. This illustration is conceptual and subject to change as the project's design is finalized and approved under the City's Design Review.*

Mechanical Equipment/Storage

- All air conditioning /heating equipment, gas and electric meters must be screened from public view with landscaping or fencing places outside of public view.
- Rooftop air conditioning must be screened
- Screening materials shall blend with building materials and design and landscaping.
- Exterior storage of equipment, supplies, refuse, or their receptacles is prohibited unless screened by landscape or solid walls.
- All exterior storage, trash receptacles, and dumpsters must be screened by landscaping, fencing or walls.

Signage

Project signage is intended to be adequate, functional and aesthetically pleasing. The project proposes to incorporate signage as a design element that compliments the project architecture, landscape and site plan. In accordance with the City of Indio Sign Ordinance, a comprehensive sign program will be developed to provide uniform standards for all signage required for the development including freeway pylon signs, project monument signs, tenant wall signs, and building address signs. It will further describe the typical location, size, color and lettering style of each sign type. The project includes a pylon sign approximately 50' high that will be visible from the freeway above the adjacent mesquite windrow that obscures the property on the north.

The following guidelines shall apply:

- All signs shall complement the project architecture.
- No project signage may be constructed until a comprehensive signage program for the project is approved per the City of Indio Sign Ordinance.
- Once constructed, all signs shall be maintained in an as-new condition.

4.4 LANDSCAPE DESIGN GUIDELINES

All ornamental landscaping in the project will rely on desert plant materials that comply with the water conservation requirements of Indio Water Authority. Irrigation for all areas will optimize water-conserving delivery techniques. Landscaping, hardscape treatment, lighting, and signage will be coordinated to provide a consistent and complimentary appearance for the project as a whole.

The overall landscape concept for the project is shown on Figure 8 & 9, *Conceptual Landscape Plan (east & west)* and illustrated in Figures 20, *Landscape Character Photos.*

The Garden Fellowship landscape overall is a design intended to give a garden grove experience to the congregation. Long hedge rows of various trees in formal patterns will dominate the overall planting layout with informal groves of trees to compliment. The shrub and groundcover planting design will also alternate between formality and informality.

Grass areas will be available for congregation and events and be flow from the hardscape path areas through the buildings.

The Jackson Street Frontage will be combinations of tree and shrub planting in a formal pattern and an open informal area on the southwest corner that will enable an open view in to the center of the church complex from the southwest corner. The main signage element for the will be also be located in this area.

Along the entire perimeter, rows of trees will wrap the parking and line the north and south streets. The shrub and groundcover planting in these areas will be informal and colorful.

The area surrounding the church buildings will be planted informally with planting areas and low seat walls.

Sign

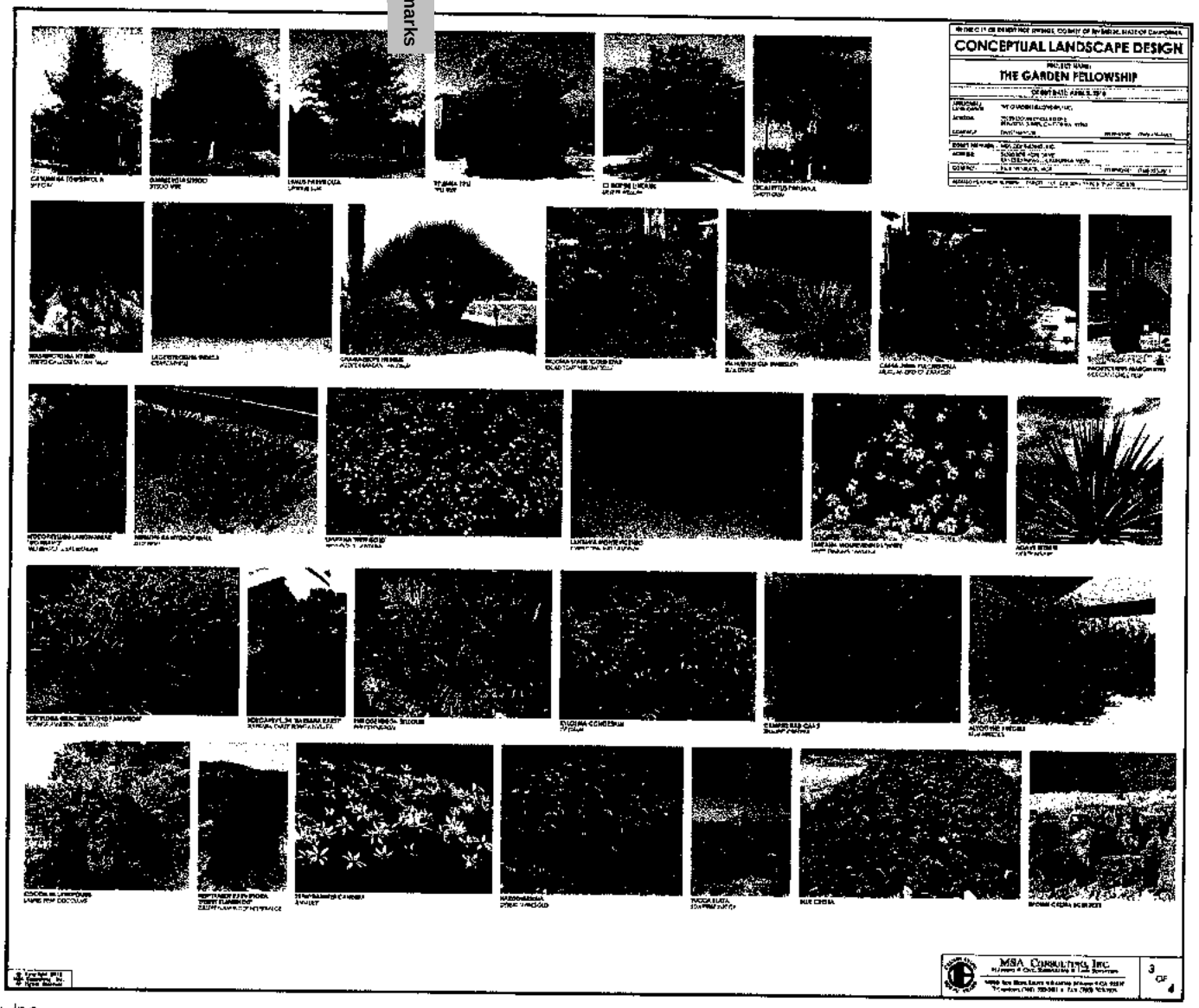
- The primary sign for the church will be located approximately in the southeast corner of property along Jackson Street.
-

Parking

- All parking areas will be screened with a continuous 3 ' high planting band of shrubs.
- Each parking island will be planting with two 15 gallon trees and five 5 gallon shrubs or groundcovers.

Trash Enclosures

- Trash enclosures shall be screened from public view with walls and planting.



Source: MSA Consulting, Inc.

Exhibit Date: April 6, 2018

LANDSCAPE CHARACTER PHOTOS

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NORTH
N.T.S.

FIGURE 13

Chapter 5: PLAN ADMINISTRATION

5.1 OVERVIEW

This chapter described the procedures for administration and implementation of the Project Master Plan.

5.2 IMPLEMENTATION

An Implementation Program is hereby established to realize the goals of the project. The program contains a number of legal, procedural and administrative elements. The purpose of this section is to familiarize City agencies and decision-makers as well as interested citizens with the applicant's goals and intentions for the project and to summarize the methodologies and procedures that will apply to subsequent development activities. The implementation program will take effect upon adoption of the Project Master Plan (PMP) and Mitigated Negative Declaration (MND).

The PMP establishes the general intent and comprehensive framework for development of the site. However, prior to construction, implementing approvals with greater design detail are required, as noted below.

Conditional Use Permit (CUP) - Development of a place of worship requires approval of a CUP in compliance with Section 159.097 of the City of Indio Municipal Code. The CUP requires a public hearing before the Planning Commission (Commission) for approval.

Design Review (DR) – A Design Review application is required for showing the site and architectural plans in greater detail for the proposed project. The DR requires a public hearing before the Planning Commission (Commission) for approval.

Airport Land Use Commission Review (ALUC): ALUC review is required when a local jurisdiction processes a legislative action like a General Plan Amendment, Specific Plan Amendment, Zone Change, or Zoning Ordinance.

Sign Permits - A comprehensive signage program will be developed for the Garden Fellowship Development. Individual signs proposed for the project are required to comply with the provisions of the sign program. These provisions will establish guidelines for sign creation and require both the developer and City approvals. Once written approval from the developer is obtained, all signs must then be submitted for review and administrative approval by the Director of Community Development Services in accordance with the provisions of the approved sign program.

5.3 AMENDMENT

Administrative Changes - Minor modifications that are consistent with the purpose and intent of the current Garden Fellowship PMP are allowed at the discretion of the Community Development Director or their designee. Therefore, it is intended that this Project Master Plan provide City Staff with the flexibility to interpret the details of project development as well as those items discussed in general terms in the PMP without requiring a PMP Amendment.

Requests for administrative changes shall be made in writing. If and when it is determined that changes or adjustments are necessary or appropriate, these shall be approved administratively by the Community Development Director or their designee for any component of this PMP within a twenty percent (20%) change to the requirements of the PMP. No public hearing shall be required for Administrative Approvals. After approval, any such administrative change shall be attached to the Project Master Plan as an addendum and may be further changed and amended from time to time as necessary.

Representative examples of administrative changes may include, but are not limited to:

- The addition of new information to the Project Master Plan maps or text that do not substantially change the effect of any regulation. The new information may include more detailed, site-specific information.

- Changes to community infrastructure such as drainage systems, roads, water and sewer systems, etc.

- Modification of architectural or landscape design criteria or details.

- Changes to the project design, improvements, or conditions of approval, if the change does not affect the overall concept or intensity of use of the approved project.

Formal Amendments - If the Community Development Director determines that the proposed change is not in substantial conformance with the intent of the current PMP approval, the PMP may be amended in accordance with the procedures set forth in the City of Indio Municipal Code.

5.4 INTERPRETATION

Uses Not Listed - All uses not specifically listed in this PMP are prohibited. However, the Community Development Director may determine that a use not listed is included within or comparable to a listed use and, once so determined; it shall be treated in the same manner as a listed use.

Application of Standards - Where there is ambiguity between the PMP and the Zoning Code, the PMP shall govern. Where a development standard is not specifically addressed in the Project Master Plan, the City Zoning Code shall apply.

5.5 ENFORCEMENT

The enforcement of the provisions of this PMP shall be as follows:

- The City of Indio Community Development Department shall enforce the development standards and design guidelines set forth herein.

- Any administrative decision or interpretation of this Project Master Plan may be appealed to the Planning Commission. Likewise, any decision by the Planning Commission may be appealed to the City Council per the provisions of Chapter 30 Section 30.89 of the City of Indio Municipal Code.

- The City of Indio shall administer the provisions of the Garden Fellowship PMP in accordance with the State of California Government Code, Subdivision Map Act, the City of Indio General Plan, and the City of Indio Municipal Code.

- The PMP development procedures, regulations, standards, and specifications shall supersede the relevant provisions of the City's Municipal Code, as they currently exist or may be amended in the future.

- All regulations, conditions, and programs contained herein shall be deemed separate distinct and independent provisions of this Project Master Plan. In the event that any such provision is held invalid or unconstitutional, the validity of all the remaining provisions of this Project Master Plan shall not be affected.

- Any development regulation and building requirement not addressed in this PMP shall be subject to all relevant City of Indio ordinances, codes, and regulations.

Return to Agenda

Open Bookmarks

APPENDIX B

Traffic Impact Analysis

Return to Agenda

Open Bookmarks

The Garden Fellowship

TRAFFIC IMPACT ANALYSIS

CITY OF INDIO

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SEPTEMBER 24, 2018

TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Ave	Avenue
Caltrans	California Department of Transportation
CIP	Capital Improvement Program
DIF	Development Impact Fee
E+P	Existing Plus Project
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
NP	No Project (same as Without Project)
PHF	Peak Hour Factor
Project	The Garden Fellowship
SCAG	Southern California Association of Governments
sf	Square Feet
St	Street
TIA	Traffic Impact Analysis
TUMF	Transportation Uniform Mitigation Fee
V/C	Volume-to-Capacity
VPH	Vehicles per Hour
WP	With Project

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1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for The Garden Fellowship ("Project") located west of Jefferson Street and north of Avenue 39 in the City of Indio as shown on Exhibit 1-1. The Project is anticipated to be in place with initial occupancy in 2020. Project buildout is anticipated to occur in 2025.

The purpose of this TIA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and recommend improvements to achieve acceptable circulation system operational conditions. Urban Crossroads, Inc. has prepared this traffic analysis through coordination with City of Indio staff, including discussion of key traffic impact study assumptions to ensure that that the jurisdictional requirements are addressed in the report. These assumptions include, but are not limited to, analysis locations, project traffic distribution, and opening year analysis scenarios. The findings and the recommendations in this report adhere to current acceptable engineering practices and reflect Urban Crossroads Inc.'s professional judgment.

1.2 DESCRIPTION OF PROPOSED PROJECT

The Project is a church campus containing an 1,800 seat worship center (of which 1,344 are fixed seats and 456 are portable seats) with separate accommodations for teens / children, along with ancillary uses such as an amphitheater, café, church office, maintenance, etc. Two Sunday services are planned to occur weekly, at which time peak traffic activity will be generated. The amphitheater will not be used concurrently with the sanctuary on a typical Sunday morning. Currently the plan for the new site is to have two Sunday Services at approximately 9:00 am and 11:00 am. Potential growth would likely result in the addition of a possible third / fourth service, if needed. Initial occupancy (Phase 1) is anticipated to include 900 seats in 2020, with Project buildout of all 1,800 seats anticipated in 2025.

Weddings are generally held on Saturdays. Weekday activity includes a service on Wednesday evening, along with Bible studies on Mondays and Tuesdays, but campus usage mid-week is significantly less than that of Sunday mornings. The normal weekly services, excluding special holiday events, usually attract up to 80-90% capacity.

The Project is primarily accessed via Youngs Way (full access) to Jefferson Street, while a secondary access is provided via South Driveway (right in / right out only) to Jefferson Street, as shown on Exhibit 1-2.

The Project will construct off-site street improvements on the following streets.

- Jefferson Street – half street improvement on the west side as a 4 lane secondary road and construct adequate transitions and tapers to join existing improvements north and south of the Project site.
- Youngs Way, full street improvements – as a two lane collector road.

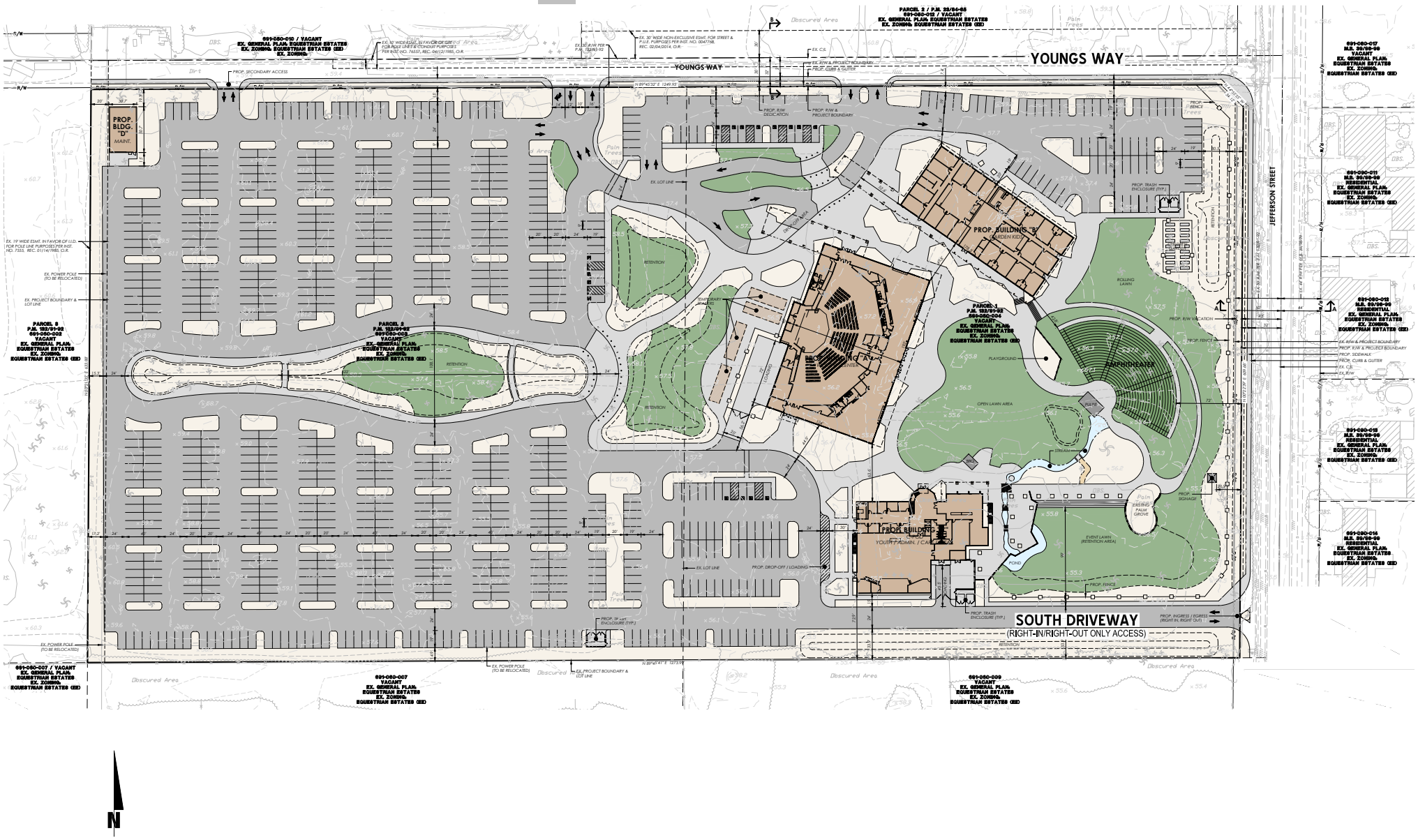
EXHIBIT Open Bookmarks REA

LEGEND:

- 3 = EXISTING ANALYSIS LOCATION
- 2 = FUTURE ANALYSIS LOCATION
- = FUTURE ROADWAY / DIRT

N

EXHIBIT 1-2: SITE PLAN



In order to estimate trips generated by the proposed Project, data was collected by church staff and volunteers, coordinated with Urban Crossroads, Inc on a peak season Sunday. The purpose of the collection effort was to understand traffic activity generated by those attending services at The Garden Fellowship existing church property in order to establish inbound and outbound rates reflecting the family structure of the attendees. This was achieved by recording vehicles entering and exiting all parking areas which serve the existing site.

The church attendance, vehicular activity and parking data also accounts for those parking on adjacent properties and streets and walking into the existing site between 7:30am - 2:00pm (in order to capture multiple service arrivals and departures), recording in 15 minute increments. This data has been processed by Urban Crossroads, Inc. staff in order to develop inbound and outbound trip generation rates that can be used to evaluate a larger church with similar congregation arrival and departure patterns.

The proposed Project is anticipated to generate approximately 3,098 trip-ends per fully occupied Sunday, with 1,413 vehicles per hour (VPH) during the AM peak hour between services, and 763 VPH during the midday (MD) peak hour after the second service. For Project Phase 1 Opening Year (2020) conditions, approximately 1,868 trip-ends per fully occupied Sunday, with 644 vehicles per hour (VPH) during the AM peak hour between services, and 347 VPH during the midday (MD) peak hour after the second service are anticipated.

1.3 STUDY AREA AND ANALYSIS SCENARIOS

1.3.1 INTERSECTIONS

The following five study area intersections shown on Exhibit 1-1 and listed in Table 1-1 were selected for this TIA based on consultation with City of Indio staff.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location
1	Jefferson/Avenue 38
2	Jefferson/Avenue 39
3	Jefferson/Avenue 40
4	Jefferson/Youngs Way
5	Jefferson/South Driveway

1.3.2 ANALYSIS SCENARIOS

In accordance with discussions with City of Indio staff, this study has analyzed the following scenarios on a typical Sunday morning:

- Existing peak season conditions
- Existing plus Project (E+P) Conditions
- Opening Year (2020) Ambient Conditions

- Opening Year (2020) With Project Conditions
- Project Buildout Year (2025) Ambient Conditions
- Project Buildout Year (2025) With Project Conditions

Detailed descriptions of each analysis scenario can be found in Section 5.1 of this TIA. The proposed Project land use is consistent with the City's General Plan.

1.4 CRITERIA FOR DETERMINING SIGNIFICANT IMPACTS AT INTERSECTIONS

For the purposes of this study, it was considered that a significant impact would occur (a) if the proposed Project causes the level of service to degrade to below LOS D, or (b) if the proposed Project causes the level of service to change from LOS E to LOS F.

Additionally, significant impact would occur at the intersection level if the proposed Project causes an increase in delay of 2 seconds or more to an intersection already operating at LOS E; or 1 second or more to an intersection operating at LOS F, as indicated in Table 1-2.

TABLE 1-2: IMPACT CRITERIA FOR INTERSECTIONS ALREADY OPERATING AT LOS "E" OR LOS "F"

Significant Changes in LOS	
LOS "E"	An increase in delay of 2 seconds or more
LOS "F"	An increase in delay of 1 second or more

1.5 SUMMARY OF FINDINGS

The results of the potentially significant impacts for the study area intersections for E+P, Opening Year (2020) and Project Buildout Year (2025) traffic conditions are discussed in detail in Section 6 of this report.

1.5.1 EXISTING, OPENING YEAR (2020), AND PROJECT BUILDOUT YEAR (2025) CONDITIONS AT INTERSECTIONS

The existing study area intersections are currently operating at an acceptable LOS during the Sunday peak hours and are anticipated to continue to operate at an acceptable LOS for Opening Year (2020) ambient and Opening Year (2020) with project conditions Project Buildout Year (2025) ambient and Project Buildout Year (2025) with project conditions, with on-site and adjacent access improvements recommended below.

1.5.2 RECOMMENDED IMPROVEMENTS

For the purpose of this analysis, the following improvements are recommended in conjunction with the construction the Project site:

ROADWAY IMPROVEMENTS

Construct ***Jefferson Street*** to its half-section width as a 4-lane secondary roadway from Youngs Way to the southerly project boundary.

Construct ***Youngs Way*** to its full-section width as a two-lane collector roadway, within available right of way, from the westerly project boundary to Jefferson Street.

INTERSECTION IMPROVEMENTS

Jefferson Street / Youngs Way (#4)

- Provide stop control for the eastbound approach.
- Northbound (NB) Approach: Provide separate left turn lane, maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide separate left turn lane with a receiving refuge lane on Jefferson Street and provide separate right turn lane

Jefferson Street / South Driveway (#5)

- Restrict South Driveway to right turns in and right turns out only
- Provide stop control for the eastbound approach
- Northbound (NB) Approach: Maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide right turn lane

1.5.3 PARKING SUPPLY AND DEMAND

Parking demand has been calculated using the City of Indio Zoning requirement, and also via data collection and analysis from the existing church site. Eight hundred fifty-three (853) parking spaces are currently provided on the project site plan.

The Project includes a maximum 1,800 seats in the new worship center. Parking demand at Project Buildout is anticipated to be in the range of 820 to 1,019 (at maximum capacity during special occasions) required parking spaces. If a parking demand overage is found, overflow parking as depicted on the on-site circulation exhibit as well as parking management strategies would need to be evaluated and implemented.

2 PROPOSED DEVELOPMENT

2.1 LOCATION

The proposed Project is located west of Jefferson Street and north of Avenue 39 in the City of Indio as shown on Exhibit 1-1 (previously presented). The project is primarily accessed via Youngs Way and Jefferson Street.

2.2 LAND USE AND INTENSITY

The Project is a church campus containing a maximum 1,800 seat worship center (of which 1,344 are fixed seats and 456 are portable seats) with separate accommodations for teens / children, along with ancillary uses such as an amphitheater, café, church office, maintenance, etc. Two Sunday morning services are anticipated. The amphitheater will not be used concurrently with the sanctuary on a typical Sunday morning.

Outside of Sunday mornings, campus usage is typically less active, with a mid-week service on Wednesday evening, along with Bible studies on Mondays, Tuesdays, and Saturdays. Weddings are generally held on Saturdays.

Eight hundred fifty-three (853) parking spaces are currently provided on the project site plan.

The Project is generally consistent with the General Plan of the City of Indio, which includes Equestrian Estates in the Project area. Places of worship are allowed with a Conditional Use Permit.

2.3 SITE PLAN AND PROJECT ACCESS

The Project is primarily accessed via Youngs Way (full access) to Jefferson Street and a secondary access is provided via South Driveway (right in / right out only) to Jefferson Street, as shown on Exhibit 1-2.

The Project will construct off-site street improvements on the following streets.

- Jefferson Street –half street improvement on the west side as a 4 lane secondary road and construct adequate transitions and tapers to join existing improvements north and south of the Project site.
- Youngs Way, full street improvements – as a two lane collector road.

2.4 PROJECT TIMING

The Project is anticipated to be in place with initial occupancy (Phase 1 of 900 seats) in 2020. Project buildout of 1,800 seats is anticipated to occur in 2025.

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3 AREA CONDITIONS

This section provides a summary of the existing study area, the City of Indio General Plan Circulation Network, and a review of existing peak hour intersection operations, roadway segment capacity, and traffic signal warrant analyses.

3.1 STUDY AREA

Pursuant to discussions with City of Indio staff, the study area includes the following three existing intersections:

ID	Intersection Location
1	Jefferson/Avenue 38
2	Jefferson/Avenue 39
3	Jefferson/Avenue 40

The locations of these intersections were shown previously on Exhibit 1-2.

Pedestrian facilities include sidewalks, crosswalks, curb ramps, and other amenities. Exhibit 3-1 displays the study roadway segments with existing sidewalks denoted as lines. As shown, sidewalks can be present on one or both sides of the street, and in some cases, they run intermittently along the roadway.

Exhibit 3-2 displays the location of existing bicycle facilities in the study area. The four classifications of bicycle facilities recognized by the California Streets and Highways Code include bike path, bike lane, bike route, and cycle track classifications.

3.2 EXISTING LAND USES

The existing land uses adjacent to the Project site are residential and agricultural uses. Schools located near the Project include Shadow Hills High School (west of Jefferson Street, south of Avenue 39) and Desert Ridge Academy Middle School (south of Avenue 39, west of Jefferson Street).

3.3 AREA ROADWAY SYSTEM

Exhibit 3-3 illustrates the study area intersections located near the proposed Project, identifying the number of through traffic lanes for existing roadways and intersection traffic controls.

3.3.1 EXISTING ROADWAY CONFIGURATIONS

Jefferson Street

Jefferson Street provides connections to residential neighborhoods north of I-10, the I-10 freeway, and other community features south of the I-10 freeway. Jefferson Street from Avenue 38 to Avenue 39 is a two-lane divided roadway. From Avenue 39 to Avenue 40, Jefferson Street is a four-lane divided roadway.

EXHIBIT 3-1: EXISTING SIDEWALK INVENTORY

Source: City of Indio General Plan Update - Mobility Technical Report (May 2016)

Legend

- Existing Sidewalk
- Intermittent Sidewalk
- Roads
- Railroads
- Sphere of Influence
- City Boundary

N

EXHIBIT 3-2: EXISTING BICYCLE FACILITIES

Source: City of Indio General Plan Update - Mobility Technical Report (May 2016)

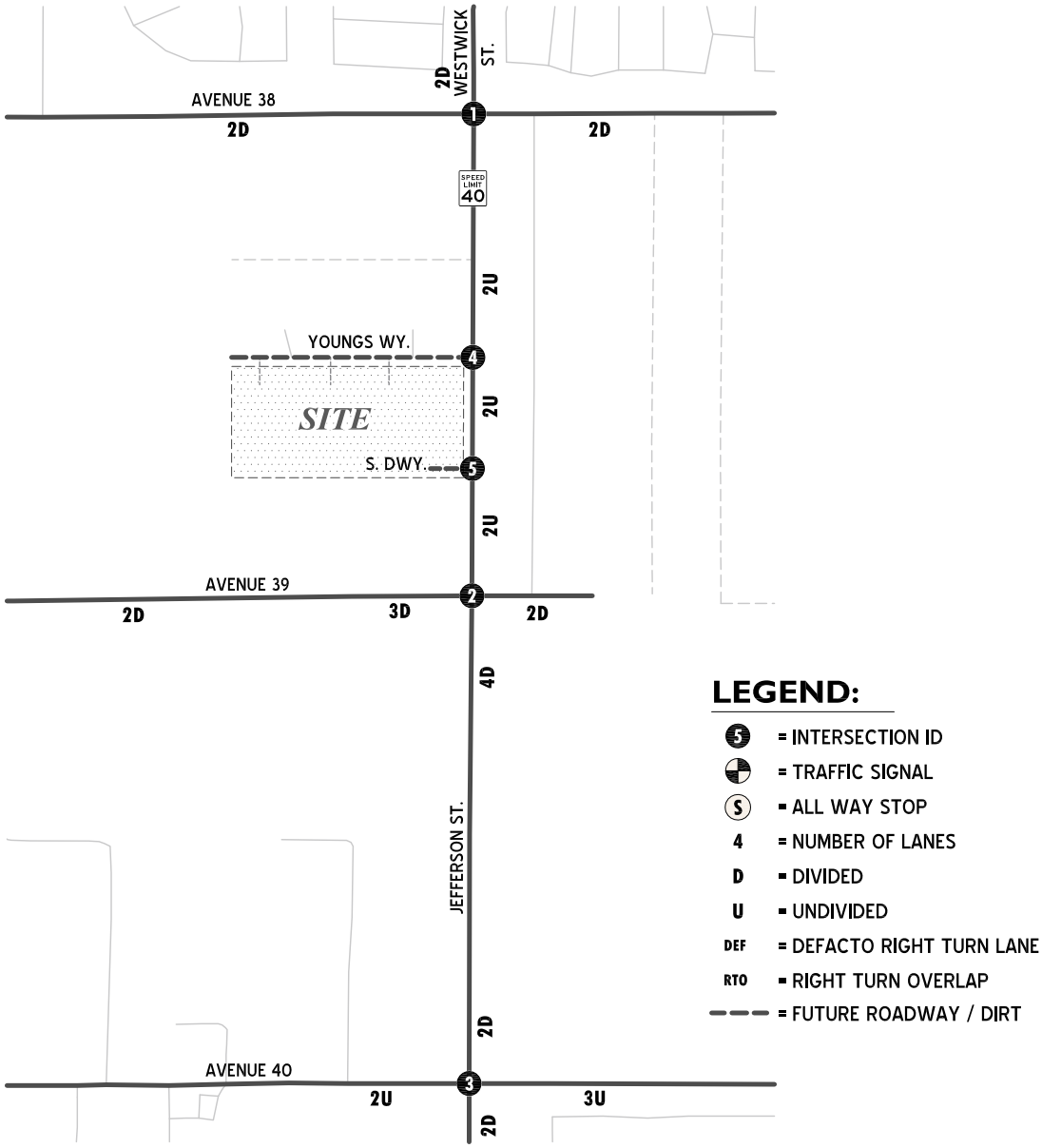
Legend

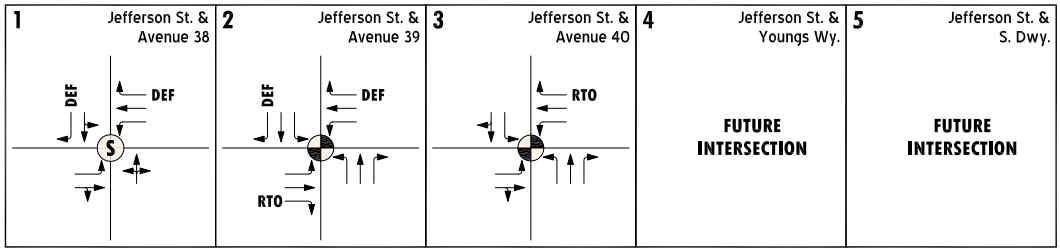
Existing Bicycle Facilities

- Class I - Bike Path
- Class II - Bike Lane
- Roads
- Railroads
- Sphere of Influence
- City Boundary

N

EXHIBIT 3-3: EXISTING NUMBER OF T ES AND INTERSECTION CONTROLS





N

Avenue 38

Avenue 38 west of and east of Jefferson Street has two lanes, divided by a continuous center left-turn lane.

Avenue 39

Avenue 39 west of Jefferson Street has two eastbound lanes and one westbound lane and a center median. East of Jefferson Street, Avenue 39 has two lanes and a continuous center left-turn lane.

Avenue 40

Avenue 40 east of Jefferson Street has two eastbound lanes and one westbound lane without a center median. West of Jefferson Street, Avenue 40 has two lanes without a center median.

3.3.2 City of Indio General Plan Circulation Element

The General Plan Circulation Element serves to identify the City of Indio's future vision and implementation plan for transportation for the next 20 to 30 years. A new General Plan including Mobility Element (to replace the Circulation Element) is expected to be approved in 2018.

Exhibit 3-4 displays the General Plan Circulation Element roadway classifications. Four-lane roadways are divided by either a raised median with turn pockets or a center left-turn lane. These roadways provide access to major community resources. Provision for bicycle and pedestrian mobility should be emphasized along 4-lane roadways due to the variety of land uses they provide access to including schools, parks and open space, commercial destinations, and mixed uses.

Jefferson Street is classified as a 6-lane Major Arterial south of Avenue 40. Between Avenue 40 and Avenue 38, Jefferson Street is a 4-lane Secondary Highway, which includes a Median or Center Left-Turn Lane. Avenue 38 and Avenue 40 are also 4-lane Secondary Highways in the study area.

3.4 Traffic Volumes and Conditions

The intersection LOS analysis is based on the traffic volumes observed during the Sunday morning and mid day peak hour conditions using traffic count data collected in February, 2018.

The following peak hours were selected for analysis:

- Sunday AM Peak Hour (peak hour between 9:30 AM and 11:30 AM)
- Sunday MD Peak Hour (peak hour between 12:00 PM and 2:00 PM)

Sunday AM or morning (9:30am to 11:30am) traffic counts capture 1st service departures and 2nd service arrivals. Sunday MD or midday (12:00pm to 2:00pm) intersection turning movement counts capture 2nd service and staff departures. AM & MD traffic counts were collected at Jefferson/Avenue 38, Jefferson/Avenue 39, and Jefferson/Avenue 40. The existing AM & MD peak hour intersection volumes are shown on Exhibit 3-5.

EXHIBIT 3-4: CITY OF INDIO GENERAL PLAN CIRCULATION ELEMENT ROADWAY CLASSIFICATIONS

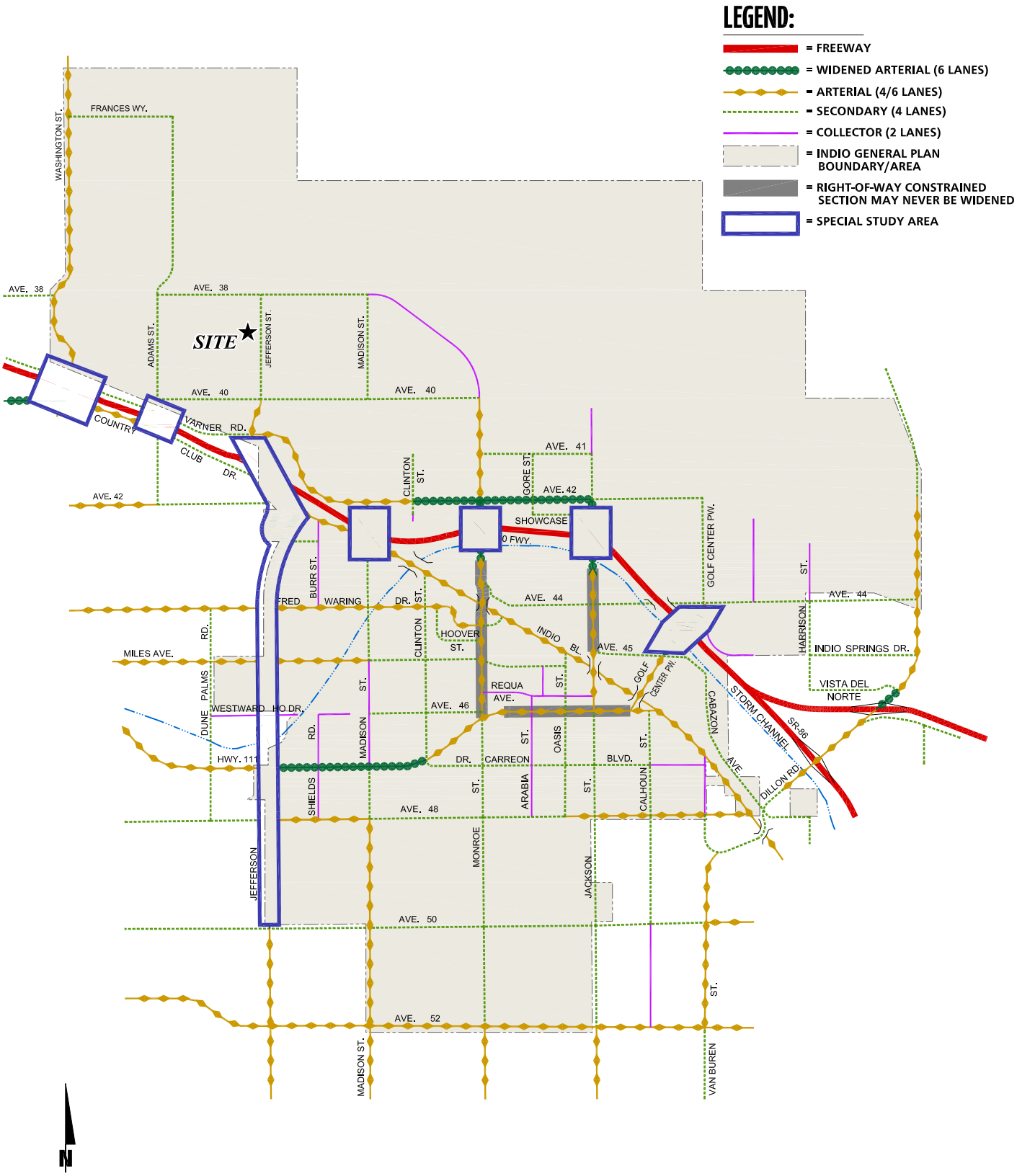
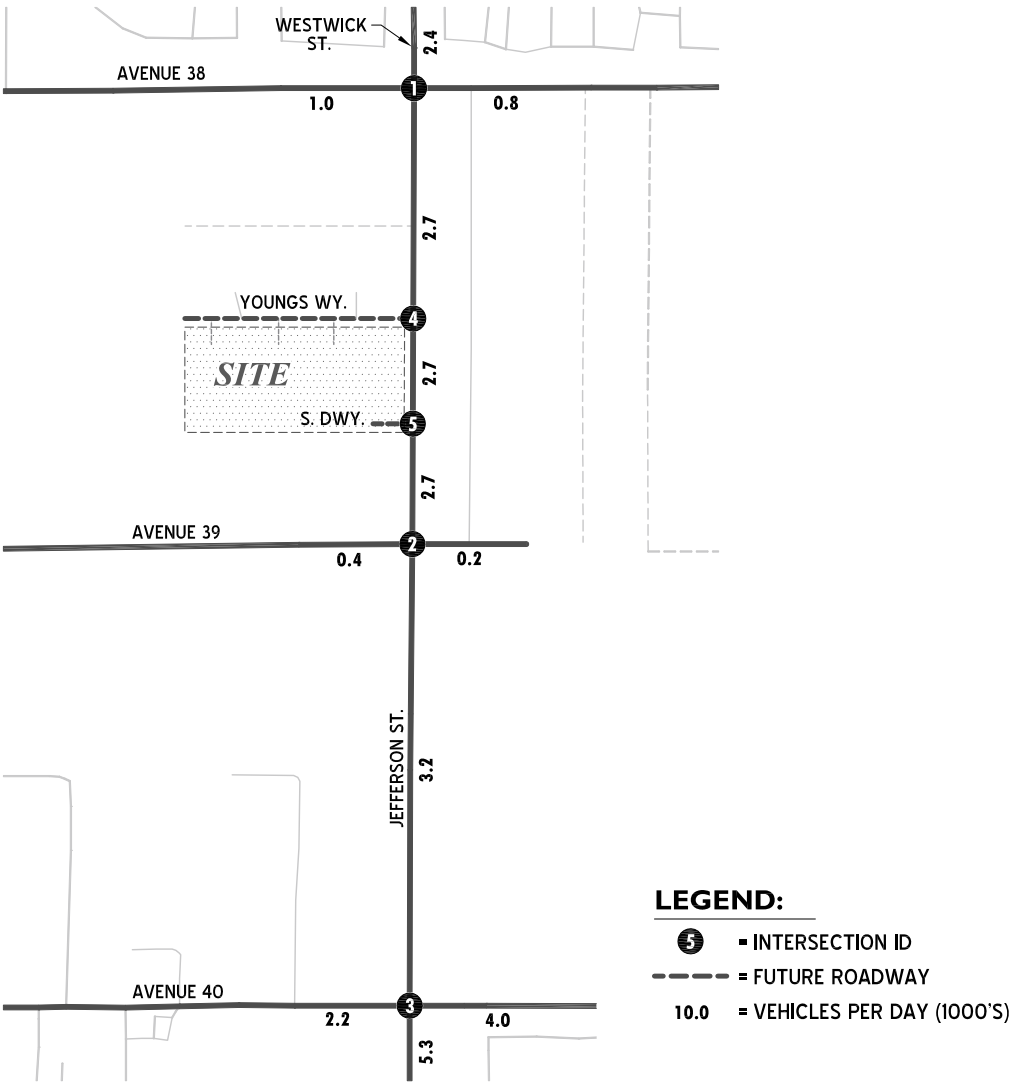


EXHIBIT 3-5: EXISTING (Open Bookmarks / TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES

1 Jefferson St. & Avenue 38	2 Jefferson St. & Avenue 39	3 Jefferson St. & Avenue 40	4 Jefferson St. & Youngs Wy.	5 Jefferson St. & S. Dwy.
13 93 8 / 6 11 7	0 116 0 / 0 2 6	5 128 7 / 8 80 80	FUTURE INTERSECTION	FUTURE INTERSECTION
16 11 12 / 9 52 6	2 2 12 / 14 69 6	1 46 23 / 21 82 58		

MD PEAK HOUR INTERSECTION VOLUMES

1 Jefferson St. & Avenue 38	2 Jefferson St. & Avenue 39	3 Jefferson St. & Avenue 40	4 Jefferson St. & Youngs Wy.	5 Jefferson St. & S. Dwy.
6 70 10 / 9 14 9	0 93 1 / 2 2 8	6 99 8 / 8 48 79	FUTURE INTERSECTION	FUTURE INTERSECTION
13 10 13 / 20 71 9	4 0 12 / 15 86 5	5 60 24 / 22 99 94		

N

Existing ADT volumes are based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg where counts are not available:

Sunday MD Peak Hour (Approach Volume + Exit Volume) x 13.514 = Leg Volume

The City of Indio experiences seasonal population variations over the course of the year, with relatively higher populations during the winter months from January to the end of March. Counts used in this analysis were collected during February 2018, and do not require seasonal adjustments. The raw peak hour turning movement traffic count data sheets and 24-hour Sunday roadway segment counts are included in Appendix "3.1".

3.5 LEVEL OF SERVICE DEFINITIONS AND ANALYSIS METHODOLOGIES

Signalized intersection operations analysis is based on the methodology described in HCM 6.

3.5.1 SIGNALIZED INTERSECTIONS

Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 3-1.

TABLE 3-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM, 6th Edition

Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network. The LOS analysis for signalized intersections has been performed using optimized signal timing for existing traffic conditions. Signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in the signalized intersection analysis. Signal timing for study area intersections have been requested and utilized. Where signal timing was unavailable, the local accepted standards were utilized in lieu of actual signal timing.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15 minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour.

3.5.2 UNSIGNALIZED INTERSECTIONS

The City of Indio requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM 6. The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 3-2).

TABLE 3-2: UNSIGNALIZED INTERSECTION DESCRIPTION OF LOS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM, 6th Edition

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane.

3.6 CITY OF INDIO REQUIRED INTERSECTION LEVEL OF SERVICE

For the purposes of this study, it was considered that a significant impact would occur (a) if the proposed Project causes the level of service to degrade to below LOS D, or (b) if the proposed Project causes the level of service to change from LOS E to LOS F. Additionally, significant impact would occur at the intersection level if the proposed Project causes an increase in delay of 2 seconds or more to an intersection already operating at LOS E; or 1 second or more to an intersection operating at LOS F, as indicated in Table 1-2.

3.7 EXISTING INTERSECTION LEVEL OF SERVICE

Existing Sunday AM and MD peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 3.5 *Level of Service Definitions and Analysis Methodologies* of this report. The intersection operations analysis results are summarized in Table 3-3 which indicates that existing study area intersections currently operate at an acceptable LOS during the Sunday AM and MD peak hours.

The intersection operations analysis worksheets are included in Appendix "3.2" of this TIA.

3.8 TRAFFIC SIGNAL WARRANT ANALYSIS

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. Both the *FHWA's MUTCD* and the *MUTCD 2014 California Supplement* indicate that the installation of a traffic signal should be considered if one or more of the signal warrants are met. Specifically, this TIA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions. Warrant 3 criteria are basically identical for both the *FHWA's MUTCD* and the *MUTCD 2014 California Supplement*. Warrant 3 is appropriate to use for this TIA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

The traffic signal warrant worksheets for are included in Appendix "3.3" of this TIA.

As shown in Appendix 3.3 the existing unsignalized intersection of Jefferson Street/Avenue 38 (#1) and future intersection of Jefferson Street/Youngs Way (#4) are not anticipated to meet traffic signal warrants under existing (2018), Opening Year (2020), or Project Buildout Year (2025) conditions.

TABLE 3-3: INTERSECTION ANALYSIS SUMMARY FOR EXISTING (2018) CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	8.2	8.3	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	5.4	6.3	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	17.5	16.4	B	B
4	Jefferson St. / Youngs Wy.	-	Future Intersection															
5	Jefferson St. / S. Project Dwy.	-	Future Intersection															

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

[3] TS = Traffic Signal; AWS = All-Way Stop

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4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is a church campus containing an 1,800 seat worship center (of which 1,344 are fixed seats and 456 are portable seats) with separate accommodations for teens / children, along with ancillary uses such as an amphitheater, café, church office, maintenance, etc. The amphitheater will not be used concurrently with the sanctuary on a typical Sunday morning.

Outside of Sunday mornings, campus usage is typically less active, with a mid-week service on Wednesday evening, along with Bible studies on Mondays, Tuesdays, and Saturdays. Weddings are generally held on Saturdays.

The Project is primarily accessed via Youngs Way (full access) to Jefferson Street and a secondary access is provided via South Driveway (right in / right out only) to Jefferson Street, as shown on Exhibit 1-2. The Project will construct off-site street improvements on the following streets.

- Jefferson Street –half street improvement on the west side as a 4 lane secondary road and construct adequate transitions and tapers to join existing improvements north and south of the Project site.
- Youngs Way, full street improvements – as a two lane collector road.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

In order to determine trips generated by the Project's proposed land uses, data was collected by church staff and volunteers and coordinated by Urban Crossroads, Inc on a peak season Sunday (see Appendix 4.1). The purpose of the collection effort was to understand traffic generated by those attending the services at The Garden Fellowship in their existing church property, in order to establish inbound and outbound rates that are reflective of the age and family structure of their attendees. This was achieved by recording vehicles entering and exiting the existing site – as well as those parking on adjacent properties and on Country Club Boulevard – between 7:30am - 2:00pm (in order to capture 1st and 2nd service arrivals and departures), recording in 15 minute increments.

This data has been processed by Urban Crossroads, Inc. staff in order to develop inbound and outbound trip generation rates that can be used to evaluate a larger church with a similar congregation. Table 4-1 summarizes the results of this analysis.

The proposed Project is anticipated to generate approximately 3,098 trip-ends per day on a typical Sunday with 1,413 vehicles per hour (VPH) during the AM peak hour, and 763 VPH

TABLE 4-1: THE GARDEN FELLOWSHIP TRIP GENERATION SUMMARY

Sunday Trip Generation Rates										
	ITE LU		AM Peak Hour			MD Peak Hour			
Land Use	Code	Quantity	In	Out	Total	In	Out	Total	Daily
Church	-[1]	1800 SEATS	0.357	0.428	0.785	0.018	0.406	0.424	1.721

Sunday Trip Generation Results									
	ITE LU		AM Peak Hour			MD Peak Hour			
Land Use	Code	Quantity	In	Out	Total	In	Out	Total	Daily
PHASE 1 (2020)									
Church	-[1]	900 SEATS	293	351	644	14	333	347	1,868
PROJECT BUILDOUT (2025)									
Church	-[1]	1800 SEATS	643	770	1,413	32	731	763	3,098

[1] Source: Sunday survey data at existing site (See Appendix 4.1)

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during the midday (MD) peak hour. For Project Phase 1 Opening Year (2020) conditions, approximately 1,868 trip-ends per fully occupied Sunday, with 644 vehicles per hour (VPH) during the AM peak hour between services, and 347 VPH during the midday (MD) peak hour after the second service are anticipated.

4.2 PROJECT TRIP DISTRIBUTION

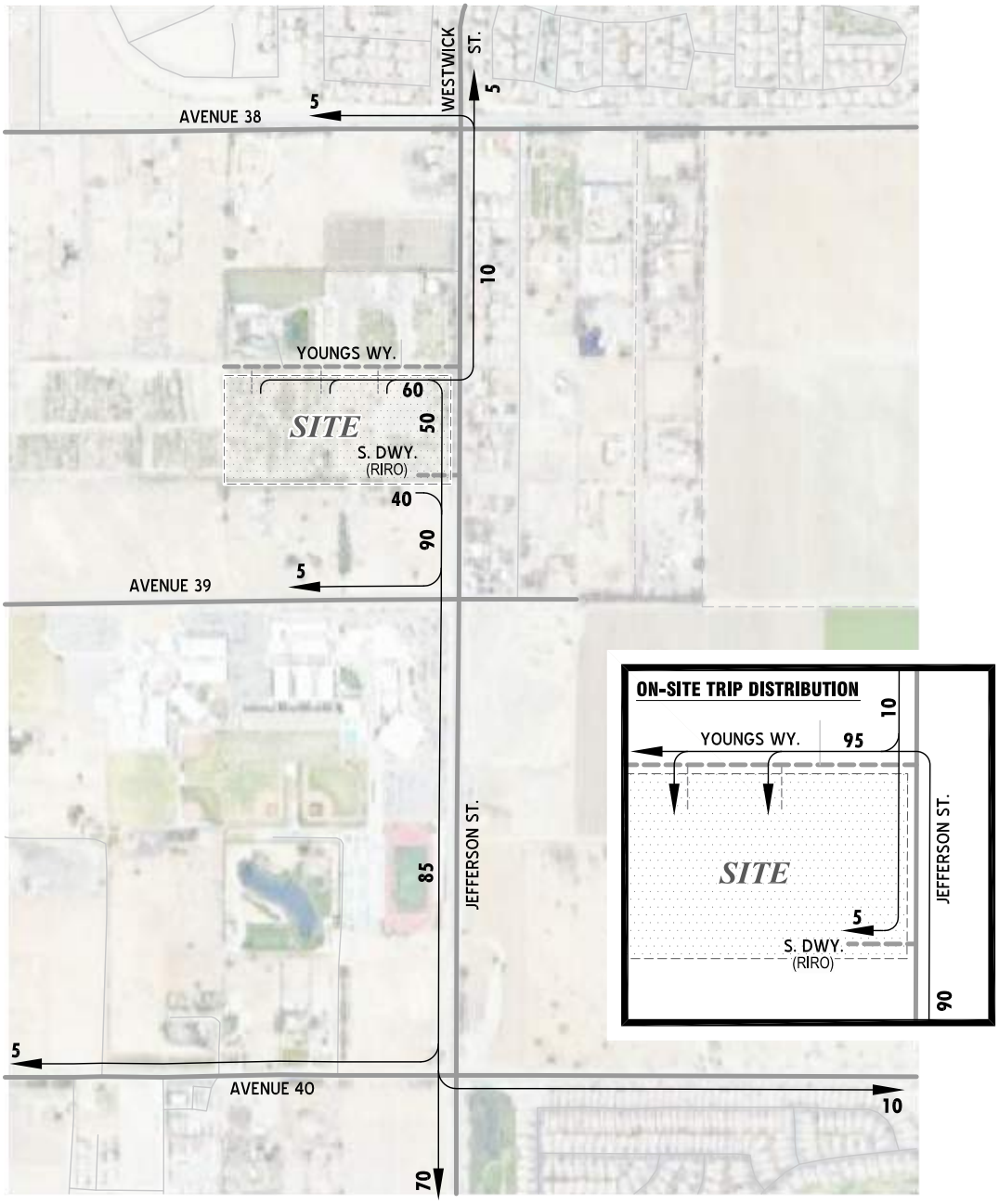
The proposed Project trip distribution patterns are based on the arrival/departure data collected on a peak season Sunday, combined with membership records that were grouped by City / zip code prior to being released to Urban Crossroads, Inc. The church attendee home-based dataset (see Appendix 4.1) was particularly useful in determining likely Sunday access routes to / from the new site location. Existing Sunday AM and MD peak hour turning movement count data that was taken for this work effort was also considered, as well as local knowledge of regional travel patterns. The proposed Project's trip distribution patterns are illustrated graphically on Exhibit 4-1.

Although the use of public transit, walking, and/or bicycling have the potential to reduce Project-related traffic, such reductions have not been taken into considerations in this traffic study in order to provide a conservative analysis of the Project's potential to contribute to circulation system deficiencies.

4.3 TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Sunday AM and MD peak hour intersection turning movement volumes are shown on Exhibit 4-2. Typical Sunday ADT volumes generated by the project are also shown.

EXHIBIT 4-1: THE GARDEN FE OJECT TRIP DISTRIBUTION



LEGEND:

10 = PERCENT TO/FROM PROJECT

= FUTURE ROADWAY / DIRT

(RIRO) = RIGHT-IN/RIGHT-OUT ONLY ACCESS

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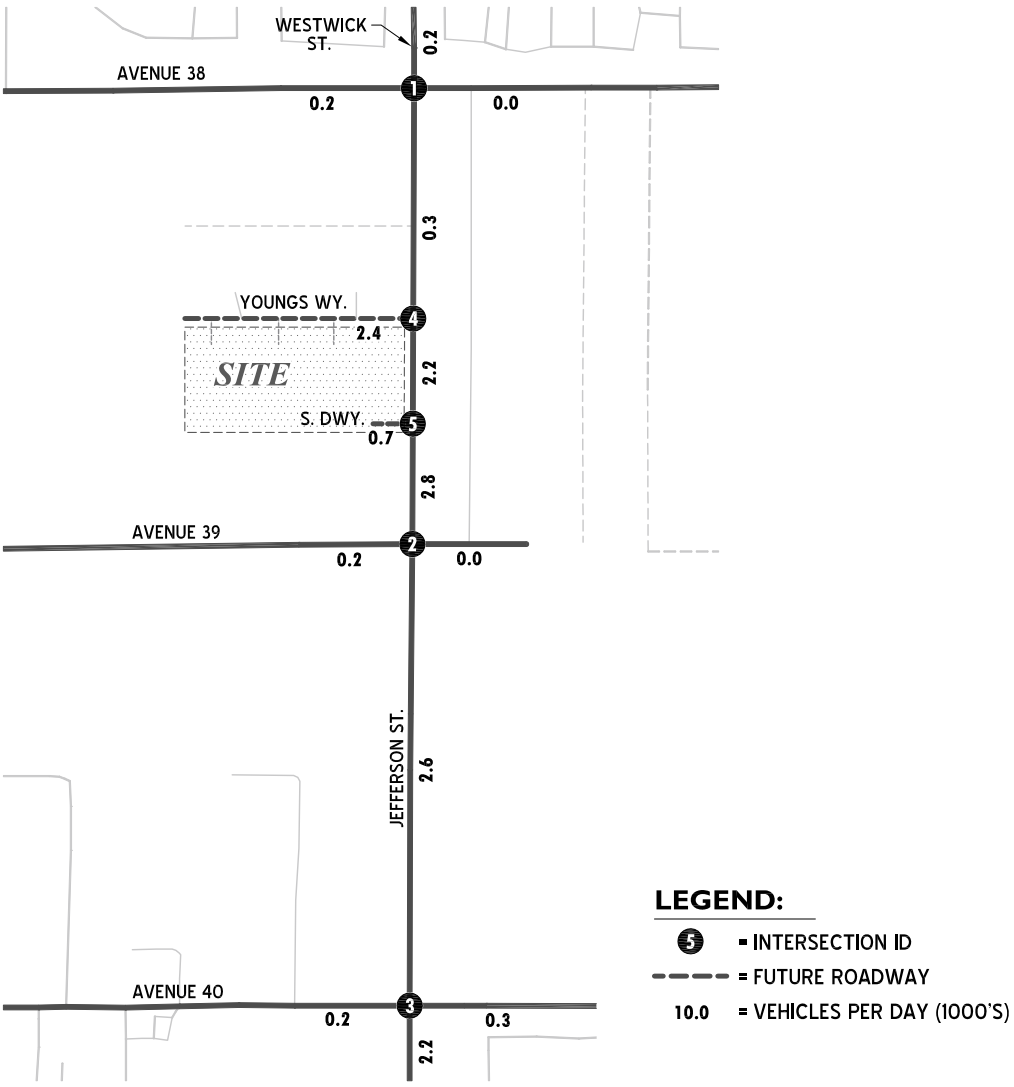
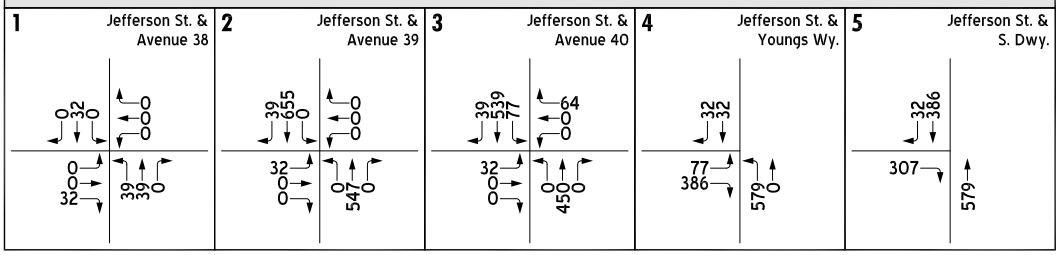
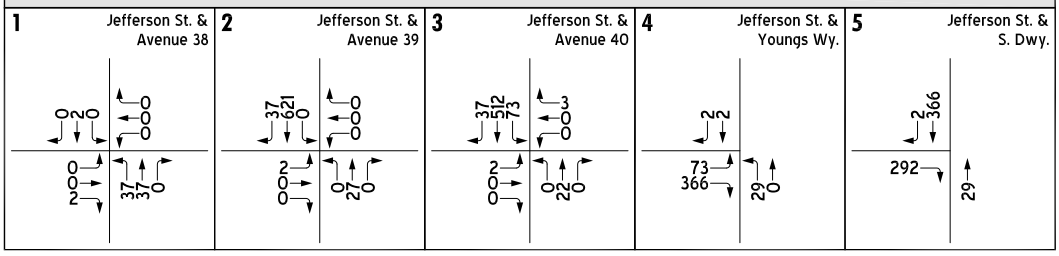
EXHIBIT 4-2: PROJECT (Open Bookmarks TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES



MD PEAK HOUR INTERSECTION VOLUMES



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5 TRAFFIC ANALYSIS

This section discusses the results of the HCM intersection analysis. This section also identifies any potentially significant Project and cumulative traffic impacts to the study area intersections.

5.1 TRAFFIC IMPACT SCENARIOS

In accordance with discussions with the City of Indio's traffic engineer, this study has analyzed the following future scenarios:

- Existing plus Project (E+P) Conditions
- Opening Year (2020) Ambient Conditions
- Opening Year (2020) With Project Conditions
- Project Buildout Year (2025) Ambient Conditions
- Project Buildout Year (2025) With Project Conditions

5.1.1 EXISTING PLUS PROJECT CONDITIONS

The Existing plus Project (E+P) traffic conditions analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing traffic conditions. For the purposes of this analysis, the E+P analysis scenario was utilized to determine potentially significant Project impacts associated solely with the development of the proposed Project and the corresponding mitigation measures necessary to mitigate these impacts.

5.1.2 OPENING YEAR (2020) AMBIENT CONDITIONS

The Opening Year (2020) Ambient traffic conditions analysis will be utilized to determine if improvements funded through local and regional transportation mitigation fee programs such as the Transportation Uniform Mitigation Fee (TUMF) program, City of Indio Development Impact Fee (DIF) program, or other approved funding mechanism can accommodate the near-term cumulative traffic at the target LOS identified in the City of Indio's traffic study guidelines. For the purposes of this analysis, a comparison between the Opening Year (2020) Ambient Without Project analysis scenario and the Opening Year (2020) With Project analysis scenario was utilized to determine potentially significant cumulative impacts.

5.1.3 PROJECT BUILDOUT YEAR (2025) AMBIENT CONDITIONS

The Project Buildout Year (2025) Ambient traffic conditions analysis will be utilized to determine if improvements funded through local and regional transportation mitigation fee programs such as the Transportation Uniform Mitigation Fee (TUMF) program, City of Indio Development Impact Fee (DIF) program, or other approved funding mechanism can accommodate the near-term cumulative traffic at the target LOS identified in the City of Indio's traffic study guidelines. For the purposes of this analysis, a comparison between the Project Buildout Year (2025) Ambient Without Project analysis scenario and the Project Buildout Year

(2025) With Project analysis scenario was utilized to determine potentially significant cumulative impacts.

5.2 EXISTING PLUS PROJECT CONDITIONS

E+P Sunday AM and MD peak hour volumes are shown on Exhibit 5-1. ADT volumes are also shown on Exhibit 5-1 for Existing plus Project conditions.

LOS calculations were conducted for the study intersections to evaluate their operations under E+P Sunday AM and MD traffic conditions with existing roadway and intersection geometrics. The intersection analysis results are summarized in Table 5-1, which indicates that the study area intersections are anticipated to continue to operate at an acceptable LOS (i.e., LOS "D" or better), with project on-site and adjacent access improvements.

The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix "5.1" of this TIA.

5.3 OPENING YEAR (2020) AMBIENT CONDITIONS

Opening Year (2020) Ambient Sunday AM and MD traffic volumes are shown on Exhibit 5-2. Opening Year (2020) With Project Sunday AM and MD traffic volumes are shown on Exhibit 5-3.

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year (2020) Ambient Without and With Project traffic conditions, with existing roadway and intersection geometrics. The intersection analysis results are summarized in Tables 5-2 and 5-3, which indicates that study area intersections are anticipated to continue to operate at an acceptable LOS under Opening Year (2020) Ambient With Project traffic conditions (i.e., LOS "D" or better), with project on-site and adjacent access improvements..

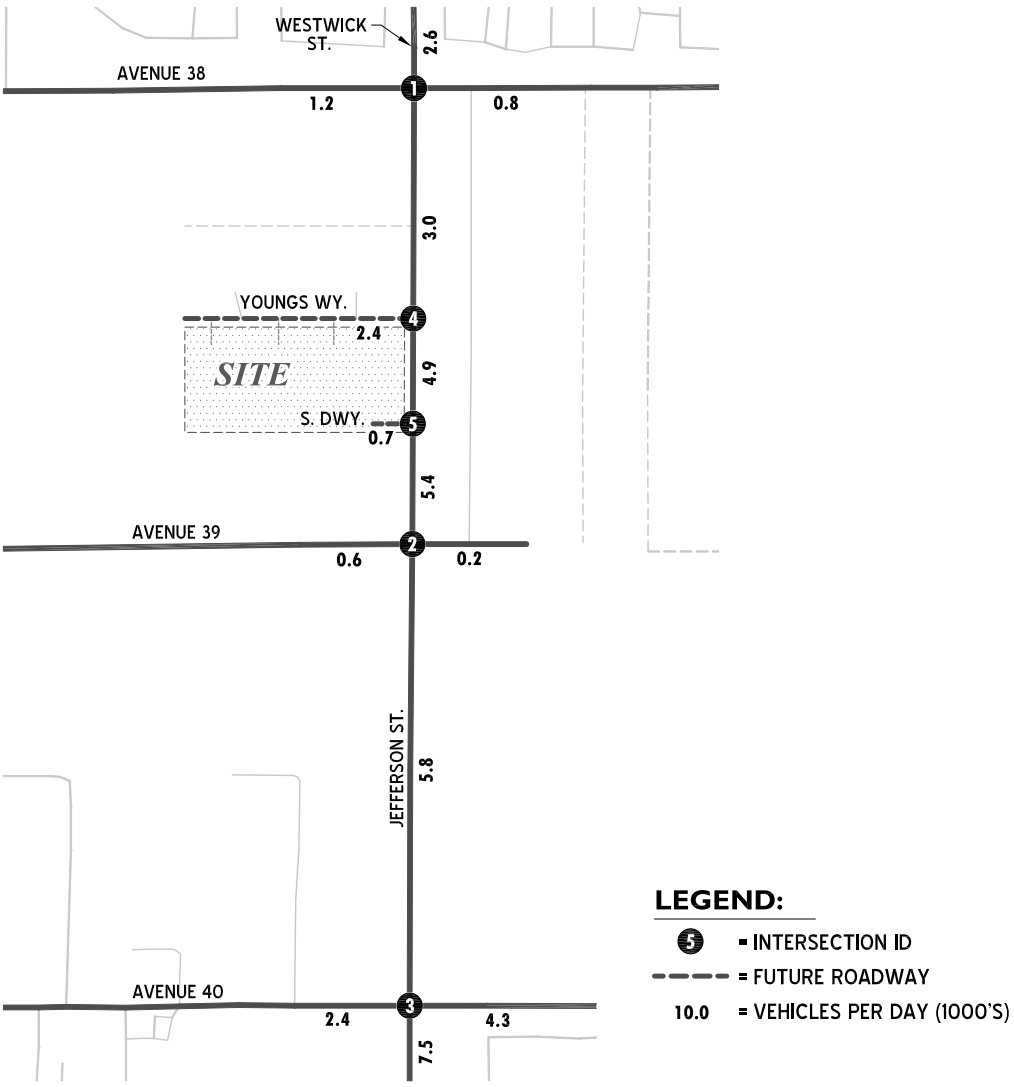
The intersection operations analysis worksheets for Opening Year (2020) Ambient Without and With Project traffic conditions are included in Appendices "5.2" and "5.3" of this TIA.

In addition, Sunday peak hour vehicle queues are evaluated for the right turn and left turn lanes at the Jefferson Street/Youngs Way (#4) and Jefferson Street/South Driveway (#5) intersections.

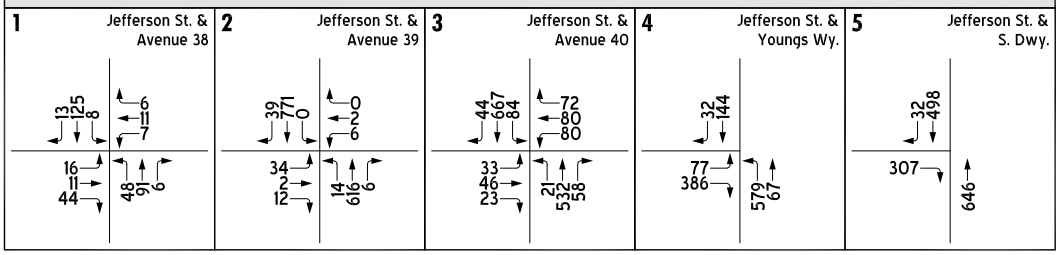
The simulation and optimization traffic modeling tools Synchro and SimTraffic have been utilized to evaluate traffic flows and identify potential queuing issues at the project entry intersections. Synchro is a macroscopic analysis and optimization program, and SimTraffic performs microsimulations and animation of vehicle traffic. The SimTraffic analysis includes the effects of nearby intersections on arrival time at an intersection, during the AM and PM peak periods.

In SimTraffic, each vehicle in the traffic system is individually tracked and operational measures of effectiveness are collected on every vehicle during each 10th of a second of simulation. Driver behavior characteristics (ranging from passive to aggressive) are assigned to each vehicle by the model, affecting the vehicle's free-flow speed, queue discharge headways, and other behavioral attributes. The variation in each vehicle's behavior is simulated in a manner reflecting real-world operations.

EXHIBIT 5-1: EXISTING PLUS PROJECT SUNDAY TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES



MD PEAK HOUR INTERSECTION VOLUMES

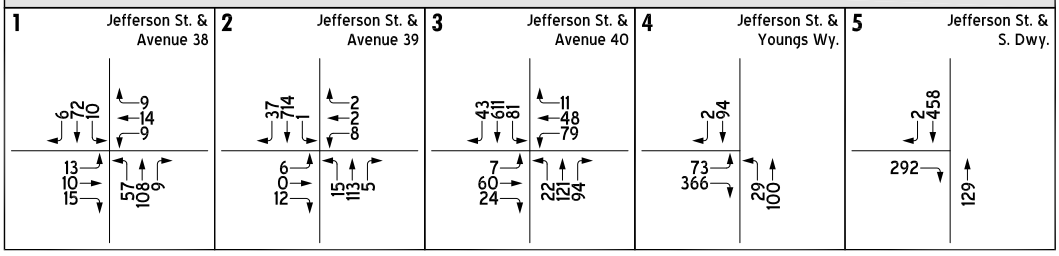


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TABLE 5-1: INTERSECTION ANALYSIS SUMMARY FOR EXISTING PLUS PROJECT BUILDOUT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	9.0	9.0	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	6.0	5.8	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	14.9	13.3	B	B
4	Jefferson St. / Youngs Wy.	**CSS**	**1**	1	0	0	0.5	0.5	**1**	0	**1**	0	0	0	13.0	11.5	B	B
5	Jefferson St. / S. Project Dwy.	**CSS**	0	1	0	0	1	0	0	0	**1**	0	0	0	22.7	18.9	C	C

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane;**1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; AWS = All-Way Stop

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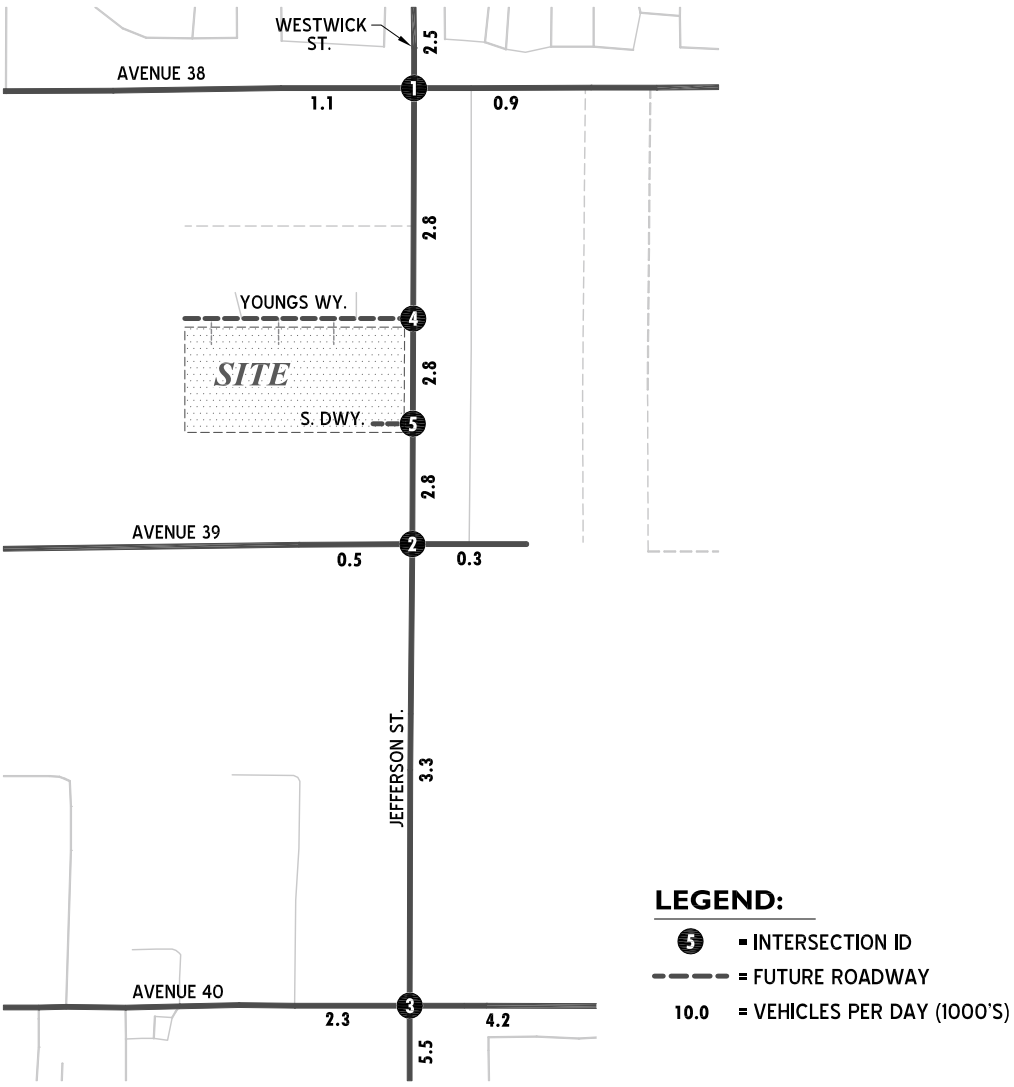
EXHIBIT 5-2: OPENING YEAR (20 Open Bookmarks SUNDAY TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES

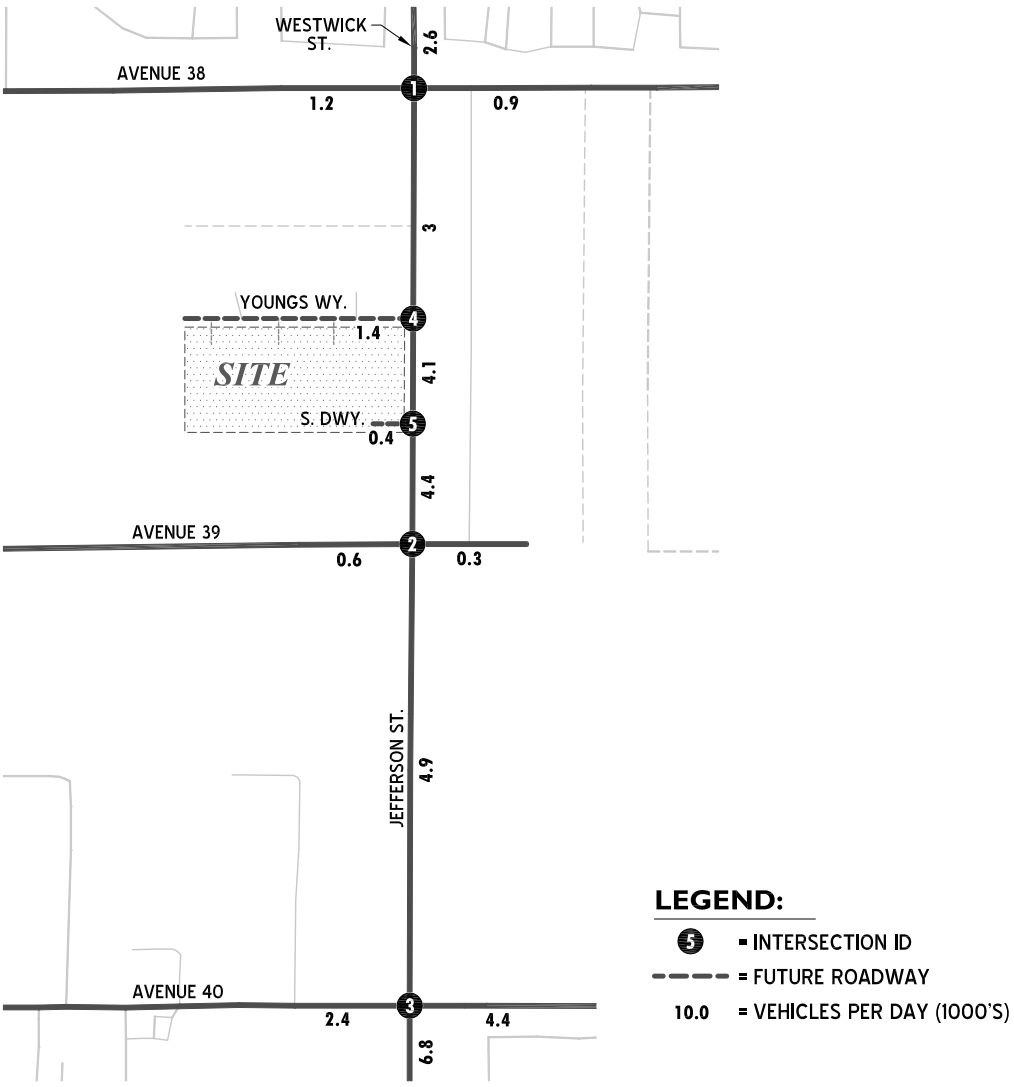
1 Jefferson St. & Avenue 38	2 Jefferson St. & Avenue 39	3 Jefferson St. & Avenue 40	4 Jefferson St. & Youngs Wy.	5 Jefferson St. & S. Dwy.
14, 97, 8 / 6, 11, 7	1, 121, 1 / 1, 2, 6	5, 133, 7 / 8, 83, 83	FUTURE INTERSECTION	FUTURE INTERSECTION
17, 11, 12 / 9, 54, 6	2, 2, 12 / 15, 72, 6	1, 48, 24 / 22, 85, 60		

MD PEAK HOUR INTERSECTION VOLUMES

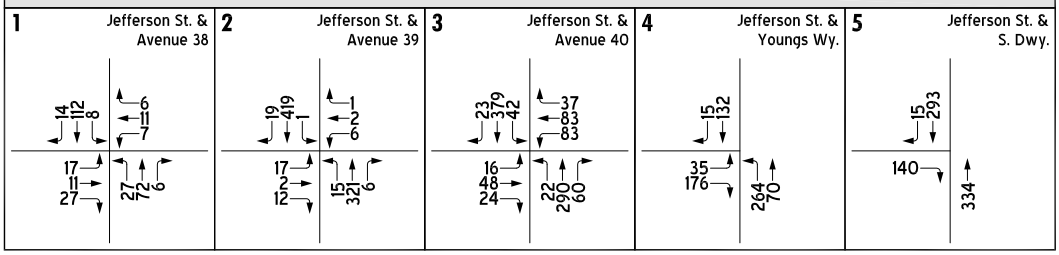
1 Jefferson St. & Avenue 38	2 Jefferson St. & Avenue 39	3 Jefferson St. & Avenue 40	4 Jefferson St. & Youngs Wy.	5 Jefferson St. & S. Dwy.
6, 73, 10 / 9, 15, 9	1, 97, 1 / 2, 2, 8	6, 103, 8 / 8, 50, 82	FUTURE INTERSECTION	FUTURE INTERSECTION
14, 10, 14 / 21, 74, 9	4, 1, 12 / 16, 89, 5	5, 6, 25 / 23, 103, 98		

N

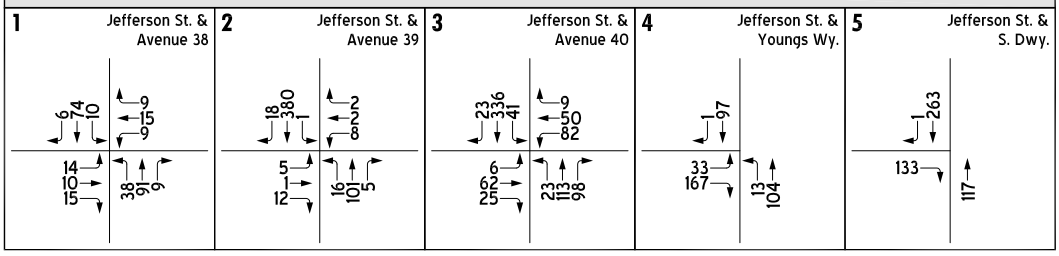
EXHIBIT 5-3: OPENING YEAR (2020 Open Bookmarks CT SUNDAY TRAFFIC VOLUMES



AM PEAK HOUR INTERSECTION VOLUMES



MD PEAK HOUR INTERSECTION VOLUMES



N

TABLE 5-2: INTERSECTION ANALYSIS SUMMARY FOR OPENING YEAR (2020) AMBIENT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	8.2	8.4	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	5.7	6.3	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	17.5	16.5	B	B
4	Jefferson St. / Youngs Wy.	-	Future Intersection															
5	Jefferson St. / S. Project Dwy.	-	Future Intersection															

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane;**1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; AWS = All-Way Stop

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TABLE 5-3: INTERSECTION ANALYSIS SUMMARY FOR OPENING YEAR (2020) WITH PROJECT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	8.6	8.7	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	4.9	4.9	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	13.9	13.8	B	B
4	Jefferson St. / Youngs Wy.	**CSS**	**1**	1	0	0	0.5	0.5	**1**	0	**1**	0	0	0	26.3	10.1	D	B
5	Jefferson St. / S. Project Dwy.	**CSS**	0	1	0	0	1	0	0	0	**1**	0	0	0	11.4	10.9	B	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane;**1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; AWS = All-Way Stop

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The queue length reported for each movement in SimTraffic is responsive to the turn pocket length, just like in the real world. SimTraffic simply observes the actual queue activity as it unfolds during the peak hour. Any spillover from the left turn pocket would be reported in the adjacent lane queue length.

The estimated turn lane storage length requirements for the Jefferson Street/Youngs Way (#4) and Jefferson Street/South Driveway (#5) intersections for Opening Year (2020) With Project conditions are summarized in Table 5-4. These lengths are based on the volumes presented on Exhibit 5-3, and queue length worksheets are included in Appendix 5.3.

5.4 PROJECT BUILDOUT YEAR (2025) AMBIENT CONDITIONS

Project Buildout Year (2025) Ambient Sunday AM and MD traffic volumes are shown on Exhibit 5-4. Project Buildout Year (2020) With Project Sunday AM and MD traffic volumes are shown on Exhibit 5-5.

LOS calculations were conducted for the study intersections to evaluate their operations under Project Buildout Year (2025) Ambient Without and With Project traffic conditions, with existing roadway and intersection geometrics. The intersection analysis results are summarized in Tables 5-5 and 5-6, which indicates that study area intersections are anticipated to continue to operate at an acceptable LOS under Project Buildout Year (2025) Ambient With Project traffic conditions (i.e., LOS “D” or better), with project on-site and adjacent access improvements..

The intersection operations analysis worksheets for Project Buildout Year (2025) Ambient Without and With Project traffic conditions are included in Appendices “5.4” and “5.5” of this TIA.

In addition, Sunday peak hour vehicle queues are evaluated for the right turn and left turn lanes at the Jefferson Street/Youngs Way (#4) and Jefferson Street/South Driveway (#5) intersections.

The simulation and optimization traffic modeling tools Synchro and SimTraffic have been utilized to evaluate traffic flows and identify potential queuing issues at the project entry intersections. Synchro is a macroscopic analysis and optimization program, and SimTraffic performs microsimulations and animation of vehicle traffic. The SimTraffic analysis includes the effects of nearby intersections on arrival time at an intersection, during the AM and PM peak periods.

In SimTraffic, each vehicle in the traffic system is individually tracked and operational measures of effectiveness are collected on every vehicle during each 10th of a second of simulation. Driver behavior characteristics (ranging from passive to aggressive) are assigned to each vehicle by the model, affecting the vehicle’s free-flow speed, queue discharge headways, and other behavioral attributes. The variation in each vehicle’s behavior is simulated in a manner reflecting real-world operations.

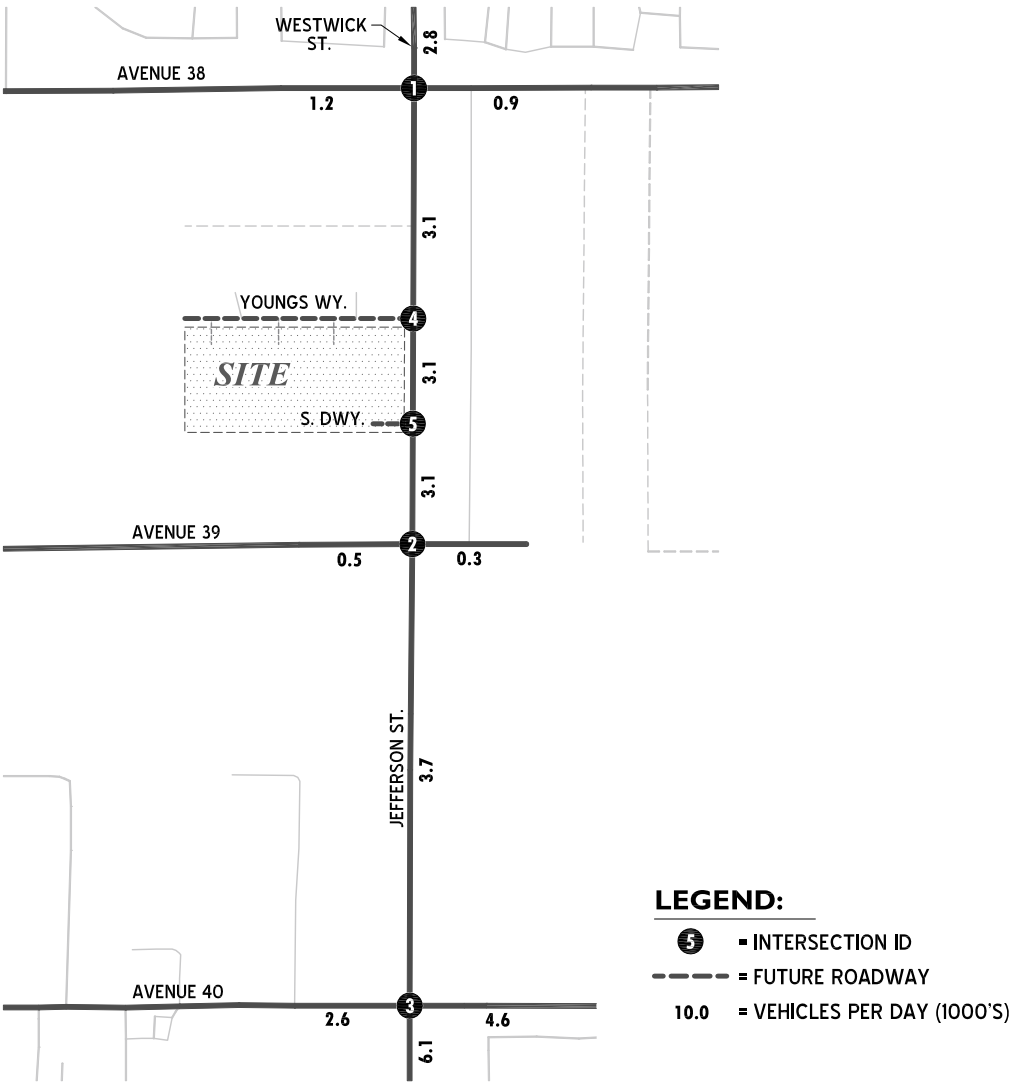
The queue length reported for each movement in SimTraffic is responsive to the turn pocket length, just like in the real world. SimTraffic simply observes the actual queue activity as it unfolds during the peak hour. Any spillover from the left turn pocket would be reported in the adjacent lane queue length.

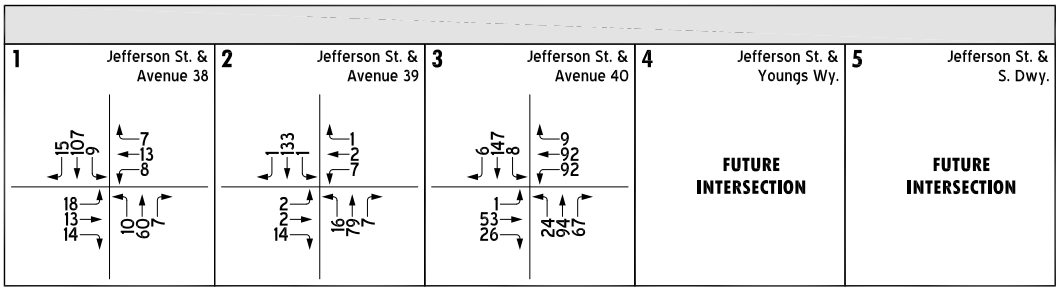
TABLE 5-4: QUEUING ANALYSIS SUMMARY
FOR OPENING YEAR (2020) WITH PROJECT CONDITIONS

ID	Intersection	Turning Movement Lane	Minimum Recommended Storage Length[1] (feet)	95th Percentile Queue Length Per Lane[2] (feet)	
				Sunday AM	Sunday MD
4	Jefferson St. / Youngs Wy.				
		NBL	**200**	67	6
		EBL	**125**	51	46
		EBR	**150**	65	59
5	Jefferson St. / S. Project Dwy.				
		EBR	**175**	61	70

[1] Minimum recommended storage length needed to accommodate the anticipated 95th percentile queues.
[2] Queue length calculated using Synchro plus SimTraffic 10.1.

EXHIBIT 5-4: PROJECT BUILDOUT (NT SUNDAY TRAFFIC VOLUMES





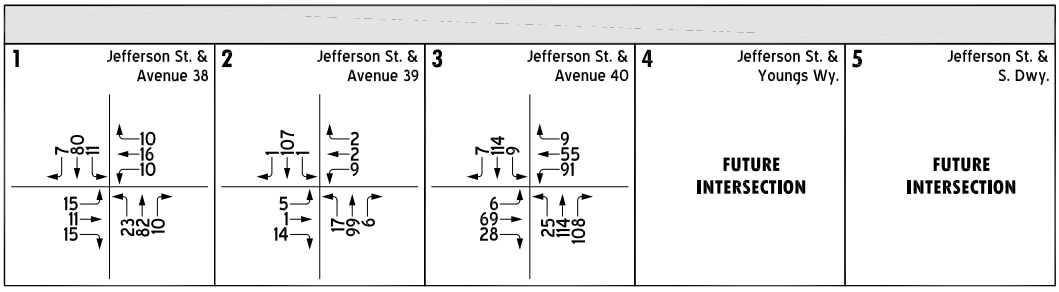
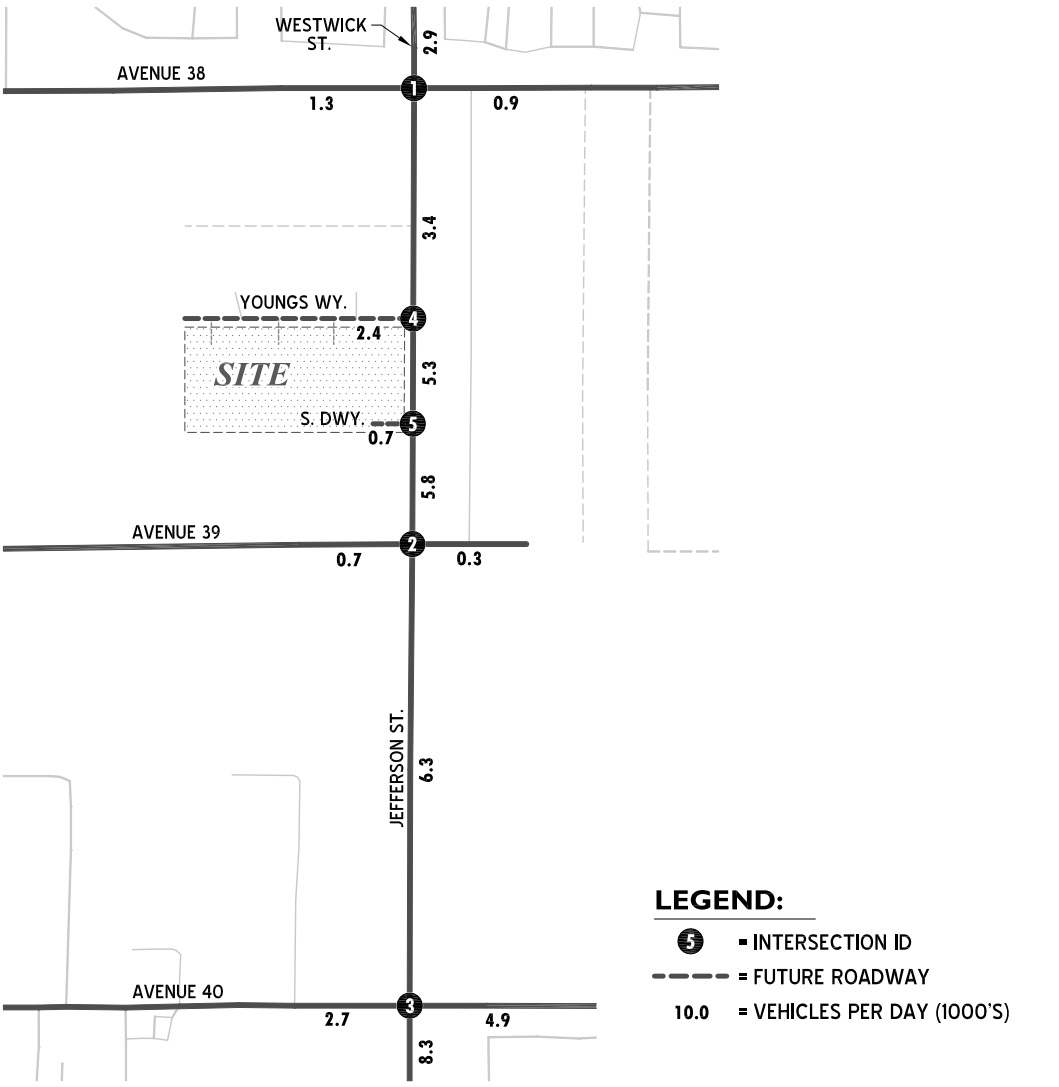
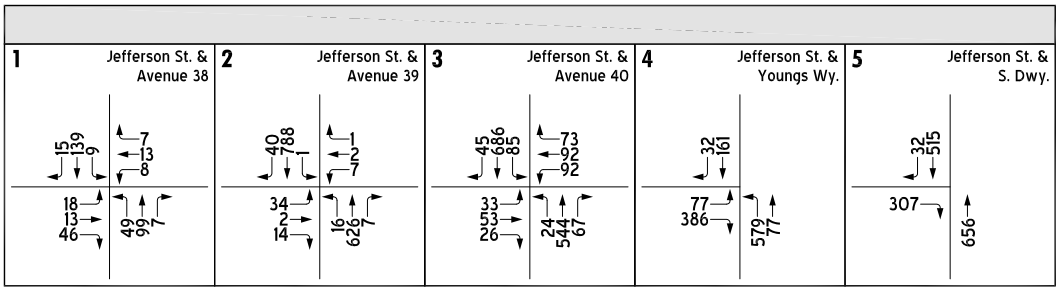


EXHIBIT 5-5: PROJECT BUILDOUT (20 JECT SUNDAY TRAFFIC VOLUMES





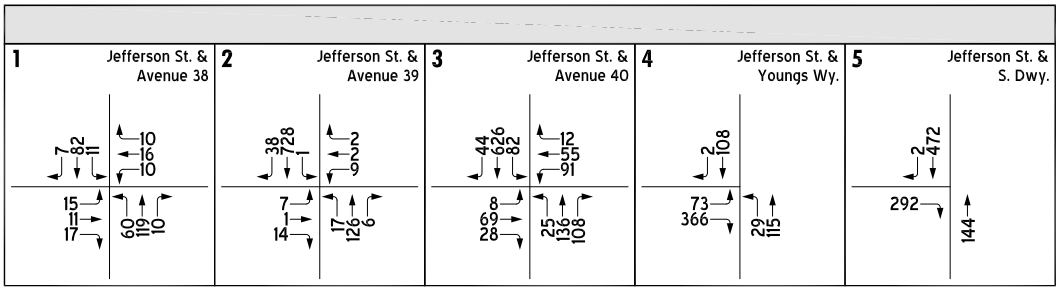


TABLE 5-5: INTERSECTION ANALYSIS SUMMARY FOR PROJECT BUILDOUT (2025) AMBIENT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	8.4	8.5	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	5.9	6.4	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	17.5	16.5	B	B
4	Jefferson St. / Youngs Wy.	-	Future Intersection															
5	Jefferson St. / S. Project Dwy.	-	Future Intersection															

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane;**1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; AWS = All-Way Stop

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TABLE 5-6: INTERSECTION ANALYSIS SUMMARY FOR PROJECT BUILDOUT (2025) WITH PROJECT CONDITIONS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (Secs)		Level of Service[2]	
			Northbound			Southbound			Eastbound			Westbound						
			L	T	R	L	T	R	L	T	R	L	T	R	AM	MD	AM	MD
1	Jefferson St. / Avenue 38	AWS	0	1!	0	0.5	0.5	d	1	1	0	1	1	d	9.3	9.3	A	A
2	Jefferson St. / Avenue 39	TS	1	1	1	1	1	d	1	1	1>	1	1	d	7.0	6.2	A	A
3	Jefferson St. / Avenue 40	TS	1	1	1	1	1	0	1	1	0	1	1	1>	16.1	14.4	B	B
4	Jefferson St. / Youngs Wy.	**CSS**	**1**	1	0	0	0.5	0.5	**1**	0	**1**	0	0	0	13.3	11.7	B	B
5	Jefferson St. / S. Project Dwy.	**CSS**	0	1	0	0	1	0	0	0	**1**	0	0	0	23.9	19.5	C	C

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; d= Defacto Right Turn Lane; **1** = Improvement

[2] Per the Highway Capacity Manual 6th Edition (HCM6), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. Delay and level of service is calculated using Synchro 10.1 analysis software.

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[3] TS = Traffic Signal; AWS = All-Way Stop

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The estimated turn lane storage length requirements for the Jefferson Street/Youngs Way (#4) and Jefferson Street/South Driveway (#5) intersections for Project Buildout Year (2025) With Project conditions are summarized in Table 5-7. These lengths are based on the volumes presented on Exhibit 5-5, and queue length worksheets are included in Appendix 5.5.

5.5 RECOMMENDED IMPROVEMENTS

For site access purposes, the following improvements are recommended:

ROADWAY IMPROVEMENTS

Construct ***Jefferson Street*** to its half-section width as a 4-lane secondary roadway from Youngs Way to the southerly project boundary.

Construct ***Youngs Way*** to its full-section width as a two-lane collector roadway, within available right of way, from the westerly project boundary to Jefferson Street.

INTERSECTION IMPROVEMENTS

Jefferson Street / Youngs Way (#4)

- Provide stop control for the eastbound approach.
- Northbound (NB) Approach: Provide separate left turn lane, maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide separate left turn lane with a receiving refuge lane on Jefferson Street and provide separate right turn lane

Jefferson Street / South Driveway (#5)

- Restrict South Driveway to right turns in and right turns out only via raised “pork chop” island which restricts the driveway to right turns in/right turns out only and provides a refuge for pedestrians crossing the driveway
- Provide stop control for the eastbound approach
- Northbound (NB) Approach: Maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide right turn lane

Exhibits 5-6 and 5-7 provide concept striping plans for Project access intersections. In order to achieve appropriate directional transitions southbound into these access improvements, some off-site street widening is necessary on the west side of Jefferson Street north of Youngs Way.

TABLE 5-7: QUEUING ANALYSIS SUMMARY
PROJECT BUILDOUT (2025) WITH PROJECT CONDITIONS

ID	Intersection	Turning Movement Lane	Minimum Recommended Storage Length[1] (feet)	95th Percentile Queue Length Per Lane[2] (feet)	
				Sunday AM	Sunday MD
4	Jefferson St. / Youngs Wy.				
		NBL	**200**	182	18
		EBL	**125**	124	48
		EBR	**150**	129	98
5	Jefferson St. / S. Project Dwy.				
		EBR	**175**	173	148

[1] Minimum recommended storage length needed to accommodate the anticipated 95th percentile queues.
[2] Queue length calculated using Synchro plus SimTraffic 10.1.

EXHIBIT 5-6: JEFFE /YOUNGS WAY
CONCEPT STRIPING FOR OPENING YEAR (2020) AND PROJECT BUILDOUT (2025) CONDITIONS

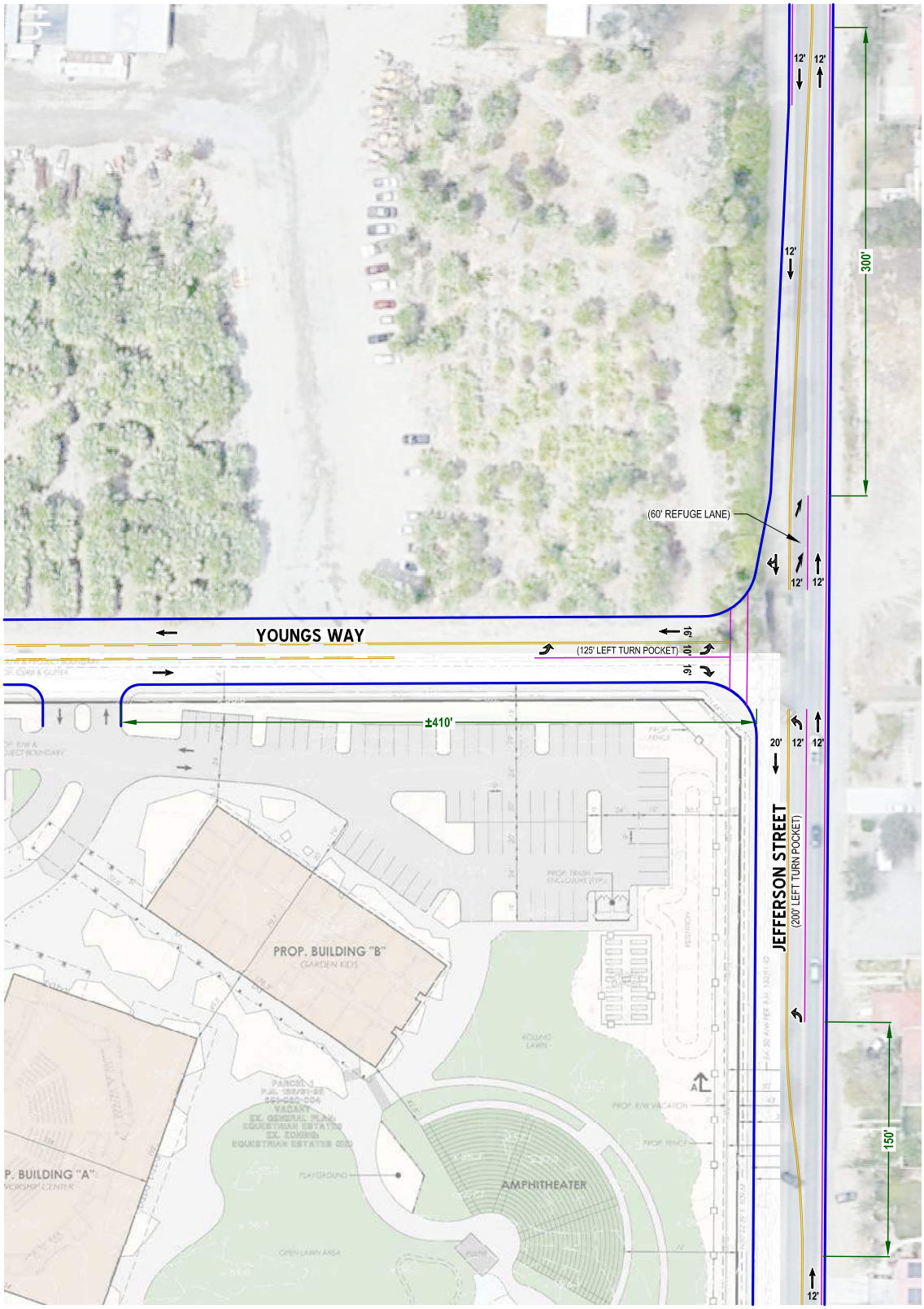
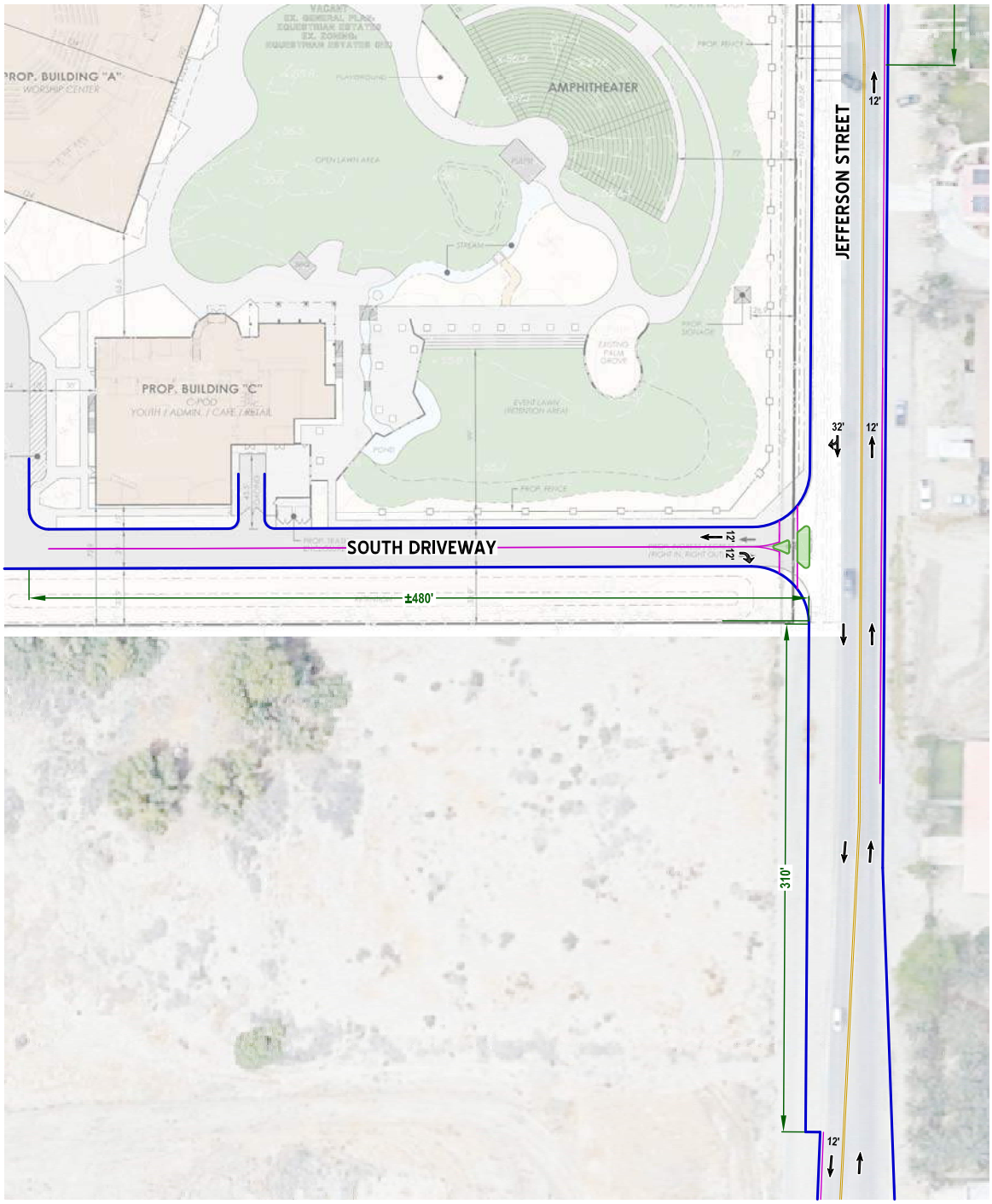


EXHIBIT 5-7: JEFFERSON STREET SOUTH DRIVEWAY CONCEPT STRIPING FOR OPENING YEAR (2020) AND PROJECT BUILDOUT (2025) CONDITIONS



N

100' 50' 0 100'

SCALE: 1" = 100'

6 SUMMARY AND RECOMMENDATIONS

6.1 PROJECT ACCESS

The Project is primarily accessed via Youngs Way (full access) to Jefferson Street and a secondary access is provided via South Driveway (right in / right out only) to Jefferson Street, as shown previously on Exhibit 1-2. Each of these Project access points is recommended to be controlled by a stop sign on the minor (cross) street. Exhibits 5-6 and 5-7 provide concept striping plans for Project access intersections.

6.2 PROJECT TRAFFIC

The Project is a church campus containing an 1,800 seat worship center (of which 1,344 are fixed seats and 456 are portable seats) with separate accommodations for teens / children, along with ancillary uses such as an amphitheater, café, church office, maintenance, etc. The amphitheater will not be used concurrently with the sanctuary on a typical Sunday morning.

The proposed Project is anticipated to generate approximately 3,098 trip-ends per peak season Sunday with 1,413 vehicles per hour (VPH) during the AM peak hour, and 763 VPH during the midday (MD) peak hour. For Project Phase 1 Opening Year (2020) conditions, approximately 1,868 trip-ends per fully occupied Sunday, with 644 vehicles per hour (VPH) during the AM peak hour between services, and 347 VPH during the midday (MD) peak hour after the second service are anticipated.

6.3 POTENTIALLY SIGNIFICANT IMPACT ASSESSMENT RESULTS

With recommended project access improvements, study area intersections are anticipated to operate at acceptable LOS under Existing plus Project, Opening Year (2020), or Project Buildout Year (2025) conditions. Therefore, no significant off-site intersection impacts are identified.

6.4 RECOMMENDED IMPROVEMENTS

Access improvement strategies have been recommended for Opening Year (2020) conditions as indicated on Exhibit 6-1, and illustrated on Exhibits 5-6 and 5-7. The Project will construct off-site roadway segment improvements on the following streets.

- Jefferson Street –half street improvement on the west side as a 4 lane secondary road and construct adequate transitions and tapers to join existing improvements north and south of the Project site.
- Youngs Way, full street improvements – as a two lane collector road.

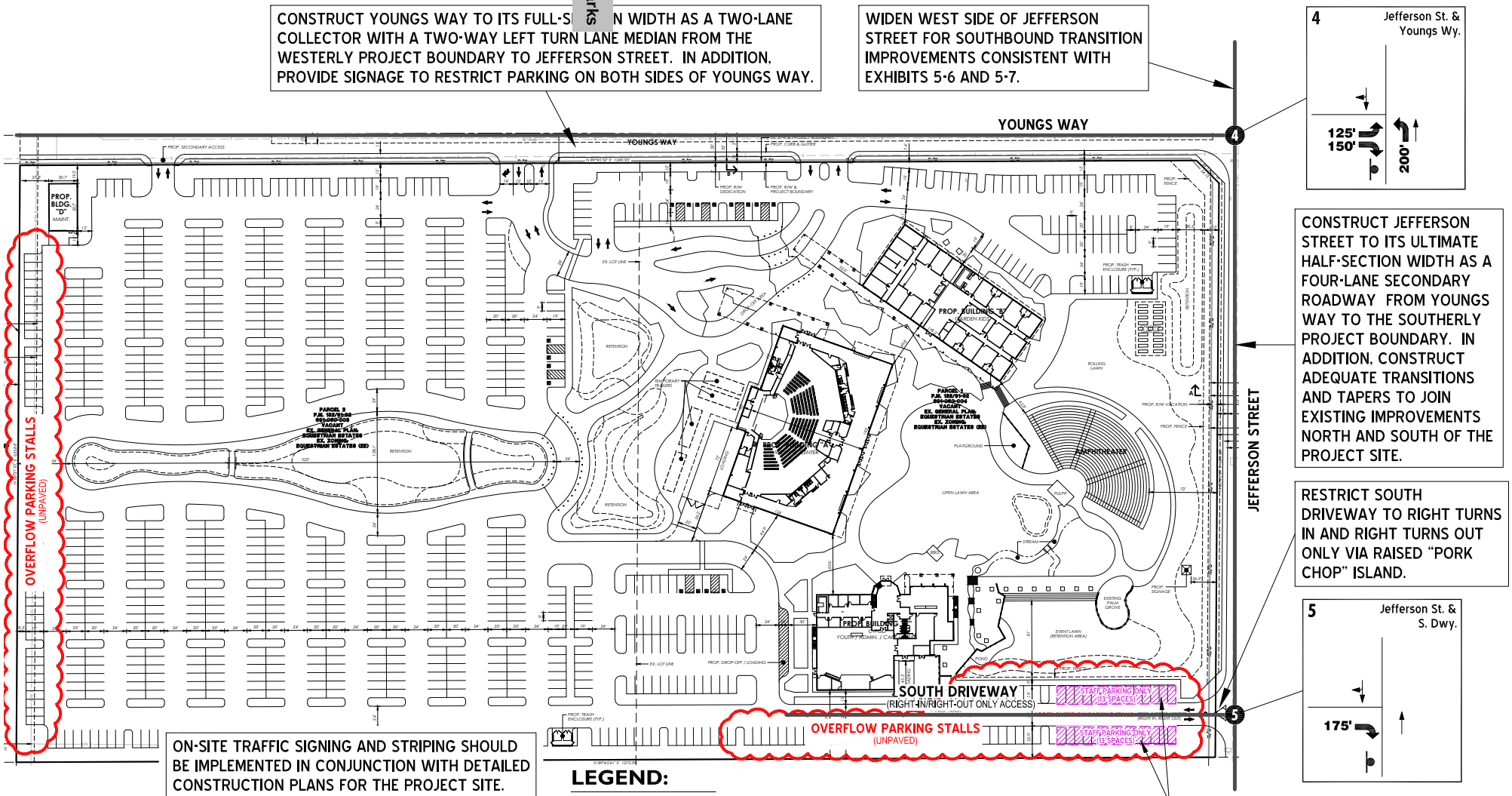
Jefferson Street / Youngs Way (#4)

- Provide stop control for the eastbound approach.
- Northbound (NB) Approach: Provide separate left turn lane, maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide separate left turn lane with a receiving refuge lane on Jefferson Street and provide separate right turn lane

EXHIBIT 6-[illegible]N-SITE CIRCULATION RECOMMENDATION

CONSTRUCT YOUNGS WAY TO ITS FULL-S[illegible]N WIDTH AS A TWO-LANE COLLECTOR WITH A TWO-WAY LEFT TURN LANE MEDIAN FROM THE WESTERLY PROJECT BOUNDARY TO JEFFERSON STREET. IN ADDITION, PROVIDE SIGNAGE TO RESTRICT PARKING ON BOTH SIDES OF YOUNGS WAY.

WIDEN WEST SIDE OF JEFFERSON STREET FOR SOUTHBOUND TRANSITION IMPROVEMENTS CONSISTENT WITH EXHIBITS 5-6 AND 5-7.



CONSTRUCT JEFFERSON STREET TO ITS ULTIMATE HALF-SECTION WIDTH AS A FOUR-LANE SECONDARY ROADWAY FROM YOUNGS WAY TO THE SOUTHERLY PROJECT BOUNDARY. IN ADDITION, CONSTRUCT ADEQUATE TRANSITIONS AND TAPERS TO JOIN EXISTING IMPROVEMENTS NORTH AND SOUTH OF THE PROJECT SITE.

RESTRICT SOUTH DRIVEWAY TO RIGHT TURNS IN AND RIGHT TURNS OUT ONLY VIA RAISED "PORK CHOP" ISLAND.

ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

SIGHT DISTANCE AT EACH PROJECT ACCESS POINT SHOULD BE REVIEWED WITH RESPECT TO CITY OF INDIO SIGHT DISTANCE STANDARDS AT THE TIME OF PREPARATION OF FINAL GRADING, LANDSCAPE, AND STREET IMPROVEMENT PLANS.

N

LEGEND:

- # = INTERSECTION ID
- = NEW STOP CONTROL
- 100' = MINIMUM STORAGE LENGTH
- = EXISTING LANE
- = PROJECT LANE IMPROVEMENT
- = OVERFLOW PARKING STALLS

RESTRICT PARKING FOR THE FIRST 13 OVERFLOW SPACES ON THE NORTH AND SOUTH SIDE OF SOUTH DRIVEWAY (WEST OF JEFFERSON STREET) TO BE UTILIZED BY STAFF ONLY. IT IS ASSUMED THAT STAFF WILL ARRIVE/LEAVE PROJECT SITE DURING OFF-PEAK CONDITIONS AND WILL NOT BLOCK VEHICLES ENTERING/EXITING THE SITE DURING PEAK OPERATING CONDITIONS.

Jefferson Street / South Driveway (#5)

- Restrict South Driveway to right turns in and right turns out only via raised "pork chop" island which restricts the driveway to right turns in/right turns out only and provides a refuge for pedestrians crossing the driveway
- Provide stop control for the eastbound approach
- Northbound (NB) Approach: Maintain existing through lane
- Southbound (SB) Approach: Maintain existing through lane
- Eastbound (EB) Approach: Provide right turn lane

The right turn in / out restriction for the Jefferson Street / South Driveway is not anticipated to impact adjacent driveways (such as those on the east side of Jefferson Street). In order to achieve appropriate directional transitions southbound into these access improvements, some off-site street widening is necessary on the west side of Jefferson Street north of Youngs Way.

6.5 PARKING SUPPLY AND DEMAND

Parking demand has been calculated using the City of Indio Zoning requirement, and also via data collection and analysis from the existing church site. Eight hundred fifty-three (853) parking spaces are currently provided on the project site plan.

PARKING DEMAND CALCULATIONS BASED UPON CITY PARKING SCHEDULE

The City of Indio parking schedule (Zoning Regulation 159.656) requires one space for each 7 fixed seats, with one space for each 35 square feet of remaining floor area. A Preliminary Parking Demand Analysis (PlainJoe Studios, December 2017) based upon the City of Indio parking schedule provides parking recommendations for the unique combination of planned land use quantities. The resulting estimated parking demand based upon the preliminary parking demand analysis is 820 spaces.

OBSERVED DEMAND

Parking demand was observed at the existing church site, where the maximum number of parked vehicles observed on a typical Sunday morning was 258 vehicles. There are 456 seats at the existing location, having a maximum capacity of around 500, and about 10% administrative personnel monitoring three different services.

At Project Buildout, there are projected to be a maximum 1,800 seats in the new worship center. Of these, 1,344 seats are fixed. The 1,344 fixed seats along with concurrent ancillary activities (classrooms, etc.) would be served by 761 parking spaces, based upon normal activity levels measured at the existing church site in 2018. The additional 456 moveable seats (if fully occupied) could require an additional 258 parking spaces, which results in a total parking demand of around 1,019 spaces.

PARKING DEMAND RECOMMENDATIONS

Parking demand at Project Buildout is anticipated to be in the range of 820+ (to 1,019 at maximum capacity during special occasions) required parking spaces. If a parking demand overage is found, overflow parking as depicted on the on-site circulation exhibit, as well as parking management strategies (valet & shuttle services) would need to be evaluated and implemented.

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS – FEBRUARY 2018

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Return to Agenda

Open Bookmarks

City of Indio
N/S: Westwick Street/Jefferson Street
E/W: Avenue 38
Weather: Clear

File Name : 01_IND_Jefferson_Ave 38 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

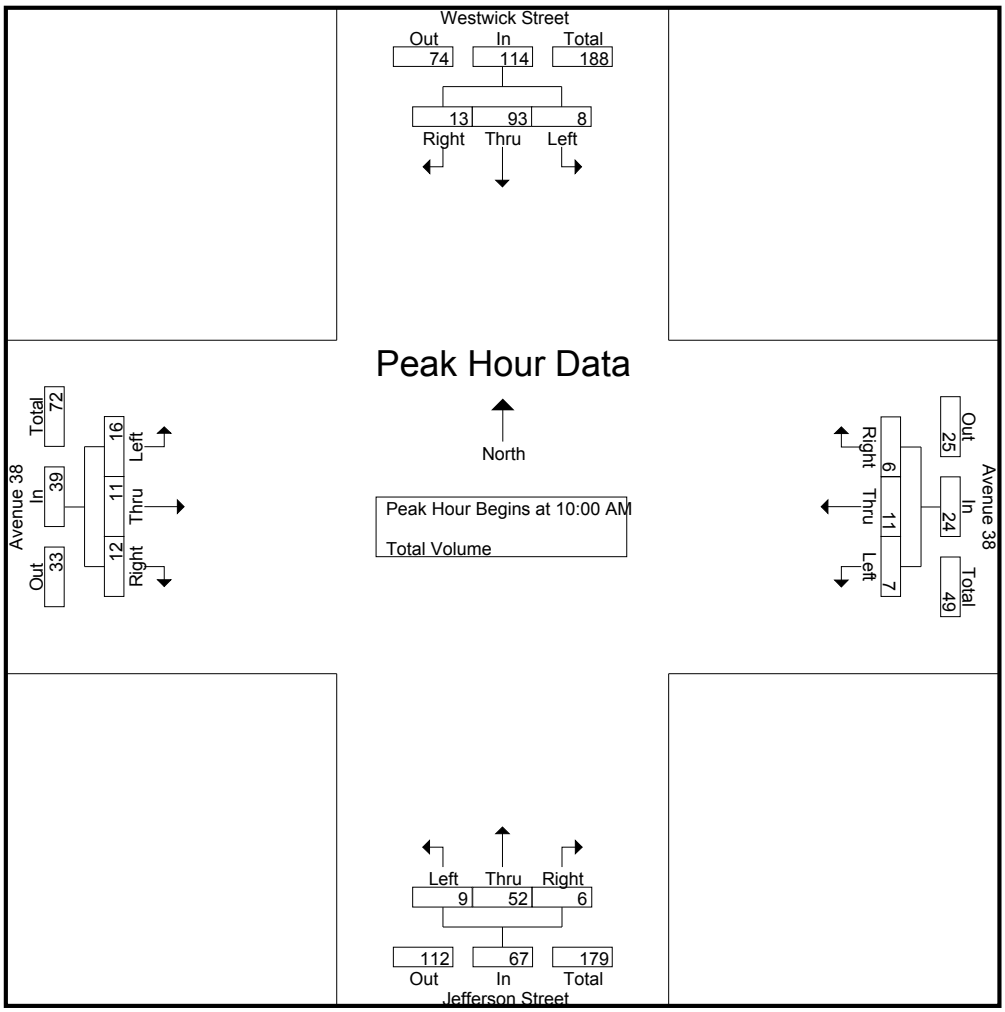
Groups Printed- Total Volume

	Westwick Street Southbound				Avenue 38 Westbound				Jefferson Street Northbound				Avenue 38 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
09:30 AM	1	26	3	30	5	3	1	9	2	6	3	11	1	2	1	4	54
09:45 AM	1	25	2	28	1	2	1	4	0	10	2	12	2	2	4	8	52
Total	2	51	5	58	6	5	2	13	2	16	5	23	3	4	5	12	106
10:00 AM	3	23	5	31	1	0	1	2	0	11	3	14	5	3	4	12	59
10:15 AM	1	17	3	21	2	2	1	5	3	18	0	21	4	3	3	10	57
10:30 AM	3	30	4	37	0	2	2	4	3	11	3	17	4	2	1	7	65
10:45 AM	1	23	1	25	4	7	2	13	3	12	0	15	3	3	4	10	63
Total	8	93	13	114	7	11	6	24	9	52	6	67	16	11	12	39	244
11:00 AM	3	17	3	23	1	4	2	7	2	13	2	17	4	2	4	10	57
11:15 AM	5	16	1	22	2	0	3	5	4	11	1	16	3	2	6	11	54
Grand Total	18	177	22	217	16	20	13	49	17	92	14	123	26	19	27	72	461
Apprch %	8.3	81.6	10.1		32.7	40.8	26.5		13.8	74.8	11.4		36.1	26.4	37.5		
Total %	3.9	38.4	4.8	47.1	3.5	4.3	2.8	10.6	3.7	20	3	26.7	5.6	4.1	5.9	15.6	

	Westwick Street Southbound				Avenue 38 Westbound				Jefferson Street Northbound				Avenue 38 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:00 AM																	
10:00 AM	**3**	23	**5**	31	1	0	1	2	0	11	**3**	14	**5**	**3**	**4**	**12**	59
10:15 AM	1	17	3	21	2	2	1	5	**3**	**18**	0	**21**	4	3	3	10	57
10:30 AM	3	**30**	4	**37**	0	2	**2**	4	3	11	3	17	4	2	1	7	**65**
10:45 AM	1	23	1	25	**4**	**7**	2	**13**	3	12	0	15	3	3	4	10	63
Total Volume	8	93	13	114	7	11	6	24	9	52	6	67	16	11	12	39	244
% App. Total	7	81.6	11.4		29.2	45.8	25		13.4	77.6	9		41	28.2	30.8		
PHF	.667	.775	.650	.770	.438	.393	.750	.462	.750	.722	.500	.798	.800	.917	.750	.813	.938

City of Indio
N/S: Westwick Street/Jefferson Street
E/W: Avenue 38
Weather: Clear

File Name : 01_IND_Jefferson_Ave 38 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 2



Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	09:45 AM				10:15 AM				10:15 AM				10:00 AM			
+0 mins.	1	25	2	28	2	2	1	5	**3**	**18**	0	**21**	**5**	**3**	**4**	**12**
+15 mins.	**3**	23	**5**	31	0	2	**2**	4	3	11	**3**	17	4	3	3	10
+30 mins.	1	17	3	21	**4**	**7**	2	**13**	3	12	0	15	4	2	1	7
+45 mins.	3	**30**	4	**37**	1	4	2	7	2	13	2	17	3	3	4	10
Total Volume	8	95	14	117	7	15	7	29	11	54	5	70	16	11	12	39
% App. Total	6.8	81.2	12		24.1	51.7	24.1		15.7	77.1	7.1		41	28.2	30.8	
PHF	.667	.792	.700	.791	.438	.536	.875	.558	.917	.750	.417	.833	.800	.917	.750	.813

Return to Agenda

Open Bookmarks

City of Indio
N/S: Westwick Street/Jefferson Street
E/W: Avenue 38
Weather: Clear

File Name : 01_IND_Jefferson_Ave 38 MD
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

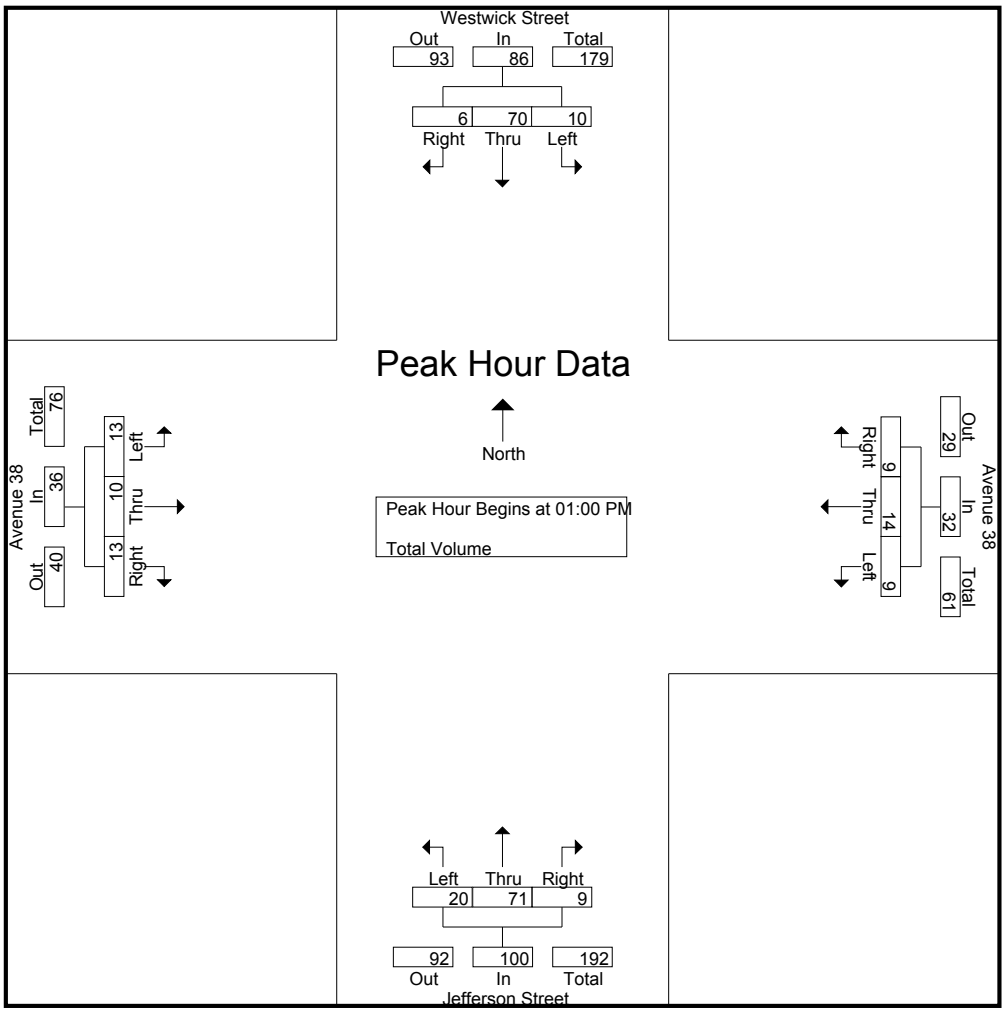
Groups Printed- Total Volume

	Westwick Street Southbound				Avenue 38 Westbound				Jefferson Street Northbound				Avenue 38 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	16	5	21	1	0	2	3	1	13	1	15	4	4	2	10	49
12:15 PM	1	14	5	20	2	0	0	2	2	20	2	24	4	2	1	7	53
12:30 PM	4	23	2	29	1	1	3	5	1	16	0	17	2	7	1	10	61
12:45 PM	4	8	2	14	6	3	3	12	3	10	2	15	2	2	3	7	48
Total	9	61	14	84	10	4	8	22	7	59	5	71	12	15	7	34	211
01:00 PM	2	17	0	19	3	2	3	8	6	18	2	26	2	1	1	4	57
01:15 PM	4	16	2	22	5	4	2	11	5	18	1	24	4	1	6	11	68
01:30 PM	2	20	3	25	1	6	1	8	7	18	2	27	1	2	3	6	66
01:45 PM	2	17	1	20	0	2	3	5	2	17	4	23	6	6	3	15	63
Total	10	70	6	86	9	14	9	32	20	71	9	100	13	10	13	36	254
Grand Total	19	131	20	170	19	18	17	54	27	130	14	171	25	25	20	70	465
Apprch %	11.2	77.1	11.8		35.2	33.3	31.5		15.8	76	8.2		35.7	35.7	28.6		
Total %	4.1	28.2	4.3	36.6	4.1	3.9	3.7	11.6	5.8	28	3	36.8	5.4	5.4	4.3	15.1	

	Westwick Street Southbound				Avenue 38 Westbound				Jefferson Street Northbound				Avenue 38 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	2	17	0	19	3	2	**3**	8	6	**18**	2	26	2	1	1	4	57
01:15 PM	**4**	16	2	22	**5**	4	2	**11**	5	18	1	24	4	1	**6**	11	**68**
01:30 PM	2	**20**	**3**	**25**	1	**6**	1	8	**7**	18	2	**27**	1	2	3	6	66
01:45 PM	2	17	1	20	0	2	3	5	2	17	**4**	23	**6**	**6**	3	**15**	63
Total Volume	10	70	6	86	9	14	9	32	20	71	9	100	13	10	13	36	254
% App. Total	11.6	81.4	7		28.1	43.8	28.1		20	71	9		36.1	27.8	36.1		
PHF	.625	.875	.500	.860	.450	.583	.750	.727	.714	.986	.563	.926	.542	.417	.542	.600	.934

City of Indio
N/S: Westwick Street/Jefferson Street
E/W: Avenue 38
Weather: Clear

File Name : 01_IND_Jefferson_Ave 38 MD
Site Code : 05118139
Start Date : 2/25/2018
Page No : 2



Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	01:00 PM				12:45 PM				01:00 PM				01:00 PM			
+0 mins.	2	17	0	19	**6**	3	**3**	**12**	6	**18**	2	26	2	1	1	4
+15 mins.	**4**	16	2	22	3	2	3	8	5	18	1	24	4	1	**6**	11
+30 mins.	2	**20**	**3**	**25**	5	4	2	11	**7**	18	2	**27**	1	2	3	6
+45 mins.	2	17	1	20	1	**6**	1	8	2	17	**4**	23	**6**	**6**	3	**15**
Total Volume	10	70	6	86	15	15	9	39	20	71	9	100	13	10	13	36
% App. Total	11.6	81.4	7		38.5	38.5	23.1		20	71	9		36.1	27.8	36.1	
PHF	.625	.875	.500	.860	.625	.625	.750	.813	.714	.986	.563	.926	.542	.417	.542	.600

Return to Agenda

Open Bookmarks

City of Indio
N/S: Jefferson Street
E/W: Avenue 39
Weather: Clear

File Name : 02_IND_Jefferson_Ave 39 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

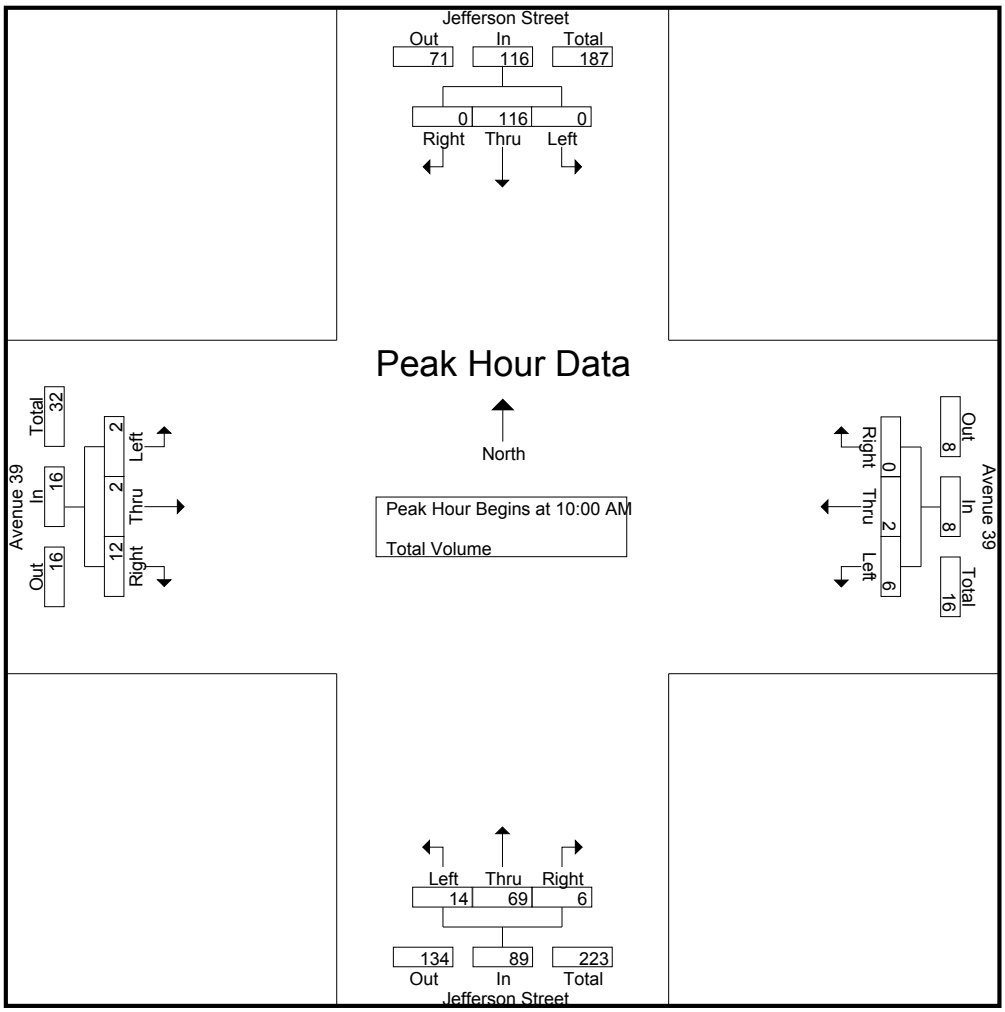
Groups Printed- Total Volume

	Jefferson Street Southbound				Avenue 39 Westbound				Jefferson Street Northbound				Avenue 39 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
09:30 AM	0	36	0	36	1	1	0	2	6	8	1	15	0	0	2	2	55
09:45 AM	0	29	0	29	0	1	0	1	2	14	0	16	0	1	3	4	50
Total	0	65	0	65	1	2	0	3	8	22	1	31	0	1	5	6	105
10:00 AM	0	31	0	31	1	1	0	2	5	14	0	19	1	0	6	7	59
10:15 AM	0	22	0	22	0	1	0	1	3	21	2	26	1	1	2	4	53
10:30 AM	0	32	0	32	0	0	0	0	2	16	2	20	0	0	1	1	53
10:45 AM	0	31	0	31	5	0	0	5	4	18	2	24	0	1	3	4	64
Total	0	116	0	116	6	2	0	8	14	69	6	89	2	2	12	16	229
11:00 AM	0	21	0	21	2	0	0	2	3	18	2	23	1	0	1	2	48
11:15 AM	0	27	0	27	0	0	0	0	4	13	0	17	1	0	4	5	49
Grand Total	0	229	0	229	9	4	0	13	29	122	9	160	4	3	22	29	431
Apprch %	0	100	0		69.2	30.8	0		18.1	76.2	5.6		13.8	10.3	75.9		
Total %	0	53.1	0	53.1	2.1	0.9	0	3	6.7	28.3	2.1	37.1	0.9	0.7	5.1	6.7	

	Jefferson Street Southbound				Avenue 39 Westbound				Jefferson Street Northbound				Avenue 39 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:00 AM																	
10:00 AM	0	31	0	31	1	**1**	0	2	**5**	14	0	19	**1**	0	**6**	**7**	59
10:15 AM	0	22	0	22	0	1	0	1	3	**21**	**2**	**26**	1	**1**	2	4	53
10:30 AM	0	**32**	0	**32**	0	0	0	0	2	16	2	20	0	0	1	1	53
10:45 AM	0	31	0	31	**5**	0	0	**5**	4	18	2	24	0	1	3	4	**64**
Total Volume	0	116	0	116	6	2	0	8	14	69	6	89	2	2	12	16	229
% App. Total	0	100	0		75	25	0		15.7	77.5	6.7		12.5	12.5	75		
PHF	.000	.906	.000	.906	.300	.500	.000	.400	.700	.821	.750	.856	.500	.500	.500	.571	.895

City of Indio
N/S: Jefferson Street
E/W: Avenue 39
Weather: Clear

File Name : 02_IND_Jefferson_Ave 39 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 2



Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	09:30 AM				10:00 AM				10:15 AM				09:30 AM			
+0 mins.	0	**36**	0	**36**	1	**1**	0	2	3	**21**	**2**	**26**	0	0	2	2
+15 mins.	0	29	0	29	0	1	0	1	2	16	2	20	0	**1**	3	4
+30 mins.	0	31	0	31	0	0	0	0	**4**	18	2	24	**1**	0	**6**	**7**
+45 mins.	0	22	0	22	**5**	0	0	**5**	3	18	2	23	1	1	2	4
Total Volume	0	118	0	118	6	2	0	8	12	73	8	93	2	2	13	17
% App. Total	0	100	0		75	25	0		12.9	78.5	8.6		11.8	11.8	76.5	
PHF	.000	.819	.000	.819	.300	.500	.000	.400	.750	.869	1.000	.894	.500	.500	.542	.607

Return to Agenda

Open Bookmarks

City of Indio
N/S: Jefferson Street
E/W: Avenue 39
Weather: Clear

File Name : 02_IND_Jefferson_Ave 39 MD
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

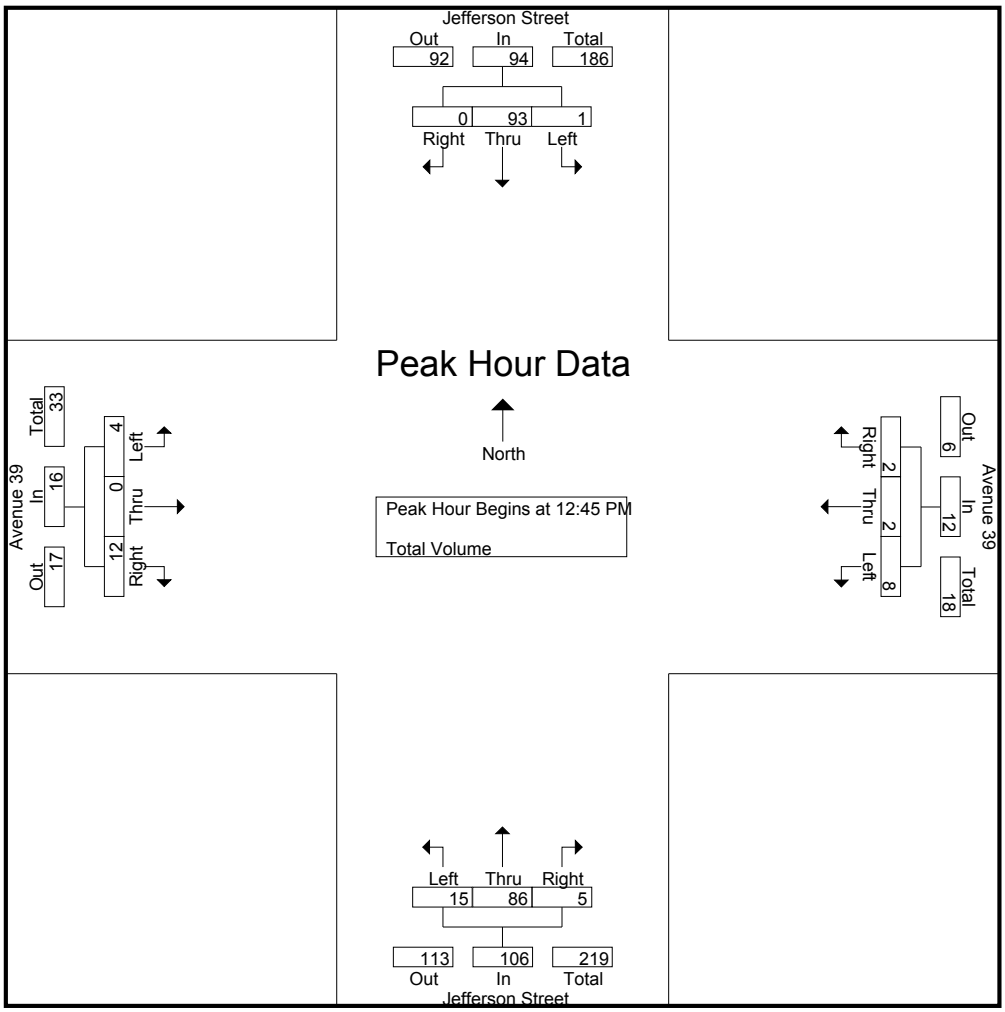
Groups Printed- Total Volume

	Jefferson Street Southbound				Avenue 39 Westbound				Jefferson Street Northbound				Avenue 39 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	0	21	1	22	1	0	1	2	6	17	1	24	0	1	2	3	51
12:15 PM	0	16	0	16	1	1	0	2	9	26	1	36	0	0	4	4	58
12:30 PM	0	25	0	25	2	0	0	2	4	15	1	20	5	1	1	7	54
12:45 PM	0	22	0	22	2	2	0	4	4	13	3	20	1	0	5	6	52
Total	0	84	1	85	6	3	1	10	23	71	6	100	6	2	12	20	215
01:00 PM	0	19	0	19	1	0	1	2	6	28	1	35	0	0	6	6	62
01:15 PM	0	29	0	29	3	0	0	3	3	18	0	21	2	0	1	3	56
01:30 PM	1	23	0	24	2	0	1	3	2	27	1	30	1	0	0	1	58
01:45 PM	0	22	0	22	4	0	0	4	0	21	0	21	0	0	1	1	48
Total	1	93	0	94	10	0	2	12	11	94	2	107	3	0	8	11	224
Grand Total	1	177	1	179	16	3	3	22	34	165	8	207	9	2	20	31	439
Apprch %	0.6	98.9	0.6		72.7	13.6	13.6		16.4	79.7	3.9		29	6.5	64.5		
Total %	0.2	40.3	0.2	40.8	3.6	0.7	0.7	5	7.7	37.6	1.8	47.2	2.1	0.5	4.6	7.1	

	Jefferson Street Southbound				Avenue 39 Westbound				Jefferson Street Northbound				Avenue 39 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:45 PM																	
12:45 PM	0	22	0	22	2	**2**	0	**4**	4	13	**3**	20	1	0	5	**6**	52
01:00 PM	0	19	0	19	1	0	**1**	2	**6**	**28**	1	**35**	0	0	**6**	6	**62**
01:15 PM	0	**29**	0	**29**	**3**	0	0	3	3	18	0	21	**2**	0	1	3	56
01:30 PM	**1**	23	0	24	2	0	1	3	2	27	1	30	1	0	0	1	58
Total Volume	1	93	0	94	8	2	2	12	15	86	5	106	4	0	12	16	228
% App. Total	1.1	98.9	0		66.7	16.7	16.7		14.2	81.1	4.7		25	0	75		
PHF	.250	.802	.000	.810	.667	.250	.500	.750	.625	.768	.417	.757	.500	.000	.500	.667	.919

City of Indio
N/S: Jefferson Street
E/W: Avenue 39
Weather: Clear

File Name : 02_IND_Jefferson_Ave 39 MD
Site Code : 05118139
Start Date : 2/25/2018
Page No : 2



Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:30 PM				12:45 PM				12:15 PM				12:15 PM			
+0 mins.	0	25	0	25	2	**2**	0	**4**	**9**	26	1	**36**	0	0	4	4
+15 mins.	0	22	0	22	1	0	**1**	2	4	15	1	20	**5**	**1**	1	**7**
+30 mins.	0	19	0	19	**3**	0	0	3	4	13	**3**	20	1	0	5	6
+45 mins.	0	**29**	0	**29**	2	0	1	3	6	**28**	1	35	0	0	**6**	6
Total Volume	0	95	0	95	8	2	2	12	23	82	6	111	6	1	16	23
% App. Total	0	100	0		66.7	16.7	16.7		20.7	73.9	5.4		26.1	4.3	69.6	
PHF	.000	.819	.000	.819	.667	.250	.500	.750	.639	.732	.500	.771	.300	.250	.667	.821

Return to Agenda

Open Bookmarks

City of Indio
N/S: Jefferson Street
E/W: Avenue 40
Weather: Clear

File Name : 03_IND_Jefferson_Ave 40 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

Groups Printed- Total Volume

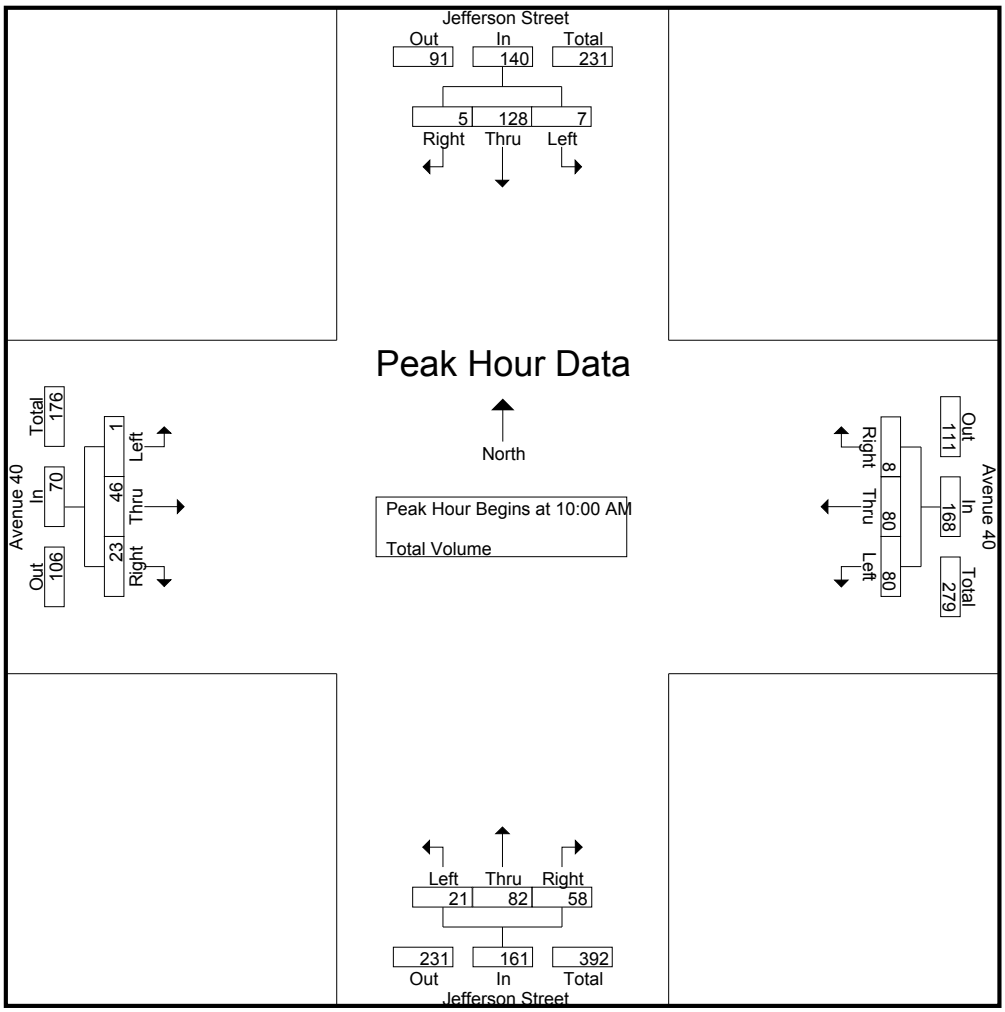
	Jefferson Street Southbound				Avenue 40 Westbound				Jefferson Street Northbound				Avenue 40 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
09:30 AM	0	36	0	36	25	9	2	36	6	12	16	34	0	11	5	16	122
09:45 AM	4	28	1	33	18	14	0	32	7	17	15	39	0	7	5	12	116
Total	4	64	1	69	43	23	2	68	13	29	31	73	0	18	10	28	238
10:00 AM	2	38	0	40	22	22	1	45	2	18	16	36	0	6	5	11	132
10:15 AM	2	23	1	26	23	18	0	41	3	26	11	40	0	14	4	18	125
10:30 AM	2	28	1	31	20	20	5	45	7	17	13	37	0	13	9	22	135
10:45 AM	1	39	3	43	15	20	2	37	9	21	18	48	1	13	5	19	147
Total	7	128	5	140	80	80	8	168	21	82	58	161	1	46	23	70	539
11:00 AM	1	20	0	21	23	13	2	38	8	22	18	48	0	8	13	21	128
11:15 AM	3	33	0	36	14	19	1	34	5	20	8	33	0	14	5	19	122
Grand Total	15	245	6	266	160	135	13	308	47	153	115	315	1	86	51	138	1027
Apprch %	5.6	92.1	2.3		51.9	43.8	4.2		14.9	48.6	36.5		0.7	62.3	37		
Total %	1.5	23.9	0.6	25.9	15.6	13.1	1.3	30	4.6	14.9	11.2	30.7	0.1	8.4	5	13.4	

	Jefferson Street Southbound				Avenue 40 Westbound				Jefferson Street Northbound				Avenue 40 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 10:00 AM																	
10:00 AM	**2**	38	0	40	22	**22**	1	**45**	2	18	16	36	0	6	5	11	132
10:15 AM	2	23	1	26	**23**	18	0	41	3	**26**	11	40	0	**14**	4	18	125
10:30 AM	2	28	1	31	20	20	**5**	45	7	17	13	37	0	13	**9**	**22**	135
10:45 AM	1	**39**	**3**	**43**	15	20	2	37	**9**	21	**18**	**48**	**1**	13	5	19	**147**
Total Volume	7	128	5	140	80	80	8	168	21	82	58	161	1	46	23	70	539
% App. Total	5	91.4	3.6		47.6	47.6	4.8		13	50.9	36		1.4	65.7	32.9		
PHF	.875	.821	.417	.814	.870	.909	.400	.933	.583	.788	.806	.839	.250	.821	.639	.795	.917

Return to Agenda
Open Bookmarks

City of Indio
N/S: Jefferson Street
E/W: Avenue 40
Weather: Clear

File Name : 03_IND_Jefferson_Ave 40 AM
Site Code : 05118139
Start Date : 2/25/2018
Page No : 2



Peak Hour Analysis From 09:30 AM to 11:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	10:00 AM				10:00 AM				10:15 AM				10:30 AM			
+0 mins.	**2**	38	0	40	22	**22**	1	**45**	3	**26**	11	40	0	13	9	**22**
+15 mins.	2	23	1	26	**23**	18	0	41	7	17	13	37	**1**	13	5	19
+30 mins.	2	28	1	31	20	20	**5**	45	**9**	21	**18**	**48**	0	8	**13**	21
+45 mins.	1	**39**	**3**	**43**	15	20	2	37	8	22	18	48	0	**14**	5	19
Total Volume	7	128	5	140	80	80	8	168	27	86	60	173	1	48	32	81
% App. Total	5	91.4	3.6		47.6	47.6	4.8		15.6	49.7	34.7		1.2	59.3	39.5	
PHF	.875	.821	.417	.814	.870	.909	.400	.933	.750	.827	.833	.901	.250	.857	.615	.920

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City of Indio
N/S: Jefferson Street
E/W: Avenue 40
Weather: Clear

File Name : 03_IND_Jefferson_Ave 40 MD
Site Code : 05118139
Start Date : 2/25/2018
Page No : 1

Groups Printed- Total Volume

	Jefferson Street Southbound				Avenue 40 Westbound				Jefferson Street Northbound				Avenue 40 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
12:00 PM	4	16	0	20	16	19	0	35	6	22	20	48	1	11	9	21	124
12:15 PM	3	20	1	24	24	18	4	46	6	29	21	56	0	11	10	21	147
12:30 PM	3	22	1	26	11	15	0	26	5	19	25	49	0	15	6	21	122
12:45 PM	2	25	1	28	19	11	0	30	6	16	21	43	0	12	7	19	120
Total	12	83	3	98	70	63	4	137	23	86	87	196	1	49	32	82	513
01:00 PM	1	23	1	25	20	11	4	35	5	30	18	53	1	19	5	25	138
01:15 PM	3	32	0	35	19	14	1	34	5	23	24	52	1	14	7	22	143
01:30 PM	2	24	2	28	23	11	3	37	3	24	26	53	3	14	4	21	139
01:45 PM	2	20	3	25	17	12	0	29	9	22	26	57	0	13	8	21	132
Total	8	99	6	113	79	48	8	135	22	99	94	215	5	60	24	89	552
Grand Total	20	182	9	211	149	111	12	272	45	185	181	411	6	109	56	171	1065
Apprch %	9.5	86.3	4.3		54.8	40.8	4.4		10.9	45	44		3.5	63.7	32.7		
Total %	1.9	17.1	0.8	19.8	14	10.4	1.1	25.5	4.2	17.4	17	38.6	0.6	10.2	5.3	16.1	

	Jefferson Street Southbound				Avenue 40 Westbound				Jefferson Street Northbound				Avenue 40 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 01:00 PM																	
01:00 PM	1	23	1	25	20	11	**4**	35	5	**30**	18	53	1	**19**	5	**25**	138
01:15 PM	**3**	**32**	0	**35**	19	**14**	1	34	5	23	24	52	1	14	7	22	**143**
01:30 PM	2	24	2	28	**23**	11	3	**37**	3	24	**26**	53	**3**	14	4	21	139
01:45 PM	2	20	**3**	25	17	12	0	29	**9**	22	26	**57**	0	13	**8**	21	132
Total Volume	8	99	6	113	79	48	8	135	22	99	94	215	5	60	24	89	552
% App. Total	7.1	87.6	5.3		58.5	35.6	5.9		10.2	46	43.7		5.6	67.4	27		
PHF	.667	.773	.500	.807	.859	.857	.500	.912	.611	.825	.904	.943	.417	.789	.750	.890	.965

City of Indio
N/S: Jefferson Street
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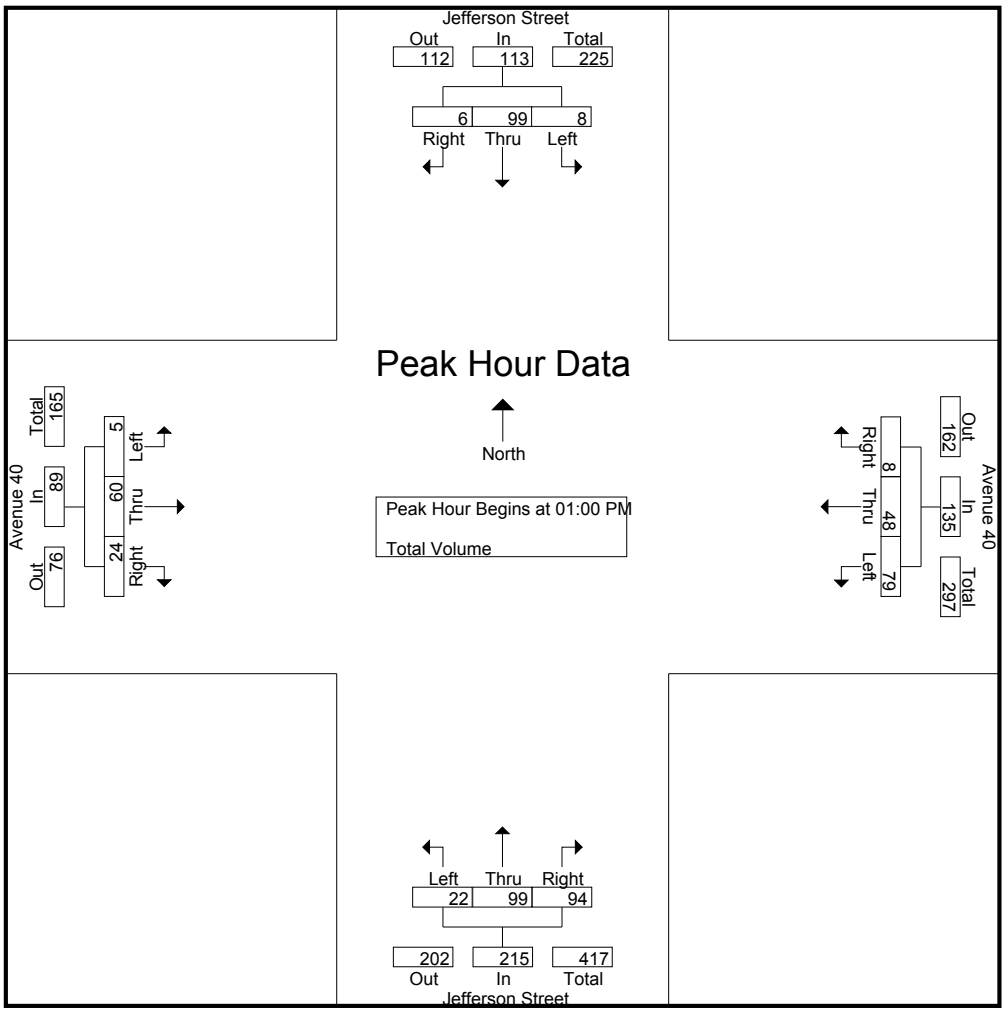

Peak Hour Analysis From 12:00 PM to 01:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	12:45 PM				12:00 PM				01:00 PM				01:00 PM			
+0 mins.	2	25	1	28	16	**19**	0	35	5	**30**	18	53	1	**19**	5	**25**
+15 mins.	1	23	1	25	**24**	18	**4**	**46**	5	23	24	52	1	14	7	22
+30 mins.	**3**	**32**	0	**35**	11	15	0	26	3	24	**26**	53	**3**	14	4	21
+45 mins.	2	24	**2**	28	19	11	0	30	**9**	22	26	**57**	0	13	**8**	21
Total Volume	8	104	4	116	70	63	4	137	22	99	94	215	5	60	24	89
% App. Total	6.9	89.7	3.4		51.1	46	2.9		10.2	46	43.7		5.6	67.4	27	
PHF	.667	.813	.500	.829	.729	.829	.250	.745	.611	.825	.904	.943	.417	.789	.750	.890

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email: counts@countsunlimited.com

City of Indio
Jefferson Street
S/ Avenue 38
24 Hour Directional Volume Count

IND001
Site Code: 051-18139

Start Time	25-Feb-18 Sun	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		3	24			6	20				
12:15		11	19			5	14				
12:30		6	16			4	29				
12:45		4	11	24	70	3	19	18	82	42	152
01:00		3	33			2	20				
01:15		3	21			4	33				
01:30		6	30			3	20				
01:45		4	19	16	103	4	20	13	93	29	196
02:00		7	17			3	21				
02:15		3	25			0	26				
02:30		8	24			2	18				
02:45		4	16	22	82	0	25	5	90	27	172
03:00		3	22			1	30				
03:15		2	29			0	18				
03:30		0	30			1	18				
03:45		0	31	5	112	1	17	3	83	8	195
04:00		3	21			1	21				
04:15		3	34			6	24				
04:30		2	21			5	24				
04:45		4	**33**	12	109	4	19	16	88	28	197
05:00		4	**30**			6	21				
05:15		5	**30**			7	**20**				
05:30		1	**28**			7	**33**				
05:45		0	21	10	109	6	**24**	26	98	36	207
06:00		1	28			3	**33**				
06:15		2	28			5	14				
06:30		0	22			9	24				
06:45		3	33	6	111	8	13	25	84	31	195
07:00		4	32			12	15				
07:15		3	19			11	13				
07:30		5	27			19	12				
07:45		7	25	19	103	13	20	55	60	74	163
08:00		6	21			17	13				
08:15		3	24			13	13				
08:30		2	17			25	9				
08:45		7	20	18	82	27	16	82	51	100	133
09:00		12	16			17	10				
09:15		9	16			31	9				
09:30		6	17			29	10				
09:45		17	10	44	59	25	10	102	39	146	98
10:00		**18**	10			**25**	5				
10:15		**20**	14			**29**	5				
10:30		**13**	6			**30**	6				
10:45		**19**	6	70	36	**28**	6	112	22	182	58
11:00		17	5			24	3				
11:15		13	4			25	4				
11:30		15	6			22	5				
11:45		17	6	62	21	17	4	88	16	150	37
Total		308	997	308	997	545	806	545	806	853	1803
Combined Total		1305		1305		1351		1351		2656	
AM Peak	-	10:00	-	-	-	10:00	-	-	-	-	-
Vol.	-	70	-	-	-	112	-	-	-	-	-
P.H.F.		0.875				0.933					
PM Peak	-	-	04:45	-	-	-	05:15	-	-	-	-
Vol.	-	-	121	-	-	-	110	-	-	-	-
P.H.F.			0.917				0.833				
Percentage		23.6%	76.4%			40.3%	59.7%				
ADT/AADT		ADT 2,656		AADT 2,656							

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Phone: 951-268-6268
email: counts@countsunlimited.com

City of Indio
Jefferson Street
S/ Avenue 39
24 Hour Directional Volume Count

IND002
Site Code: 051-18139

Start Time	25-Feb-18 Sun	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		16	27			6	19				
12:15		7	21			7	33				
12:30		4	17			3	26				
12:45		3	39	30	104	2	30	18	108	48	212
01:00		4	22			3	34				
01:15		7	32			7	26				
01:30		4	22			4	24				
01:45		7	18	22	94	3	20	17	104	39	198
02:00		3	28			3	30				
02:15		7	30			2	31				
02:30		5	19			0	28				
02:45		3	27	18	104	1	31	6	120	24	224
03:00		2	37			0	26				
03:15		1	**34**			1	21				
03:30		1	**42**			3	23				
03:45		3	**28**	7	141	3	21	7	91	14	232
04:00		2	**38**			5	33				
04:15		2	28			5	27				
04:30		6	39			7	25				
04:45		4	36	14	141	7	27	24	112	38	253
05:00		10	34			7	**22**				
05:15		1	33			10	**43**				
05:30		1	26			7	**30**				
05:45		2	28	14	121	4	**35**	28	130	42	251
06:00		4	30			3	21				
06:15		1	25			11	29				
06:30		3	33			7	17				
06:45		4	38	12	126	14	13	35	80	47	206
07:00		1	21			11	18				
07:15		8	30			20	19				
07:30		8	26			19	21				
07:45		9	27	26	104	19	13	69	71	95	175
08:00		4	29			13	20				
08:15		4	27			23	12				
08:30		8	24			36	18				
08:45		13	18	29	98	20	14	92	64	121	162
09:00		13	18			**31**	10				
09:15		13	19			**34**	12				
09:30		19	17			**36**	15				
09:45		**23**	11	68	65	**30**	9	131	46	199	111
10:00		**22**	22			28	5				
10:15		**18**	8			35	5				
10:30		**26**	7			37	8				
10:45		22	5	88	42	25	3	125	21	213	63
11:00		18	5			31	6				
11:15		18	7			30	5				
11:30		24	4			21	3				
11:45		29	6	89	22	24	4	106	18	195	40
Total		417	1162	417	1162	658	965	658	965	1075	2127
Combined Total		1579		1579		1623		1623		3202	
AM Peak	-	09:45	-	-	-	09:00	-	-	-	-	-
Vol.	-	89	-	-	-	131	-	-	-	-	-
P.H.F.		0.856				0.910					
PM Peak	-	-	03:15	-	-	-	05:00	-	-	-	-
Vol.	-	-	142	-	-	-	130	-	-	-	-
P.H.F.			0.845				0.756				
Percentage		26.4%	73.6%			40.5%	59.5%				
ADT/AADT		ADT 3,202		AADT 3,202							

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City of Indio
Jefferson Street
S/ Avenue 40
24 Hour Directional Volume Count

IND003
Site Code: 051-18139

Start Time	25-Feb-18 Sun	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		18	51			7	40				
12:15		7	48			9	46				
12:30		4	42			6	**52**				
12:45		7	60	36	201	7	**58**	29	196	65	397
01:00		7	53			4	**54**				
01:15		11	55			8	**50**				
01:30		4	48			4	44				
01:45		9	43	31	199	3	42	19	190	50	389
02:00		7	50			4	43				
02:15		9	56			4	52				
02:30		6	50			0	37				
02:45		6	**60**	28	216	1	38	9	170	37	386
03:00		3	**61**			1	54				
03:15		5	**56**			1	33				
03:30		1	**55**			5	41				
03:45		3	52	12	224	2	42	9	170	21	394
04:00		6	60			4	43				
04:15		6	49			7	37				
04:30		5	56			7	43				
04:45		8	43	25	208	8	48	26	171	51	379
05:00		9	58			8	46				
05:15		1	48			13	57				
05:30		5	43			5	37				
05:45		4	46	19	195	10	45	36	185	55	380
06:00		5	54			7	35				
06:15		7	49			17	28				
06:30		8	47			15	24				
06:45		5	53	25	203	26	18	65	105	90	308
07:00		7	41			21	27				
07:15		11	45			26	26				
07:30		21	50			28	22				
07:45		16	42	55	178	22	22	97	97	152	275
08:00		11	42			29	24				
08:15		14	37			43	16				
08:30		27	37			58	22				
08:45		17	24	69	140	51	17	181	79	250	219
09:00		28	22			**51**	12				
09:15		35	30			**62**	11				
09:30		39	18			**50**	17				
09:45		41	19	143	89	**61**	12	224	52	367	141
10:00		38	29			51	8				
10:15		35	11			59	10				
10:30		**55**	13			53	9				
10:45		**35**	6	163	59	60	5	223	32	386	91
11:00		**44**	11			49	3				
11:15		**42**	7			57	8				
11:30		37	10			40	5				
11:45		53	8	176	36	53	4	199	20	375	56
Total		782	1948	782	1948	1117	1467	1117	1467	1899	3415
Combined Total		2730		2730		2584		2584		5314	
AM Peak	-	10:30	-	-	-	09:00	-	-	-	-	-
Vol.	-	176	-	-	-	224	-	-	-	-	-
P.H.F.		0.800				0.903					
PM Peak	-	-	02:45	-	-	-	00:30	-	-	-	-
Vol.	-	-	232	-	-	-	214	-	-	-	-
P.H.F.			0.951				0.922				
Percentage		28.6%	71.4%			43.2%	56.8%				
ADT/AADT		ADT 5,314		AADT 5,314							

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APPENDIX 3.2:

EXISTING (2018) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	11	12	7	11	6	9	52	6	8	93	13
Future Volume (vph)	16	11	12	7	11	6	9	52	6	8	93	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	11	12	7	11	6	9	52	6	8	93	13
Future Vol, veh/h	16	11	12	7	11	6	9	52	6	8	93	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	12	13	7	12	6	10	55	6	9	99	14
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8	7.9	8.2	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	13%	100%	0%	100%	0%	0%	8%	0%
Vol Thru, %	78%	0%	48%	0%	100%	0%	92%	0%
Vol Right, %	9%	0%	52%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	16	23	7	11	6	101	13
LT Vol	9	16	0	7	0	0	8	0
Through Vol	52	0	11	0	11	0	93	0
RT Vol	6	0	12	0	0	6	0	13
Lane Flow Rate	71	17	24	7	12	6	107	14
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.098	0.027	0.032	0.012	0.017	0.008	0.146	0.016
Departure Headway (Hd)	4.967	5.637	4.767	5.662	5.16	4.457	4.908	4.168
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	724	637	753	634	696	805	734	862
Service Time	2.68	3.351	2.481	3.376	2.874	2.17	2.619	1.879
HCM Lane V/C Ratio	0.098	0.027	0.032	0.011	0.017	0.007	0.146	0.016
HCM Control Delay	8.2	8.5	7.6	8.4	8	7.2	8.5	6.9
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.1	0	0.1	0	0.5	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	12	6	2	0	14	69	6	0	116	0
Future Volume (vph)	2	2	12	6	2	0	14	69	6	0	116	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	16.0	29.5	29.5	29.5	16.0	36.0	36.0	14.5	34.5	34.5
Total Split (%)	36.9%	36.9%	20.0%	36.9%	36.9%	36.9%	20.0%	45.0%	45.0%	18.1%	43.1%	43.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	12	6	2	0	14	69	6	0	116	0
Future Volume (veh/h)	2	2	12	6	2	0	14	69	6	0	116	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	2	13	7	2	0	16	77	7	0	129	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	51	103	127	51	43	1101	1609	1363	1099	1433	1215
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.00	0.04	0.86	0.86	0.00	0.77	0.00
Sat Flow, veh/h	1415	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	2	2	13	7	2	0	16	77	7	0	129	0
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.1	0.1	0.6	0.4	0.1	0.0	0.1	0.5	0.0	0.0	1.4	0.0
Cycle Q Clear(g_c), s	0.2	0.1	0.6	0.5	0.1	0.0	0.1	0.5	0.0	0.0	1.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	127	51	103	127	51	43	1101	1609	1363	1099	1433	1215
V/C Ratio(X)	0.02	0.04	0.13	0.06	0.04	0.00	0.01	0.05	0.01	0.00	0.09	0.00
Avail Cap(c_a), veh/h	531	584	555	526	584	495	1291	1609	1363	1320	1433	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	38.0	37.9	35.3	38.1	37.9	0.0	1.3	0.8	0.8	0.0	2.3	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.2	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	38.2	35.8	38.3	38.2	0.0	1.3	0.9	0.8	0.0	2.5	0.0
LnGrp LOS	D	D	D	D	D	A	A	A	A	A	A	A
Approach Vol, veh/h		17			9			100			129	
Approach Delay, s/veh		36.4			38.3			0.9			2.5	
Approach LOS		D			D			A			A	

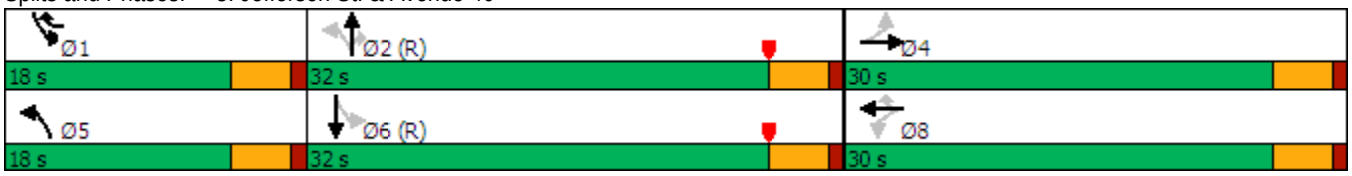
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	73.3		6.7	7.5	65.8		6.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	11.5	30.0		25.0
Max Q Clear Time (g_c+I1), s	0.0	2.5		2.6	2.1	3.4		2.5
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.6		0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	46	23	80	80	8	21	82	58	7	128	5
Future Volume (vph)	1	46	23	80	80	8	21	82	58	7	128	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	18.0	18.0	32.0	32.0	18.0	32.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	22.5%	22.5%	40.0%	40.0%	22.5%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	46	23	80	80	8	21	82	58	7	128	5
Future Volume (veh/h)	1	46	23	80	80	8	21	82	58	7	128	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	50	25	87	87	9	23	89	63	8	139	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	158	79	217	251	245	947	1266	1073	926	1161	42
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.68	0.68	0.02	0.65	0.65
Sat Flow, veh/h	1300	1176	588	1325	1870	1585	1781	1870	1585	1781	1794	65
Grp Volume(v), veh/h	1	0	75	87	87	9	23	89	63	8	0	144
Grp Sat Flow(s),veh/h/ln	1300	0	1764	1325	1870	1585	1781	1870	1585	1781	0	1859
Q Serve(g_s), s	0.1	0.0	3.1	5.1	3.4	0.4	0.3	1.3	1.1	0.1	0.0	2.4
Cycle Q Clear(g_c), s	3.4	0.0	3.1	8.2	3.4	0.4	0.3	1.3	1.1	0.1	0.0	2.4
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	209	0	237	217	251	245	947	1266	1073	926	0	1203
V/C Ratio(X)	0.00	0.00	0.32	0.40	0.35	0.04	0.02	0.07	0.06	0.01	0.00	0.12
Avail Cap(c_a), veh/h	449	0	562	461	596	538	1159	1266	1073	1190	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	31.3	35.0	31.5	28.8	3.8	4.4	4.4	4.4	0.0	5.4
Incr Delay (d2), s/veh	0.0	0.0	0.8	1.2	0.8	0.1	0.0	0.1	0.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.3	1.7	1.5	0.1	0.1	0.4	0.3	0.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	0.0	32.1	36.2	32.3	28.8	3.8	4.5	4.5	4.4	0.0	5.6
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		76			183			175			152	
Approach Delay, s/veh		32.1			34.0			4.4			5.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	58.6		15.2	8.5	56.3		15.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	27.5		25.5	13.5	27.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	3.3		5.4	2.3	4.4		10.2
Green Ext Time (p_c), s	0.0	0.6		0.3	0.0	0.7		0.6

Intersection Summary			
HCM 6th Ctrl Delay			17.5
HCM 6th LOS			B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	10	13	9	14	9	20	71	9	10	70	6
Future Volume (vph)	13	10	13	9	14	9	20	71	9	10	70	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	10	13	9	14	9	20	71	9	10	70	6
Future Vol, veh/h	13	10	13	9	14	9	20	71	9	10	70	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	11	14	10	15	10	22	76	10	11	75	6
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8	7.9	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	20%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	71%	0%	43%	0%	100%	0%	88%	0%
Vol Right, %	9%	0%	57%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	13	23	9	14	9	80	6
LT Vol	20	13	0	9	0	0	10	0
Through Vol	71	0	10	0	14	0	70	0
RT Vol	9	0	13	0	0	9	0	6
Lane Flow Rate	108	14	25	10	15	10	86	6
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.148	0.022	0.033	0.015	0.022	0.012	0.12	0.008
Departure Headway (Hd)	4.961	5.684	4.783	5.684	5.181	4.478	5.019	4.256
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	725	631	750	631	692	800	717	843
Service Time	2.677	3.404	2.503	3.405	2.903	2.199	2.736	1.972
HCM Lane V/C Ratio	0.149	0.022	0.033	0.016	0.022	0.013	0.12	0.007
HCM Control Delay	8.5	8.5	7.7	8.5	8	7.3	8.4	7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0	0.1	0	0.4	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	0	12	8	2	2	15	86	5	1	93	0
Future Volume (vph)	4	0	12	8	2	2	15	86	5	1	93	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm		pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	16.0	29.5	29.5	29.5	16.0	34.5	34.5	16.0	34.5	34.5
Total Split (%)	36.9%	36.9%	20.0%	36.9%	36.9%	36.9%	20.0%	43.1%	43.1%	20.0%	43.1%	43.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	12	8	2	2	15	86	5	1	93	0
Future Volume (veh/h)	4	0	12	8	2	2	15	86	5	1	93	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	0	13	9	2	2	16	93	5	1	101	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	57	107	133	57	48	1127	1493	1265	1085	1428	1210
Arrive On Green	0.03	0.00	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.00
Sat Flow, veh/h	1412	1870	1585	1401	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	4	0	13	9	2	2	16	93	5	1	101	0
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1401	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.2	0.0	0.6	0.5	0.1	0.1	0.1	0.8	0.1	0.0	1.1	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.6	0.5	0.1	0.1	0.1	0.8	0.1	0.0	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	131	57	107	133	57	48	1127	1493	1265	1085	1428	1210
V/C Ratio(X)	0.03	0.00	0.12	0.07	0.04	0.04	0.01	0.06	0.00	0.00	0.07	0.00
Avail Cap(c_a), veh/h	530	584	555	528	584	495	1316	1493	1265	1336	1428	1210
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.8	0.0	35.0	37.8	37.6	37.7	1.6	1.7	1.6	2.2	2.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.2	0.2	0.3	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	35.5	38.1	37.9	38.0	1.6	1.8	1.6	2.2	2.5	0.0
LnGrp LOS	D	A	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		17			13			114			102	
Approach Delay, s/veh		36.1			38.0			1.8			2.5	
Approach LOS		D			D			A			A	

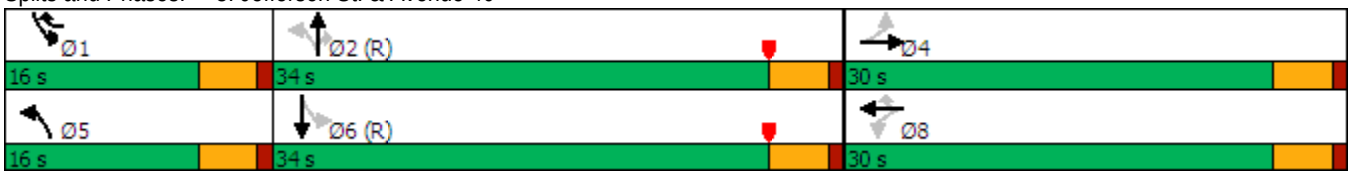
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.3		6.9	7.5	65.6		6.9
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	30.0		25.0	11.5	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	2.8		2.6	2.1	3.1		2.5
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	60	24	79	48	8	22	99	94	8	99	6
Future Volume (vph)	5	60	24	79	48	8	22	99	94	8	99	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	16.0	16.0	34.0	34.0	16.0	34.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	20.0%	20.0%	42.5%	42.5%	20.0%	42.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	60	24	79	48	8	22	99	94	8	99	6
Future Volume (veh/h)	5	60	24	79	48	8	22	99	94	8	99	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	62	25	81	49	8	23	102	97	8	102	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	169	68	207	250	244	984	1267	1073	893	1133	67
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.68	0.68	0.02	0.65	0.65
Sat Flow, veh/h	1346	1267	511	1310	1870	1585	1781	1870	1585	1781	1749	103
Grp Volume(v), veh/h	5	0	87	81	49	8	23	102	97	8	0	108
Grp Sat Flow(s),veh/h/ln	1346	0	1778	1310	1870	1585	1781	1870	1585	1781	0	1852
Q Serve(g_s), s	0.3	0.0	3.6	4.8	1.9	0.3	0.3	1.5	1.7	0.1	0.0	1.7
Cycle Q Clear(g_c), s	2.1	0.0	3.6	8.4	1.9	0.3	0.3	1.5	1.7	0.1	0.0	1.7
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	239	0	238	207	250	244	984	1267	1073	893	0	1199
V/C Ratio(X)	0.02	0.00	0.37	0.39	0.20	0.03	0.02	0.08	0.09	0.01	0.00	0.09
Avail Cap(c_a), veh/h	488	0	567	449	596	538	1150	1267	1073	1112	0	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.8	0.0	31.6	35.4	30.8	28.8	3.7	4.4	4.4	4.4	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.2	0.4	0.1	0.0	0.1	0.2	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	1.6	0.8	0.1	0.1	0.5	0.5	0.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.8	0.0	32.5	36.6	31.2	28.8	3.7	4.5	4.6	4.4	0.0	5.4
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		92			138			222			116	
Approach Delay, s/veh		32.5			34.2			4.5			5.4	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	58.7		15.2	8.5	56.3		15.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	29.5		25.5	11.5	29.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	3.7		5.6	2.3	3.7		10.4
Green Ext Time (p_c), s	0.0	0.8		0.4	0.0	0.5		0.4

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

APPENDIX 3.3:

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Return to Agenda
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Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2018) AM PEAK HOUR WARRANTS**

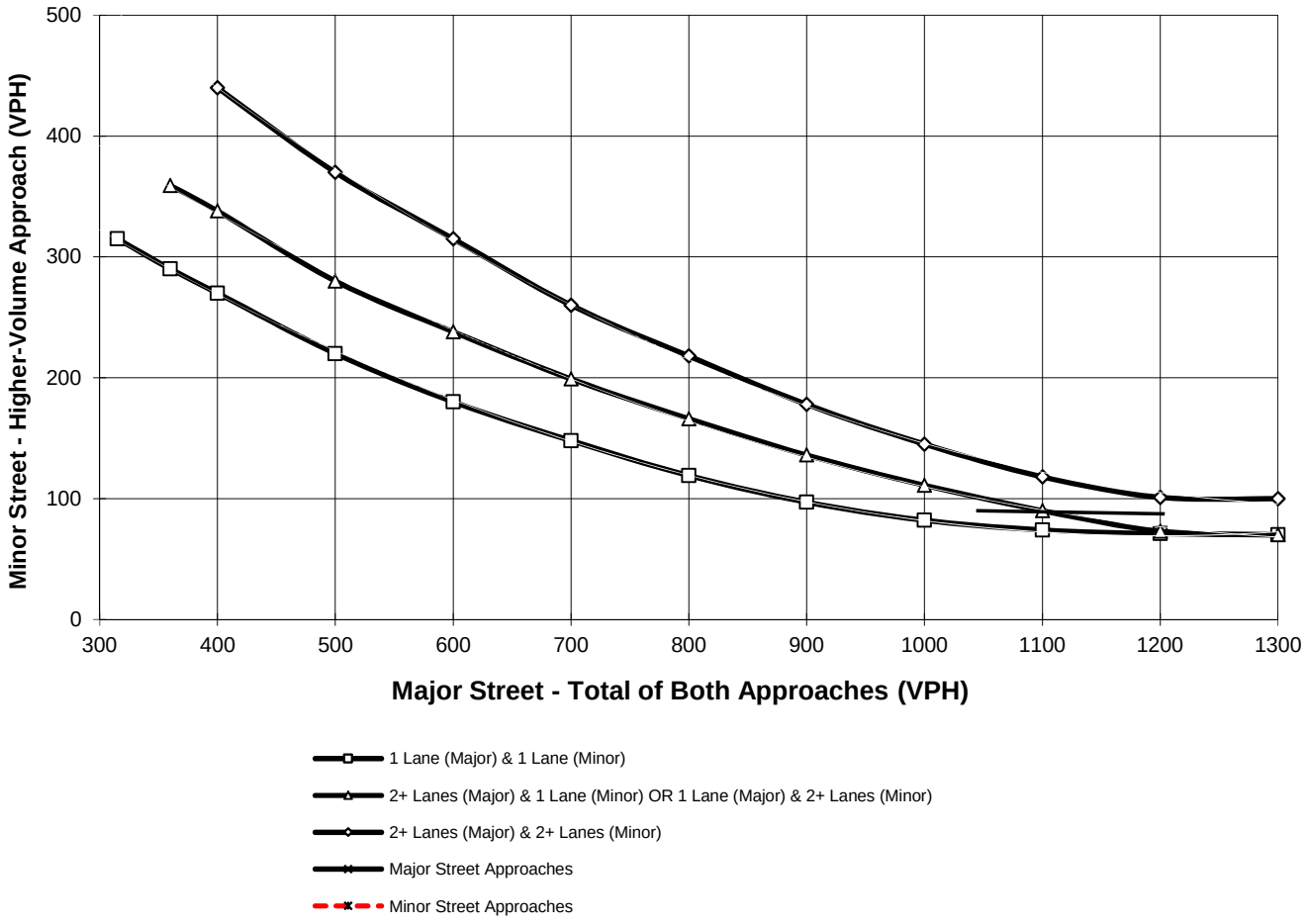
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **181**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **39**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Return to Agenda
Open Bookmarks

Figure 4C-4. Warra[illegible]our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EXISTING (2018) MD PEAK HOUR WARRANTS**

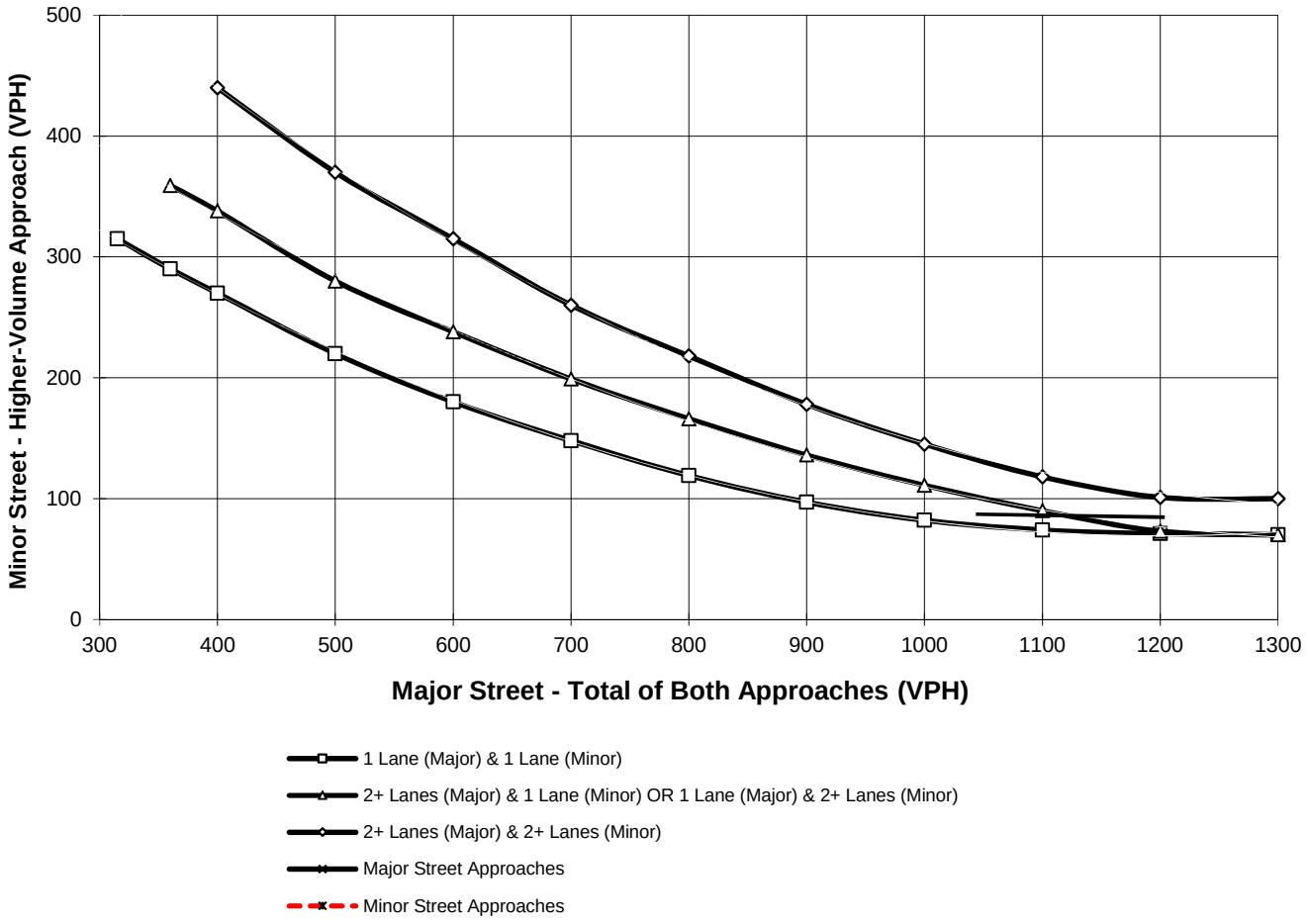
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **186**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **36**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Return to Agenda
Open Bookmarks

Figure 4C-4. Warra[illegible]our (70% Factor)

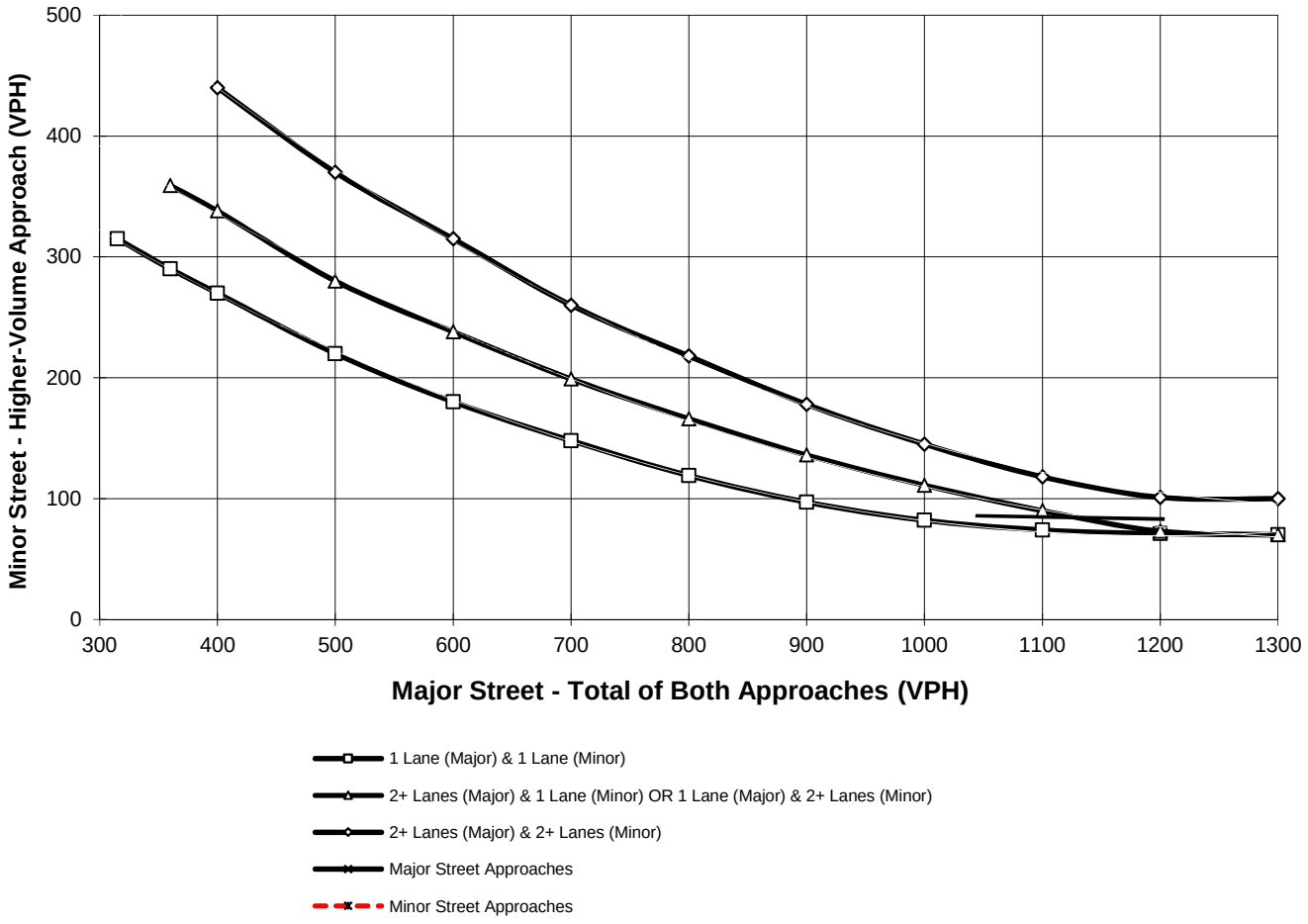
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing + Project AM PEAK HOUR WARRANTS**

Major Street Name = **Jefferson St.**
Total of Both Approaches (VPH) = **291**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**
High Volume Approach (VPH) = **71**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Return to Agenda
Open Bookmarks

Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **Existing + Project MD PEAK HOUR WARRANTS**

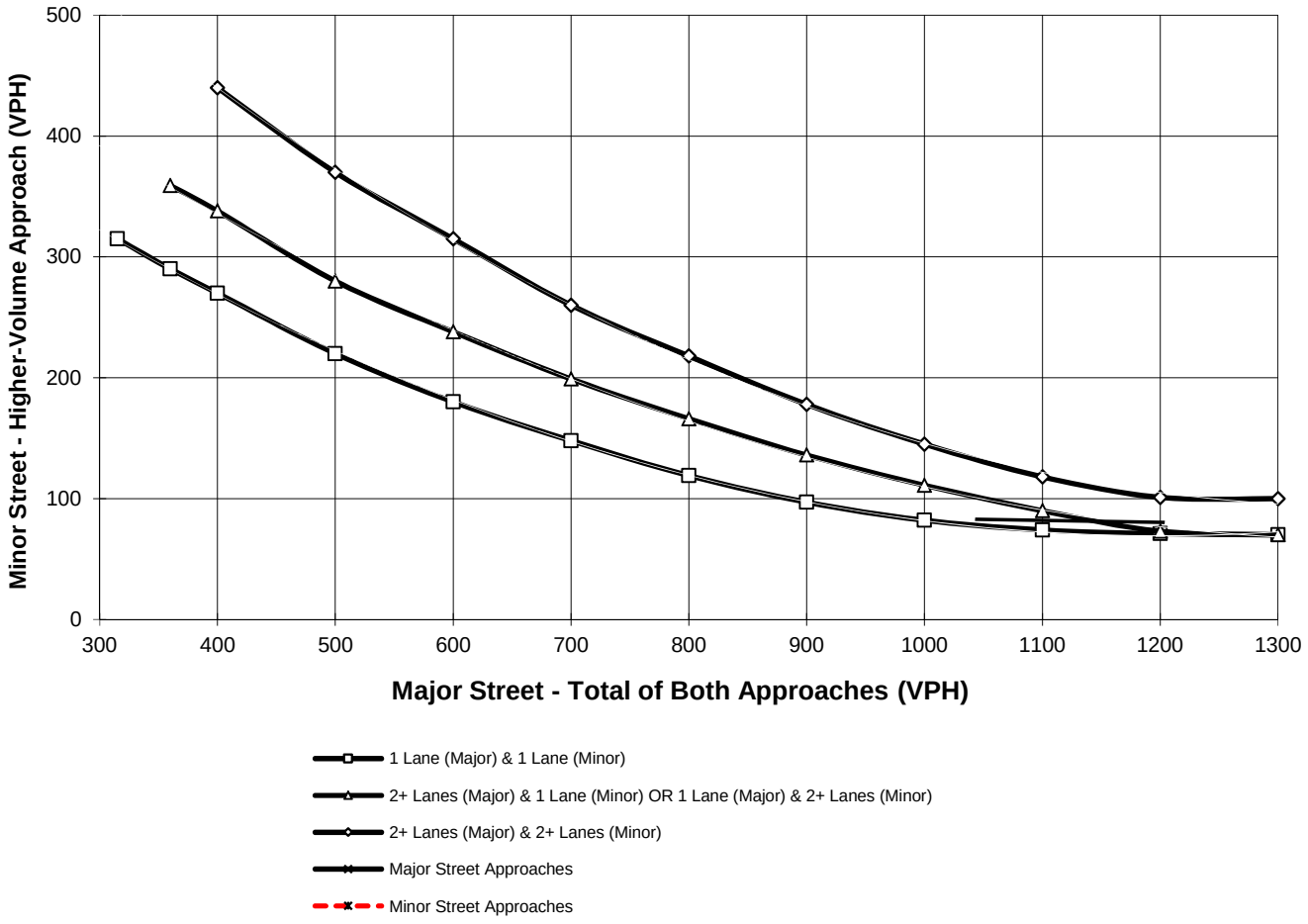
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **262**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **38**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Return to Agenda

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM		TRAFFIC CONDITIONS		E+P
				CALC	JC	DATE	09/24/18
Jurisdiction:	City of Indio			CHK		DATE	
Major Street:	Jefferson St.				Critical Approach Speed (Major)		46 mph
Minor Street:	Youngs Wy.				Critical Approach Speed (Minor)		30 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes **1** lane

Major Street Future ADT = **3,934** vpd

Minor Street Future ADT = **1,201** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……... [√]

or

In built up area of isolated community of < 10,000 population …….. [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements ADT			
	XX				
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **3,934**	1 **1,201**	8,000	5,600	2,400	1,680
2 +	1	9,600	6,720	2,400	1,680
2 +	2 +	9,600	6,720	3,200	2,240
1	2 +	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied	Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
	XX				
Number of lanes for moving traffic on each approach					
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **3,934**	1 **1,201**	12,000	8,400	1,200	850 *
2 +	1	14,400	10,080	1,200	850
2 +	2 +	14,400	10,080	1,600	1,120
1	2 +	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied	2 CONDITIONS 80%		2 CONDITIONS 80%	
	XX				
No one condition satisfied, but following conditions fulfilled 80% of more …..	A / B				
	70% / 47%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Return to Agenda
Open Bookmarks

Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP 2020 AM PEAK HOUR WARRANTS**

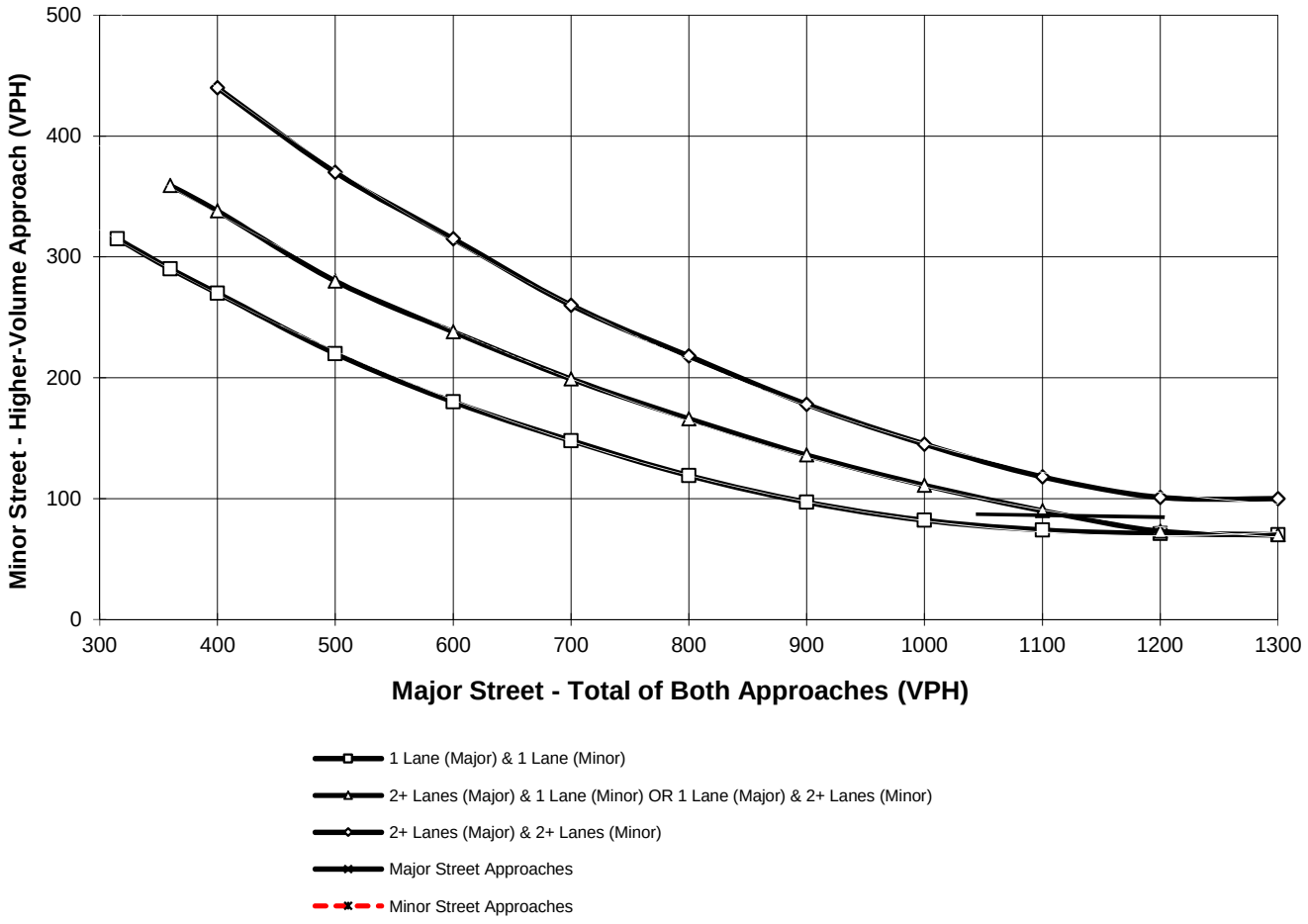
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **239**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **55**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP 2020 MD PEAK HOUR WARRANTS**

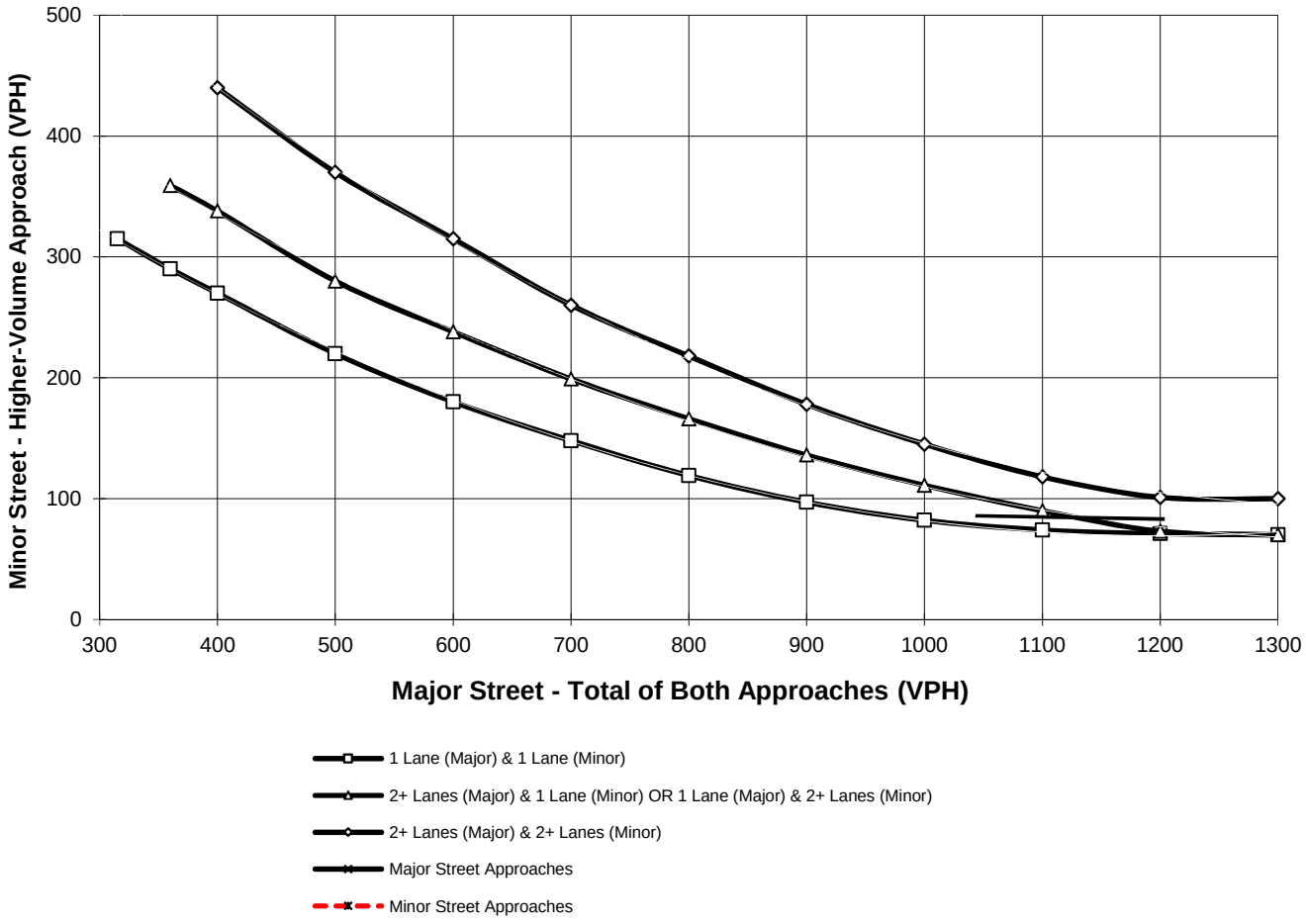
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **228**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **39**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

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Return to Agenda

Open Bookmarks

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM		TRAFFIC CONDITIONS		OY (2020) WP
				CALC	JC	DATE	09/24/18
Jurisdiction:	City of Indio			CHK		DATE	
Major Street:	Jefferson St.				Critical Approach Speed (Major)		46 mph
Minor Street:	Youngs Wy.				Critical Approach Speed (Minor)		30 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes **1** lane

Major Street Future ADT = **3,535** vpd

Minor Street Future ADT = **725** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……... [√]

or

In built up area of isolated community of < 10,000 population …….. [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements ADT			
	XX				
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **3,535**	*1* **725**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2 +*	9,600	6,720	3,200	2,240
1	*2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **3,535**	*1* **725**	12,000	8,400	1,200	850
2 +	*1*	14,400	10,080	1,200	850
2 +	*2 +*	14,400	10,080	1,600	1,120
1	*2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** 43% / **B** 42%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Return to Agenda
Open Bookmarks

Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP 2025 AM PEAK HOUR WARRANTS**

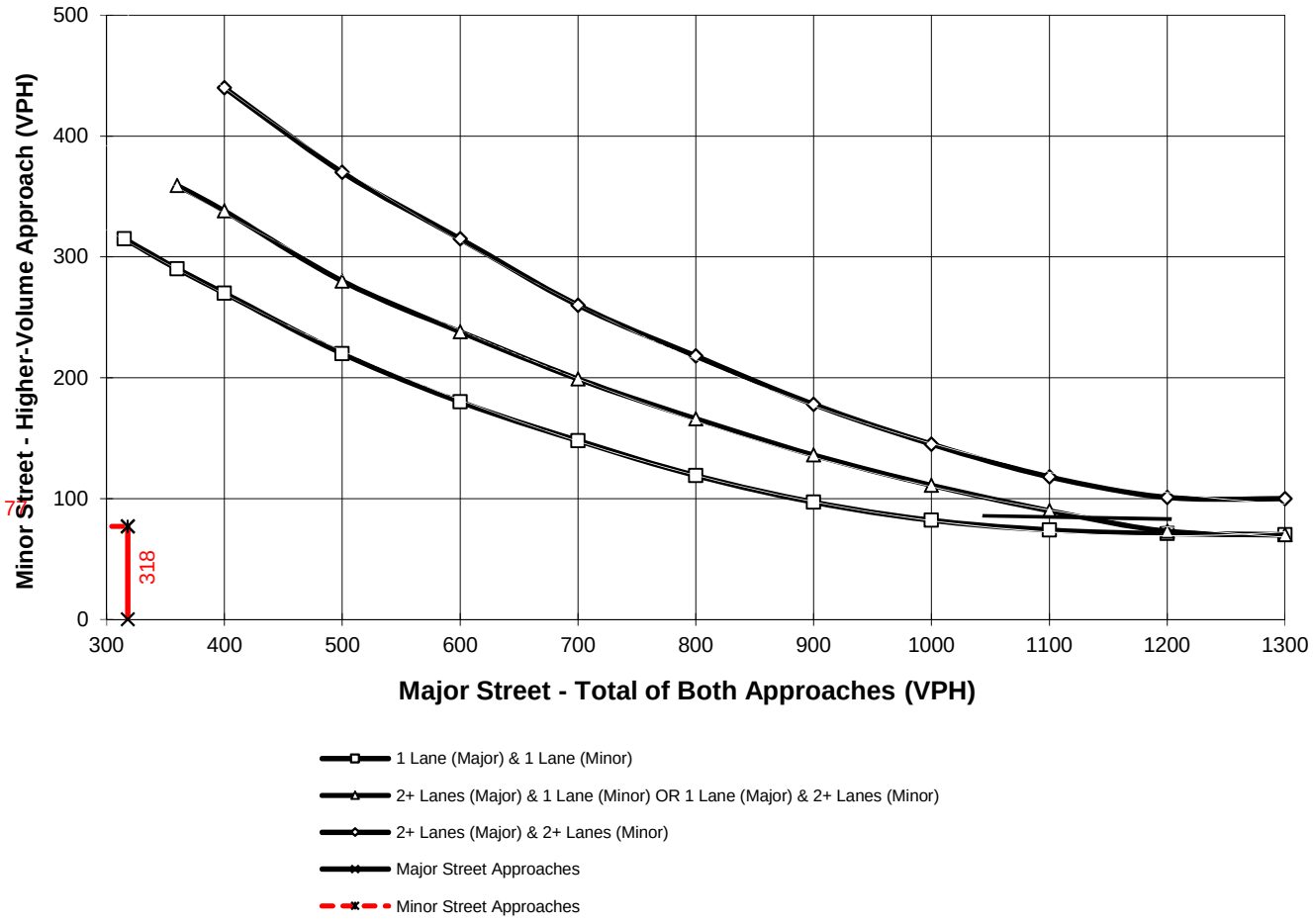
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **318**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **77**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

R:\UXRjobs_11100-11500\11513\Warrants\2025\EAP\01R_AM.xls\Fig 4C-4 (Rural Peak)

Return to Agenda
Open Bookmarks

Figure 4C-4. Warra our (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = **EAP 2025 MD PEAK HOUR WARRANTS**

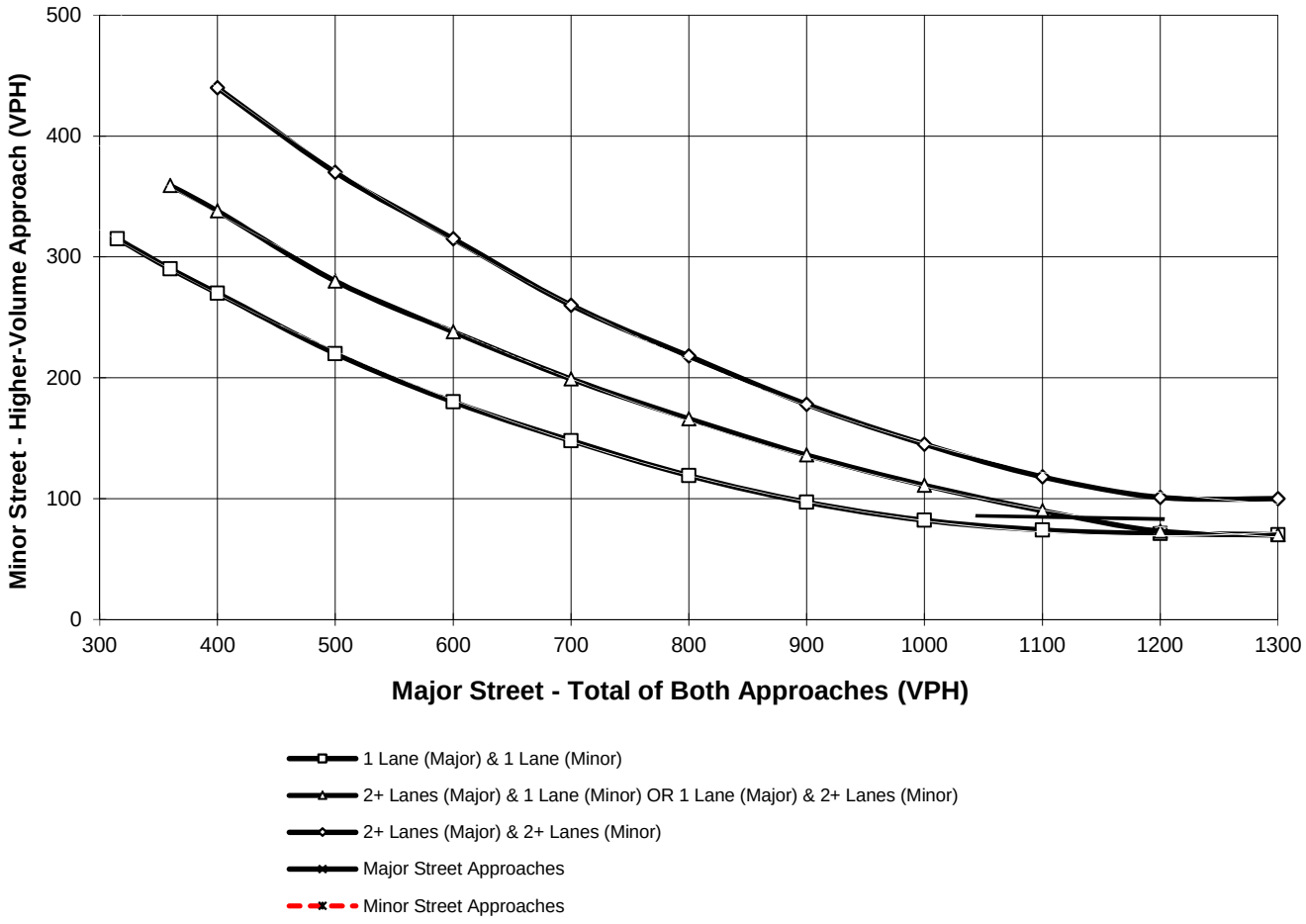
Major Street Name = **Jefferson St.**

Total of Both Approaches (VPH) = **289**
Number of Approach Lanes Major Street = **1**

Minor Street Name = **Avenue 38**

High Volume Approach (VPH) = **43**
Number of Approach Lanes Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

R:\UXRjobs_11100-11500\11513\Warrants\2025\EAP\01R_MD.xls\Fig 4C-4 (Rural Peak)

Return to Agenda

Open Bookmarks

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet
(Average Traffic Estimate Form)

DIST	CO	RTE	PM		TRAFFIC CONDITIONS		OY (2025) WP
				CALC	JC	DATE	09/24/18
Jurisdiction:	City of Indio			CHK		DATE	
Major Street:	Jefferson St.				Critical Approach Speed (Major)		46 mph
Minor Street:	Youngs Wy.				Critical Approach Speed (Minor)		30 mph

Major Street Approach Lanes = **1** lane

Minor Street Approach Lanes **1** lane

Major Street Future ADT = **4,329** vpd

Minor Street Future ADT = **1,201** vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); ……... [√]

or

In built up area of isolated community of < 10,000 population …….. [ ]

RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN	RURAL	Minimum Requirements ADT			
	XX				
CONDITION A - Minimum Vehicular Volume					
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,329**	*1* **1,201**	8,000	5,600	2,400	1,680
2 +	*1*	9,600	6,720	2,400	1,680
2 +	*2 +*	9,600	6,720	3,200	2,240
1	*2 +*	8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic					
Satisfied	Not Satisfied				
	XX				
Number of lanes for moving traffic on each approach		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
Major Street	Minor Street	Urban	Rural	Urban	Rural
1 **4,329**	*1* **1,201**	12,000	8,400	1,200	850 *
2 +	*1*	14,400	10,080	1,200	850
2 +	*2 +*	14,400	10,080	1,600	1,120
1	*2 +*	12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B					
Satisfied	Not Satisfied				
	XX	2 CONDITIONS 80%		2 CONDITIONS 80%	
No one condition satisfied, but following conditions fulfilled 80% of more …..	**A** / **B**				
	71% / 52%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

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APPENDIX 4.1:

SURVEY COUNT DATA

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Return to Agenda

Open Bookmarks

Summary Data Sheet

Parking Area / Location: 79733 Country Club Dr. Bermuda Dunes 92203 Sunday, February 25, 2018

Data Collector: David McCoy Signature: David McCoy

Start Time	End Time	Inbound Vehicles	Outbound Vehicles	Occupied Parking Spaces (at End Time)	Building Occupancy at End Time (Adults)	Building Occupancy at End Time (Teens/Children)
07:30 AM	07:45 AM	30	0	40	29	2
07:45 AM	08:00 AM	68	0	98	211	10
08:00 AM	08:15 AM	26	0	138	250	12
08:15 AM	08:30 AM	3	0	158	239	10
08:30 AM	08:45 AM	9	0	163	244	10
08:45 AM	09:00 AM	14	4	168	248	10
09:00 AM	09:15 AM	72	23	192	275	35
09:15 AM	09:30 AM	63	91	229	317	81
09:30 AM	09:45 AM	14	8	247	374	102
09:45 AM	10:00 AM	8	2	256	380	113
10:00 AM	10:15 AM	2	5	257	386	111
10:15 AM	10:30 AM	1	1	256	388	106
10:30 AM	10:45 AM	10	36	258	387	113
10:45 AM	11:00 AM	27	24	243	331	91
11:00 AM	11:15 AM	43	108	178	141	31
11:15 AM	11:30 AM	42	27	155	244	83
11:30 AM	11:45 AM	31	11	190	301	103
11:45 AM	12:00 PM	5	3	198	307	116
12:00 PM	12:15 PM	1	12	198	309	117
12:15 PM	12:30 PM	5	4	197	306	116
12:30 PM	12:45 PM	0	1	194	304	111
12:45 PM	01:00 PM	2	12	188	298	106
01:00 PM	01:15 PM	1	99	99	68	30
01:15 PM	01:30 PM	1	50	54	19	3
01:30 PM	01:45 PM	3	16	38	12	6
01:45 PM	02:00 PM	0	20	11	3	0

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Return to Agenda

Open Bookmarks

The Garden Fellow bership Records

City	Zip Code	Total Households	North Of 10 Fwy
Twentynine Palms	92277	2	Yes
Yucca Valley	92284	4	Yes
Desert Hot Springs	92240	6	Yes
Thousand Palms	92276	10	Yes
Palm Desert (North)	92211	20	Yes
Palm Springs	92263	4	No
Cathedral City	92234	25	No
Ranch Mirage	92270	17	No
Palm desert (South)	92260	67	No
Palm Desert (North)	92211	52	No
Indian wells	92210	8	No
Bermuda Dunes	92203	68	No
La Quinta	92253	148	No
Indio	92201	93	No
North Indio	92203	92	Yes
Thermal	92274	2	No
Mecca	92254	12	No

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APPENDIX 5.1:

EXISTING PLUS PROJECT BUILDOUT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	11	44	7	11	6	48	91	6	8	125	13
Future Volume (vph)	16	11	44	7	11	6	48	91	6	8	125	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			8.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	11	44	7	11	6	48	91	6	8	125	13
Future Vol, veh/h	16	11	44	7	11	6	48	91	6	8	125	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	12	47	7	12	6	51	97	6	9	133	14
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.3	8.4	9.5	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	33%	100%	0%	100%	0%	0%	6%	0%
Vol Thru, %	63%	0%	20%	0%	100%	0%	94%	0%
Vol Right, %	4%	0%	80%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	16	55	7	11	6	133	13
LT Vol	48	16	0	7	0	0	8	0
Through Vol	91	0	11	0	11	0	125	0
RT Vol	6	0	44	0	0	6	0	13
Lane Flow Rate	154	17	59	7	12	6	141	14
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.226	0.028	0.08	0.013	0.018	0.009	0.204	0.017
Departure Headway (Hd)	5.273	6.003	4.933	6.091	5.587	4.881	5.181	4.449
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	680	596	724	587	639	731	693	804
Service Time	3.006	3.747	2.677	3.838	3.334	2.628	2.913	2.181
HCM Lane V/C Ratio	0.226	0.029	0.081	0.012	0.019	0.008	0.203	0.017
HCM Control Delay	9.5	8.9	8.1	8.9	8.4	7.7	9.2	7.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.9	0.1	0.3	0	0.1	0	0.8	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2	12	6	2	0	14	616	6	0	771	39
Future Volume (vph)	34	2	12	6	2	0	14	616	6	0	771	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	2	12	6	2	0	14	616	6	0	771	39
Future Volume (veh/h)	34	2	12	6	2	0	14	616	6	0	771	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	2	13	7	2	0	16	684	7	0	857	43
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	87	133	154	87	74	487	1573	1333	654	1397	1184
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.00	0.04	0.84	0.84	0.00	0.75	0.75
Sat Flow, veh/h	1415	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	38	2	13	7	2	0	16	684	7	0	857	43
Grp Sat Flow(s),veh/h/ln	1415	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.1	0.1	0.6	0.4	0.1	0.0	0.1	7.3	0.1	0.0	17.1	0.6
Cycle Q Clear(g_c), s	2.2	0.1	0.6	0.5	0.1	0.0	0.1	7.3	0.1	0.0	17.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	87	133	154	87	74	487	1573	1333	654	1397	1184
V/C Ratio(X)	0.25	0.02	0.10	0.05	0.02	0.00	0.03	0.43	0.01	0.00	0.61	0.04
Avail Cap(c_a), veh/h	531	584	555	526	584	495	643	1573	1333	875	1397	1184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	36.4	33.8	36.6	36.4	0.0	3.8	1.6	1.0	0.0	4.7	2.6
Incr Delay (d2), s/veh	0.8	0.1	0.3	0.1	0.1	0.0	0.0	0.9	0.0	0.0	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2	0.1	0.0	0.0	0.0	0.6	0.0	0.0	4.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	36.5	34.1	36.7	36.5	0.0	3.8	2.5	1.0	0.0	6.7	2.7
LnGrp LOS	D	D	C	D	D	A	A	A	A	A	A	A
Approach Vol, veh/h		53			9			707			900	
Approach Delay, s/veh		37.2			36.7			2.5			6.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	71.8		8.2	7.5	64.3		8.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	0.0	9.3		4.2	2.1	19.1		2.5
Green Ext Time (p_c), s	0.0	4.5		0.1	0.0	4.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	46	23	80	80	72	21	532	58	84	667	44
Future Volume (vph)	33	46	23	80	80	72	21	532	58	84	667	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	26.5	26.5		26.5	26.5	14.5	14.5	39.0	39.0	14.5	39.0	
Total Split (%)	33.1%	33.1%		33.1%	33.1%	18.1%	18.1%	48.8%	48.8%	18.1%	48.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	46	23	80	80	72	21	532	58	84	667	44
Future Volume (veh/h)	33	46	23	80	80	72	21	532	58	84	667	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	50	25	87	87	78	23	578	63	91	725	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	204	160	80	219	254	387	451	1098	930	600	1119	74
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.59	0.59	0.11	0.65	0.65
Sat Flow, veh/h	1221	1176	588	1325	1870	1585	1781	1870	1585	1781	1735	115
Grp Volume(v), veh/h	36	0	75	87	87	78	23	578	63	91	0	773
Grp Sat Flow(s),veh/h/ln	1221	0	1764	1325	1870	1585	1781	1870	1585	1781	0	1850
Q Serve(g_s), s	2.2	0.0	3.1	5.1	3.4	3.1	0.4	14.8	1.4	1.2	0.0	20.4
Cycle Q Clear(g_c), s	5.6	0.0	3.1	8.1	3.4	3.1	0.4	14.8	1.4	1.2	0.0	20.4
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	204	0	240	219	254	387	451	1098	930	600	0	1194
V/C Ratio(X)	0.18	0.00	0.31	0.40	0.34	0.20	0.05	0.53	0.07	0.15	0.00	0.65
Avail Cap(c_a), veh/h	374	0	485	403	514	608	585	1098	930	630	0	1194
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	0.0	31.2	34.9	31.3	24.0	6.9	9.9	7.1	5.3	0.0	8.6
Incr Delay (d2), s/veh	0.4	0.0	0.7	1.2	0.8	0.3	0.0	1.8	0.1	0.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.3	1.7	1.5	1.2	0.1	5.6	0.4	0.3	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	0.0	31.9	36.0	32.1	24.3	7.0	11.7	7.3	5.4	0.0	11.4
LnGrp LOS	C	A	C	D	C	C	A	B	A	A	A	B
Approach Vol, veh/h		111			252			664			864	
Approach Delay, s/veh		32.7			31.0			11.1			10.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	51.4		15.4	8.5	56.1		15.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	34.5		22.0	10.0	34.5		22.0
Max Q Clear Time (g_c+I1), s	3.2	16.8		7.6	2.4	22.4		10.1
Green Ext Time (p_c), s	0.1	3.7		0.4	0.0	4.1		0.7

Intersection Summary			
HCM 6th Ctrl Delay			14.9
HCM 6th LOS			B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	77	386	579	67	144	32
Future Volume (vph)	77	386	579	67	144	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	386	579	67	144	32
Future Vol, veh/h	77	386	579	67	144	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	420	629	73	157	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1506	175	192	0	-	0
Stage 1	175	-	-	-	-	-
Stage 2	1331	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	133	868	1381	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 72	868	1381	-	-	-
Mov Cap-2 Maneuver	2791	-	-	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	8.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1381	-	2791	868	-	-
HCM Lane V/C Ratio	0.456	-	0.03	0.483	-	-
HCM Control Delay (s)	9.8	-	6.3	13	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	2.4	-	0.1	2.7	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	307	0	646	498	32
Future Volume (vph)	0	307	0	646	498	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	307	0	646	498	32
Future Vol, veh/h	0	307	0	646	498	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	334	0	702	541	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	559	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	529	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	529	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	529	-	-
HCM Lane V/C Ratio	-	0.631	-	-
HCM Control Delay (s)	-	22.7	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	4.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	10	15	9	14	9	57	108	9	10	72	6
Future Volume (vph)	13	10	15	9	14	9	57	108	9	10	72	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			8.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	10	15	9	14	9	57	108	9	10	72	6
Future Vol, veh/h	13	10	15	9	14	9	57	108	9	10	72	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	11	16	10	15	10	61	116	10	11	77	6
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.2	8.2	9.6	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	33%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	62%	0%	40%	0%	100%	0%	88%	0%
Vol Right, %	5%	0%	60%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	174	13	25	9	14	9	82	6
LT Vol	57	13	0	9	0	0	10	0
Through Vol	108	0	10	0	14	0	72	0
RT Vol	9	0	15	0	0	9	0	6
Lane Flow Rate	187	14	27	10	15	10	88	6
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.264	0.023	0.037	0.016	0.023	0.013	0.127	0.008
Departure Headway (Hd)	5.073	5.938	5.01	5.939	5.436	4.731	5.204	4.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	709	603	714	603	659	756	690	806
Service Time	2.795	3.671	2.743	3.671	3.167	2.462	2.93	2.167
HCM Lane V/C Ratio	0.264	0.023	0.038	0.017	0.023	0.013	0.128	0.007
HCM Control Delay	9.6	8.8	7.9	8.8	8.3	7.5	8.7	7.2
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.1	0.1	0.1	0	0.1	0	0.4	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	12	8	2	2	15	113	5	1	714	37
Future Volume (vph)	6	0	12	8	2	2	15	113	5	1	714	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm		pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Description:	

Splits and Phases: 2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	12	8	2	2	15	113	5	1	714	37
Future Volume (veh/h)	6	0	12	8	2	2	15	113	5	1	714	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	0	13	9	2	2	16	123	5	1	776	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	61	111	136	61	51	553	1489	1262	1056	1424	1207
Arrive On Green	0.03	0.00	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.76
Sat Flow, veh/h	1412	1870	1585	1401	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	7	0	13	9	2	2	16	123	5	1	776	40
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1401	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.4	0.0	0.6	0.5	0.1	0.1	0.1	1.1	0.1	0.0	13.5	0.5
Cycle Q Clear(g_c), s	0.5	0.0	0.6	0.5	0.1	0.1	0.1	1.1	0.1	0.0	13.5	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	61	111	136	61	51	553	1489	1262	1056	1424	1207
V/C Ratio(X)	0.05	0.00	0.12	0.07	0.03	0.04	0.03	0.08	0.00	0.00	0.54	0.03
Avail Cap(c_a), veh/h	530	584	555	528	584	495	709	1489	1262	1274	1424	1207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	0.0	34.9	37.7	37.5	37.5	2.8	1.8	1.7	2.2	3.9	2.3
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.2	0.2	0.3	0.0	0.1	0.0	0.0	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	3.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	35.4	37.9	37.7	37.8	2.8	1.9	1.7	2.2	5.4	2.4
LnGrp LOS	D	A	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		20			13			144			817	
Approach Delay, s/veh		36.2			37.8			2.0			5.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.2		7.1	7.5	65.4		7.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	2.0	3.1		2.6	2.1	15.5		2.5
Green Ext Time (p_c), s	0.0	0.6		0.0	0.0	4.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	60	24	79	48	11	22	121	94	81	611	43
Future Volume (vph)	7	60	24	79	48	11	22	121	94	81	611	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	26.6	26.6		26.6	26.6	14.6	14.6	38.8	38.8	14.6	38.8	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	18.3%	18.3%	48.5%	48.5%	18.3%	48.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	60	24	79	48	11	22	121	94	81	611	43
Future Volume (veh/h)	7	60	24	79	48	11	22	121	94	81	611	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	7	62	25	81	49	11	23	125	97	84	630	44
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	169	68	206	249	379	520	1108	939	931	1120	78
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.05	0.59	0.59	0.11	0.65	0.65
Sat Flow, veh/h	1343	1267	511	1310	1870	1585	1781	1870	1585	1781	1728	121
Grp Volume(v), veh/h	7	0	87	81	49	11	23	125	97	84	0	674
Grp Sat Flow(s),veh/h/ln	1343	0	1778	1310	1870	1585	1781	1870	1585	1781	0	1849
Q Serve(g_s), s	0.4	0.0	3.6	4.8	1.9	0.4	0.4	2.3	2.1	1.1	0.0	16.2
Cycle Q Clear(g_c), s	2.2	0.0	3.6	8.4	1.9	0.4	0.4	2.3	2.1	1.1	0.0	16.2
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	238	0	237	206	249	379	520	1108	939	931	0	1198
V/C Ratio(X)	0.03	0.00	0.37	0.39	0.20	0.03	0.04	0.11	0.10	0.09	0.00	0.56
Avail Cap(c_a), veh/h	430	0	491	394	517	605	656	1108	939	968	0	1198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	31.6	35.4	30.9	23.3	6.1	7.1	7.1	3.4	0.0	7.8
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.2	0.4	0.0	0.0	0.2	0.2	0.0	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	1.6	0.8	0.2	0.1	0.9	0.7	0.3	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	32.5	36.6	31.2	23.4	6.1	7.3	7.3	3.4	0.0	9.7
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		94			141			245			758	
Approach Delay, s/veh		32.5			33.7			7.2			9.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	51.9		15.2	8.5	56.3		15.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.1	34.3		22.1	10.1	34.3		22.1
Max Q Clear Time (g_c+I1), s	3.1	4.3		5.6	2.4	18.2		10.4
Green Ext Time (p_c), s	0.1	1.0		0.3	0.0	4.0		0.3

Intersection Summary			
HCM 6th Ctrl Delay			13.3
HCM 6th LOS			B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	73	366	29	100	94	2
Future Volume (vph)	73	366	29	100	94	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	366	29	100	94	2
Future Vol, veh/h	73	366	29	100	94	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	398	32	109	102	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	276	103	104	0	-	0
Stage 1	103	-	-	-	-	-
Stage 2	173	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	714	952	1488	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	857	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	698	952	1488	-	-	-
Mov Cap-2 Maneuver	709	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	857	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1488	-	709	952	-	-
HCM Lane V/C Ratio	0.021	-	0.112	0.418	-	-
HCM Control Delay (s)	7.5	-	10.7	11.5	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	2.1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	292	0	129	458	2
Future Volume (vph)	0	292	0	129	458	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	292	0	129	458	2
Future Vol, veh/h	0	292	0	129	458	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	317	0	140	498	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	499	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	572	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	572	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	572	-	-
HCM Lane V/C Ratio	-	0.555	-	-
HCM Control Delay (s)	-	18.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	3.4	-	-

APPENDIX 5.2:

OPENING YEAR (2020) AMBIENT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Return to Agenda

Open Bookmarks

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	12	7	11	6	9	54	6	8	97	14
Future Volume (vph)	17	11	12	7	11	6	9	54	6	8	97	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	11	12	7	11	6	9	54	6	8	97	14
Future Vol, veh/h	17	11	12	7	11	6	9	54	6	8	97	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	12	13	7	12	6	10	57	6	9	103	15
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8	7.9	8.3	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	13%	100%	0%	100%	0%	0%	8%	0%
Vol Thru, %	78%	0%	48%	0%	100%	0%	92%	0%
Vol Right, %	9%	0%	52%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	17	23	7	11	6	105	14
LT Vol	9	17	0	7	0	0	8	0
Through Vol	54	0	11	0	11	0	97	0
RT Vol	6	0	12	0	0	6	0	14
Lane Flow Rate	73	18	24	7	12	6	112	15
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.102	0.028	0.033	0.012	0.017	0.008	0.152	0.017
Departure Headway (Hd)	4.979	5.658	4.788	5.685	5.182	4.479	4.913	4.174
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	722	635	750	631	693	801	732	860
Service Time	2.694	3.374	2.504	3.402	2.899	2.196	2.628	1.889
HCM Lane V/C Ratio	0.101	0.028	0.032	0.011	0.017	0.007	0.153	0.017
HCM Control Delay	8.3	8.5	7.7	8.5	8	7.2	8.5	7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.1	0.1	0	0.1	0	0.5	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	12	6	2	1	15	72	6	1	121	1
Future Volume (vph)	2	2	12	6	2	1	15	72	6	1	121	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	16.0	29.5	29.5	29.5	16.0	34.5	34.5	16.0	34.5	34.5
Total Split (%)	36.9%	36.9%	20.0%	36.9%	36.9%	36.9%	20.0%	43.1%	43.1%	20.0%	43.1%	43.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary ng Year (2020) Ambient AM Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	12	6	2	1	15	72	6	1	121	1
Future Volume (veh/h)	2	2	12	6	2	1	15	72	6	1	121	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	2	13	7	2	1	17	80	7	1	134	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	53	107	128	53	45	1095	1497	1269	1096	1428	1211
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.76
Sat Flow, veh/h	1414	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	2	2	13	7	2	1	17	80	7	1	134	1
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.1	0.1	0.6	0.4	0.1	0.0	0.1	0.7	0.1	0.0	1.5	0.0
Cycle Q Clear(g_c), s	0.2	0.1	0.6	0.5	0.1	0.0	0.1	0.7	0.1	0.0	1.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	53	107	128	53	45	1095	1497	1269	1096	1428	1211
V/C Ratio(X)	0.02	0.04	0.12	0.05	0.04	0.02	0.02	0.05	0.01	0.00	0.09	0.00
Avail Cap(c_a), veh/h	530	584	558	526	584	495	1281	1497	1269	1347	1428	1211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	37.8	35.1	38.0	37.8	37.8	1.5	1.7	1.6	2.2	2.4	2.2
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.2	0.3	0.2	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	38.1	35.6	38.2	38.1	38.0	1.5	1.7	1.6	2.2	2.5	2.2
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		17			10			104			136	
Approach Delay, s/veh		36.1			38.2			1.7			2.5	
Approach LOS		D			D			A			A	

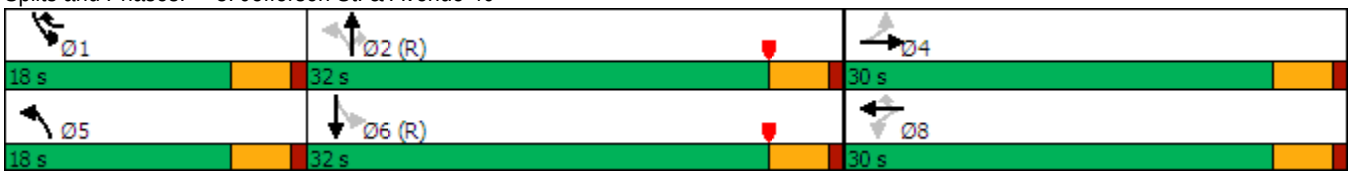
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.5		6.8	7.6	65.6		6.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	30.0		25.0	11.5	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	2.7		2.6	2.1	3.5		2.5
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.6		0.0

Intersection Summary			
HCM 6th Ctrl Delay			5.7
HCM 6th LOS			A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	48	24	83	83	8	22	85	60	7	133	5
Future Volume (vph)	1	48	24	83	83	8	22	85	60	7	133	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	18.0	18.0	32.0	32.0	18.0	32.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	22.5%	22.5%	40.0%	40.0%	22.5%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



HCM 6th Signalized Intersection Summary ng Year (2020) Ambient AM Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	48	24	83	83	8	22	85	60	7	133	5
Future Volume (veh/h)	1	48	24	83	83	8	22	85	60	7	133	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	52	26	90	90	9	24	92	65	8	145	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	163	81	220	258	251	937	1258	1066	915	1153	40
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.67	0.67	0.02	0.64	0.64
Sat Flow, veh/h	1296	1176	588	1321	1870	1585	1781	1870	1585	1781	1797	62
Grp Volume(v), veh/h	1	0	78	90	90	9	24	92	65	8	0	150
Grp Sat Flow(s),veh/h/ln	1296	0	1764	1321	1870	1585	1781	1870	1585	1781	0	1859
Q Serve(g_s), s	0.1	0.0	3.2	5.3	3.5	0.4	0.3	1.4	1.1	0.1	0.0	2.5
Cycle Q Clear(g_c), s	3.5	0.0	3.2	8.5	3.5	0.4	0.3	1.4	1.1	0.1	0.0	2.5
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	213	0	244	220	258	251	937	1258	1066	915	0	1193
V/C Ratio(X)	0.00	0.00	0.32	0.41	0.35	0.04	0.03	0.07	0.06	0.01	0.00	0.13
Avail Cap(c_a), veh/h	447	0	562	458	596	538	1145	1258	1066	1179	0	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.8	0.0	31.1	34.9	31.2	28.5	3.9	4.5	4.5	4.6	0.0	5.6
Incr Delay (d2), s/veh	0.0	0.0	0.7	1.2	0.8	0.1	0.0	0.1	0.1	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.4	1.7	1.6	0.1	0.1	0.4	0.3	0.0	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	31.8	36.1	32.0	28.5	3.9	4.6	4.6	4.6	0.0	5.8
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		79			189			181			158	
Approach Delay, s/veh		31.8			33.8			4.5			5.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	58.3		15.6	8.6	55.8		15.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	13.5	27.5		25.5	13.5	27.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	3.4		5.5	2.3	4.5		10.5
Green Ext Time (p_c), s	0.0	0.6		0.3	0.0	0.7		0.6

Intersection Summary			
HCM 6th Ctrl Delay			17.5
HCM 6th LOS			B

Return to Agenda

Open Bookmarks

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	10	14	9	15	9	21	74	9	10	73	6
Future Volume (vph)	14	10	14	9	15	9	21	74	9	10	73	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	10	14	9	15	9	21	74	9	10	73	6
Future Vol, veh/h	14	10	14	9	15	9	21	74	9	10	73	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	11	15	10	16	10	23	80	10	11	78	6
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8	8	8.6	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	20%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	71%	0%	42%	0%	100%	0%	88%	0%
Vol Right, %	9%	0%	58%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	104	14	24	9	15	9	83	6
LT Vol	21	14	0	9	0	0	10	0
Through Vol	74	0	10	0	15	0	73	0
RT Vol	9	0	14	0	0	9	0	6
Lane Flow Rate	112	15	26	10	16	10	89	6
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.155	0.024	0.034	0.015	0.023	0.012	0.125	0.008
Departure Headway (Hd)	4.983	5.709	4.795	5.711	5.208	4.505	5.039	4.277
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	722	628	748	628	688	795	714	839
Service Time	2.696	3.431	2.517	3.435	2.932	2.228	2.752	1.991
HCM Lane V/C Ratio	0.155	0.024	0.035	0.016	0.023	0.013	0.125	0.007
HCM Control Delay	8.6	8.6	7.7	8.5	8.1	7.3	8.5	7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.1	0.1	0	0.1	0	0.4	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	12	8	2	2	16	89	5	1	97	1
Future Volume (vph)	4	1	12	8	2	2	16	89	5	1	97	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	17.0	29.5	29.5	29.5	17.0	34.5	34.5	16.0	33.5	33.5
Total Split (%)	36.9%	36.9%	21.3%	36.9%	36.9%	36.9%	21.3%	43.1%	43.1%	20.0%	41.9%	41.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary ng Year (2020) Ambient MD Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	1	12	8	2	2	16	89	5	1	97	1
Future Volume (veh/h)	4	1	12	8	2	2	16	89	5	1	97	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	1	13	9	2	2	17	97	5	1	105	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	58	112	133	58	49	1122	1491	1264	1078	1423	1206
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.76
Sat Flow, veh/h	1412	1870	1585	1400	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	4	1	13	9	2	2	17	97	5	1	105	1
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1400	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.2	0.0	0.6	0.5	0.1	0.1	0.1	0.9	0.1	0.0	1.1	0.0
Cycle Q Clear(g_c), s	0.3	0.0	0.6	0.5	0.1	0.1	0.1	0.9	0.1	0.0	1.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	132	58	112	133	58	49	1122	1491	1264	1078	1423	1206
V/C Ratio(X)	0.03	0.02	0.12	0.07	0.03	0.04	0.02	0.07	0.00	0.00	0.07	0.00
Avail Cap(c_a), veh/h	530	584	558	527	584	495	1330	1491	1264	1329	1423	1206
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	37.6	34.8	37.8	37.6	37.6	1.5	1.7	1.6	2.2	2.4	2.3
Incr Delay (d2), s/veh	0.1	0.1	0.5	0.2	0.2	0.3	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	37.7	35.3	38.0	37.8	37.9	1.5	1.8	1.7	2.2	2.5	2.3
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		18			13			119			107	
Approach Delay, s/veh		36.0			38.0			1.8			2.5	
Approach LOS		D			D			A			A	

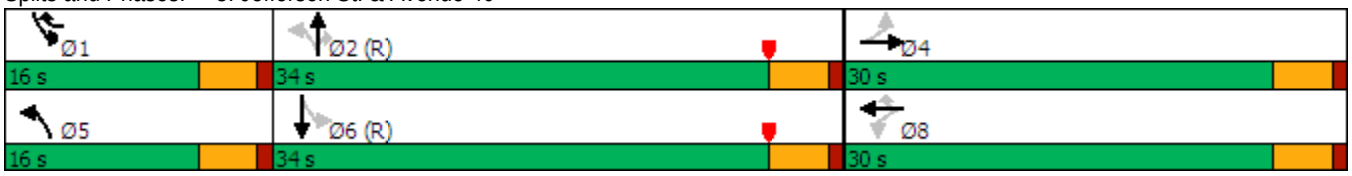
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.3		7.0	7.6	65.4		7.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	30.0		25.0	12.5	29.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	2.9		2.6	2.1	3.1		2.5
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	62	25	82	50	8	23	103	98	8	103	6
Future Volume (vph)	5	62	25	82	50	8	23	103	98	8	103	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	16.0	16.0	34.0	34.0	16.0	34.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	20.0%	20.0%	42.5%	42.5%	20.0%	42.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



HCM 6th Signalized Intersection Summary ... ng Year (2020) Ambient MD Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	62	25	82	50	8	23	103	98	8	103	6
Future Volume (veh/h)	5	62	25	82	50	8	23	103	98	8	103	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	64	26	85	52	8	24	106	101	8	106	6
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	175	71	211	259	252	974	1258	1066	879	1124	64
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.67	0.67	0.02	0.64	0.64
Sat Flow, veh/h	1343	1264	514	1307	1870	1585	1781	1870	1585	1781	1753	99
Grp Volume(v), veh/h	5	0	90	85	52	8	24	106	101	8	0	112
Grp Sat Flow(s),veh/h/ln	1343	0	1778	1307	1870	1585	1781	1870	1585	1781	0	1852
Q Serve(g_s), s	0.3	0.0	3.7	5.1	2.0	0.3	0.3	1.6	1.8	0.1	0.0	1.8
Cycle Q Clear(g_c), s	2.2	0.0	3.7	8.7	2.0	0.3	0.3	1.6	1.8	0.1	0.0	1.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	243	0	246	211	259	252	974	1258	1066	879	0	1188
V/C Ratio(X)	0.02	0.00	0.37	0.40	0.20	0.03	0.02	0.08	0.09	0.01	0.00	0.09
Avail Cap(c_a), veh/h	485	0	567	446	596	538	1138	1258	1066	1099	0	1188
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.5	0.0	31.3	35.2	30.5	28.4	3.8	4.6	4.6	4.6	0.0	5.5
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.2	0.4	0.1	0.0	0.1	0.2	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	1.6	0.9	0.1	0.1	0.5	0.5	0.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	32.2	36.5	30.9	28.5	3.9	4.7	4.8	4.6	0.0	5.6
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		95			145			231			120	
Approach Delay, s/veh		32.1			34.0			4.6			5.6	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	58.3		15.6	8.6	55.8		15.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	29.5		25.5	11.5	29.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	3.8		5.7	2.3	3.8		10.7
Green Ext Time (p_c), s	0.0	0.8		0.4	0.0	0.5		0.4

Intersection Summary			
HCM 6th Ctrl Delay			16.5
HCM 6th LOS			B

APPENDIX 5.3:

OPENING YEAR (2020) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lanes, Volumes, Timings
1: Jefferson St./Westwick St. & Avenue 38 — g Year (2020) w/ Project AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	11	27	7	11	6	27	72	6	8	112	14
Future Volume (vph)	17	11	27	7	11	6	27	72	6	8	112	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			7.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	11	27	7	11	6	27	72	6	8	112	14
Future Vol, veh/h	17	11	27	7	11	6	27	72	6	8	112	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	12	29	7	12	6	29	77	6	9	119	15
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.1	8.1	8.8	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	26%	100%	0%	100%	0%	0%	7%	0%
Vol Thru, %	69%	0%	29%	0%	100%	0%	93%	0%
Vol Right, %	6%	0%	71%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	17	38	7	11	6	120	14
LT Vol	27	17	0	7	0	0	8	0
Through Vol	72	0	11	0	11	0	112	0
RT Vol	6	0	27	0	0	6	0	14
Lane Flow Rate	112	18	40	7	12	6	128	15
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.16	0.029	0.054	0.012	0.017	0.008	0.179	0.018
Departure Headway (Hd)	5.147	5.828	4.823	5.881	5.378	4.674	5.04	4.305
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	698	615	743	609	666	765	714	833
Service Time	2.865	3.555	2.55	3.614	3.111	2.406	2.757	2.023
HCM Lane V/C Ratio	0.16	0.029	0.054	0.011	0.018	0.008	0.179	0.018
HCM Control Delay	8.8	8.7	7.8	8.7	8.2	7.4	8.9	7.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.2	0	0.1	0	0.6	0.1

Return to Agenda

Open Bookmarks

g Year (2020) w/ Project AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	2	12	6	2	1	15	321	6	1	419	19
Future Volume (vph)	17	2	12	6	2	1	15	321	6	1	419	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary g Year (2020) w/ Project AM Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	2	12	6	2	1	15	321	6	1	419	19
Future Volume (veh/h)	17	2	12	6	2	1	15	321	6	1	419	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	2	13	7	2	1	17	357	7	1	466	21
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	73	124	143	73	62	770	1477	1251	848	1408	1193
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.79	0.79	0.00	0.75	0.75
Sat Flow, veh/h	1414	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	19	2	13	7	2	1	17	357	7	1	466	21
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1398	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.0	0.1	0.6	0.4	0.1	0.0	0.2	4.0	0.1	0.0	6.6	0.3
Cycle Q Clear(g_c), s	1.1	0.1	0.6	0.5	0.1	0.0	0.2	4.0	0.1	0.0	6.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	73	124	143	73	62	770	1477	1251	848	1408	1193
V/C Ratio(X)	0.13	0.03	0.10	0.05	0.03	0.02	0.02	0.24	0.01	0.00	0.33	0.02
Avail Cap(c_a), veh/h	530	584	558	526	584	495	923	1477	1251	1066	1408	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	37.0	34.3	37.2	37.0	37.0	2.0	2.2	1.8	2.4	3.3	2.5
Incr Delay (d2), s/veh	0.4	0.2	0.4	0.1	0.2	0.1	0.0	0.4	0.0	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.2	0.1	0.0	0.0	0.0	0.8	0.0	0.0	1.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	37.1	34.6	37.3	37.1	37.1	2.0	2.6	1.8	2.4	3.9	2.5
LnGrp LOS	D	D	C	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		34			10			381			488	
Approach Delay, s/veh		36.6			37.3			2.5			3.8	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	67.7		7.6	7.6	64.7		7.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	2.0	6.0		3.1	2.2	8.6		2.5
Green Ext Time (p_c), s	0.0	2.0		0.1	0.0	2.8		0.0

Intersection Summary		
HCM 6th Ctrl Delay		4.9
HCM 6th LOS		A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	48	24	83	83	37	22	290	60	42	379	23
Future Volume (vph)	16	48	24	83	83	37	22	290	60	42	379	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	27.0	27.0		27.0	27.0	15.0	15.0	38.0	38.0	15.0	38.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%	18.8%	18.8%	47.5%	47.5%	18.8%	47.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

HCM 6th Signalized Intersection Summary g Year (2020) w/ Project AM Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	48	24	83	83	37	22	290	60	42	379	23
Future Volume (veh/h)	16	48	24	83	83	37	22	290	60	42	379	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	52	26	90	90	40	24	315	65	46	412	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	163	82	221	259	347	686	1146	971	768	1119	68
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.61	0.61	0.08	0.64	0.64
Sat Flow, veh/h	1260	1176	588	1321	1870	1585	1781	1870	1585	1781	1745	106
Grp Volume(v), veh/h	17	0	78	90	90	40	24	315	65	46	0	437
Grp Sat Flow(s),veh/h/ln	1260	0	1764	1321	1870	1585	1781	1870	1585	1781	0	1851
Q Serve(g_s), s	1.0	0.0	3.2	5.3	3.5	1.6	0.4	6.3	1.3	0.7	0.0	8.9
Cycle Q Clear(g_c), s	4.5	0.0	3.2	8.5	3.5	1.6	0.4	6.3	1.3	0.7	0.0	8.9
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	210	0	245	221	259	347	686	1146	971	768	0	1187
V/C Ratio(X)	0.08	0.00	0.32	0.41	0.35	0.12	0.03	0.27	0.07	0.06	0.00	0.37
Avail Cap(c_a), veh/h	390	0	496	409	526	573	828	1146	971	859	0	1187
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.2	0.0	31.0	34.9	31.2	25.0	4.9	7.2	6.3	4.1	0.0	6.8
Incr Delay (d2), s/veh	0.2	0.0	0.7	1.2	0.8	0.1	0.0	0.6	0.1	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.4	1.7	1.6	0.6	0.1	2.3	0.4	0.2	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	0.0	31.8	36.1	32.0	25.2	4.9	7.8	6.4	4.2	0.0	7.6
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		95			220			404			483	
Approach Delay, s/veh		32.1			32.4			7.4			7.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	53.5		15.6	8.6	55.8		15.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	33.5		22.5	10.5	33.5		22.5
Max Q Clear Time (g_c+I1), s	2.7	8.3		6.5	2.4	10.9		10.5
Green Ext Time (p_c), s	0.0	2.0		0.3	0.0	2.5		0.6

Intersection Summary			
HCM 6th Ctrl Delay			13.9
HCM 6th LOS			B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	176	264	70	132	15
Future Volume (vph)	35	176	264	70	132	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	35	176	264	70	132	15
Future Vol, veh/h	35	176	264	70	132	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	38	191	287	76	143	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	801	151	159	0	-	0
Stage 1	151	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	354	895	1420	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	282	895	1420	-	-	-
Mov Cap-2 Maneuver	207	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.8	6.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1420	-	207	895	-	-
HCM Lane V/C Ratio	0.202	-	0.184	0.214	-	-
HCM Control Delay (s)	8.2	-	26.3	10.1	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.8	-	0.7	0.8	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	140	0	334	293	15
Future Volume (vph)	0	140	0	334	293	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	140	0	334	293	15
Future Vol, veh/h	0	140	0	334	293	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	152	0	363	318	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	326	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	715	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	715	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	715	-	-
HCM Lane V/C Ratio	-	0.213	-	-
HCM Control Delay (s)	-	11.4	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.8	-	-

Lanes, Volumes, Timings
1: Jefferson St./Westwick St. & Avenue 38 — g Year (2020) w/ Project MD Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	10	15	9	15	9	38	91	9	10	74	6
Future Volume (vph)	14	10	15	9	15	9	38	91	9	10	74	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			7.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	10	15	9	15	9	38	91	9	10	74	6
Future Vol, veh/h	14	10	15	9	15	9	38	91	9	10	74	6
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	11	16	10	16	10	41	98	10	11	80	6
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.1	8.1	9.1	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	28%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	66%	0%	40%	0%	100%	0%	88%	0%
Vol Right, %	7%	0%	60%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	138	14	25	9	15	9	84	6
LT Vol	38	14	0	9	0	0	10	0
Through Vol	91	0	10	0	15	0	74	0
RT Vol	9	0	15	0	0	9	0	6
Lane Flow Rate	148	15	27	10	16	10	90	6
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.208	0.024	0.037	0.016	0.024	0.012	0.129	0.008
Departure Headway (Hd)	5.045	5.828	4.901	5.829	5.327	4.622	5.124	4.363
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	714	615	731	615	672	774	701	821
Service Time	2.764	3.556	2.629	3.559	3.056	2.351	2.844	2.083
HCM Lane V/C Ratio	0.207	0.024	0.037	0.016	0.024	0.013	0.128	0.007
HCM Control Delay	9.1	8.7	7.8	8.7	8.2	7.4	8.6	7.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.8	0.1	0.1	0	0.1	0	0.4	0

Return to Agenda

Open Bookmarks

g Year (2020) w/ Project MD Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	12	8	2	2	16	101	5	1	380	18
Future Volume (vph)	5	1	12	8	2	2	16	101	5	1	380	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary g Year (2020) w/ Project MD Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	12	8	2	2	16	101	5	1	380	18
Future Volume (veh/h)	5	1	12	8	2	2	16	101	5	1	380	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1	13	9	2	2	17	110	5	1	413	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	59	113	134	59	50	821	1490	1263	1066	1422	1205
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.76
Sat Flow, veh/h	1412	1870	1585	1400	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	5	1	13	9	2	2	17	110	5	1	413	20
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1400	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.0	0.6	0.5	0.1	0.1	0.2	1.0	0.1	0.0	5.4	0.2
Cycle Q Clear(g_c), s	0.4	0.0	0.6	0.5	0.1	0.1	0.2	1.0	0.1	0.0	5.4	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	59	113	134	59	50	821	1490	1263	1066	1422	1205
V/C Ratio(X)	0.04	0.02	0.12	0.07	0.03	0.04	0.02	0.07	0.00	0.00	0.29	0.02
Avail Cap(c_a), veh/h	530	584	558	527	584	495	974	1490	1263	1284	1422	1205
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	37.5	34.8	37.8	37.5	37.5	1.8	1.8	1.7	2.3	3.0	2.3
Incr Delay (d2), s/veh	0.1	0.1	0.4	0.2	0.2	0.3	0.0	0.1	0.0	0.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.0	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	37.6	35.2	38.0	37.8	37.9	1.8	1.9	1.7	2.3	3.5	2.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		19			13			132			434	
Approach Delay, s/veh		36.0			37.9			1.8			3.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.2		7.0	7.6	65.3		7.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	2.0	3.0		2.6	2.2	7.4		2.5
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	2.4		0.0

Intersection Summary			
HCM 6th Ctrl Delay			4.9
HCM 6th LOS			A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	62	25	82	50	9	23	113	98	41	336	23
Future Volume (vph)	6	62	25	82	50	9	23	113	98	41	336	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			11.6			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	28.0	28.0		28.0	28.0	15.0	15.0	37.0	37.0	15.0	37.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%	18.8%	18.8%	46.3%	46.3%	18.8%	46.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

HCM 6th Signalized Intersection Summary g Year (2020) w/ Project MD Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	62	25	82	50	9	23	113	98	41	336	23
Future Volume (veh/h)	6	62	25	82	50	9	23	113	98	41	336	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	64	26	85	52	9	24	116	101	42	346	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	175	71	211	259	339	740	1154	978	914	1109	77
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.05	0.62	0.62	0.08	0.64	0.64
Sat Flow, veh/h	1341	1264	514	1307	1870	1585	1781	1870	1585	1781	1729	120
Grp Volume(v), veh/h	6	0	90	85	52	9	24	116	101	42	0	370
Grp Sat Flow(s),veh/h/ln	1341	0	1778	1307	1870	1585	1781	1870	1585	1781	0	1849
Q Serve(g_s), s	0.3	0.0	3.7	5.1	2.0	0.4	0.4	2.0	2.1	0.6	0.0	7.2
Cycle Q Clear(g_c), s	2.3	0.0	3.7	8.7	2.0	0.4	0.4	2.0	2.1	0.6	0.0	7.2
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	242	0	246	211	259	339	740	1154	978	914	0	1186
V/C Ratio(X)	0.02	0.00	0.37	0.40	0.20	0.03	0.03	0.10	0.10	0.05	0.00	0.31
Avail Cap(c_a), veh/h	451	0	522	414	549	586	882	1154	978	1013	0	1186
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.6	0.0	31.3	35.2	30.6	24.8	4.6	6.3	6.3	3.9	0.0	6.4
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.2	0.4	0.0	0.0	0.2	0.2	0.0	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.6	1.6	0.9	0.1	0.1	0.7	0.6	0.2	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	32.2	36.5	30.9	24.9	4.6	6.4	6.5	3.9	0.0	7.1
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		96			146			241			412	
Approach Delay, s/veh		32.2			33.8			6.3			6.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.6	53.9		15.6	8.6	55.8		15.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.5	32.5		23.5	10.5	32.5		23.5
Max Q Clear Time (g_c+I1), s	2.6	4.1		5.7	2.4	9.2		10.7
Green Ext Time (p_c), s	0.0	0.9		0.4	0.0	2.1		0.4

Intersection Summary			
HCM 6th Ctrl Delay			13.8
HCM 6th LOS			B

Lanes, Volumes, Timings
4: Jefferson St. & Youngs Wy.

g Year (2020) w/ Project MD Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	167	13	104	97	1
Future Volume (vph)	33	167	13	104	97	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	33	167	13	104	97	1
Future Vol, veh/h	33	167	13	104	97	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	182	14	113	105	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	247	106	106	0	-	0
Stage 1	106	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	741	948	1485	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	734	948	1485	-	-	-
Mov Cap-2 Maneuver	741	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	886	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1485	-	741	948	-	-
HCM Lane V/C Ratio	0.01	-	0.048	0.191	-	-
HCM Control Delay (s)	7.4	-	10.1	9.7	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.7	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	133	0	117	263	1
Future Volume (vph)	0	133	0	117	263	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	133	0	117	263	1
Future Vol, veh/h	0	133	0	117	263	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	145	0	127	286	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	287	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	752	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	752	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	752	-	-
HCM Lane V/C Ratio	-	0.192	-	-
HCM Control Delay (s)	-	10.9	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.7	-	-

Queuing and Blocking Report — Opening Year (2020) w/ Project AM Peak Hour

Intersection: 4: Jefferson St. & Youngs Wy.

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	45	62	71
Average Queue (ft)	22	43	30
95th Queue (ft)	51	65	67
Link Distance (ft)		778	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jefferson St. & S. Dwy.

Movement	EB
Directions Served	R
Maximum Queue (ft)	58
Average Queue (ft)	40
95th Queue (ft)	61
Link Distance (ft)	297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Queuing and Blocking Report — Opening Year (2020) w/ Project MD Peak Hour

Intersection: 4: Jefferson St. & Youngs Wy.

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	38	58	4
Average Queue (ft)	21	40	0
95th Queue (ft)	46	59	6
Link Distance (ft)		778	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jefferson St. & S. Dwy.

Movement	EB
Directions Served	R
Maximum Queue (ft)	73
Average Queue (ft)	42
95th Queue (ft)	70
Link Distance (ft)	297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

APPENDIX 5.4:

PROJECT BUILDOUT YEAR (2025) AMBIENT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	13	14	8	13	7	10	60	7	9	107	15
Future Volume (vph)	18	13	14	8	13	7	10	60	7	9	107	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	13	14	8	13	7	10	60	7	9	107	15
Future Vol, veh/h	18	13	14	8	13	7	10	60	7	9	107	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	14	15	9	14	7	11	64	7	10	114	16
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.1	8	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	13%	100%	0%	100%	0%	0%	8%	0%
Vol Thru, %	78%	0%	48%	0%	100%	0%	92%	0%
Vol Right, %	9%	0%	52%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	77	18	27	8	13	7	116	15
LT Vol	10	18	0	8	0	0	9	0
Through Vol	60	0	13	0	13	0	107	0
RT Vol	7	0	14	0	0	7	0	15
Lane Flow Rate	82	19	29	9	14	7	123	16
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.114	0.03	0.039	0.014	0.02	0.009	0.17	0.019
Departure Headway (Hd)	5.03	5.728	4.86	5.757	5.255	4.551	4.961	4.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	714	626	738	623	682	787	726	850
Service Time	2.749	3.45	2.581	3.48	2.978	2.274	2.675	1.936
HCM Lane V/C Ratio	0.115	0.03	0.039	0.014	0.021	0.009	0.169	0.019
HCM Control Delay	8.4	8.6	7.8	8.6	8.1	7.3	8.7	7
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.1	0	0.1	0	0.6	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	14	7	2	1	16	79	7	1	133	1
Future Volume (vph)	2	2	14	7	2	1	16	79	7	1	133	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	16.0	29.5	29.5	29.5	16.0	34.5	34.5	16.0	34.5	34.5
Total Split (%)	36.9%	36.9%	20.0%	36.9%	36.9%	36.9%	20.0%	43.1%	43.1%	20.0%	43.1%	43.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary Buildout (2025) Ambient AM Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	14	7	2	1	16	79	7	1	133	1
Future Volume (veh/h)	2	2	14	7	2	1	16	79	7	1	133	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	2	16	8	2	1	18	88	8	1	148	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	58	115	132	58	49	1078	1491	1264	1081	1419	1203
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.80	0.80	0.00	0.76	0.76
Sat Flow, veh/h	1414	1870	1585	1395	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	2	2	16	8	2	1	18	88	8	1	148	1
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1395	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.1	0.1	0.8	0.4	0.1	0.0	0.2	0.8	0.1	0.0	1.7	0.0
Cycle Q Clear(g_c), s	0.2	0.1	0.8	0.5	0.1	0.0	0.2	0.8	0.1	0.0	1.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	58	115	132	58	49	1078	1491	1264	1081	1419	1203
V/C Ratio(X)	0.02	0.03	0.14	0.06	0.03	0.02	0.02	0.06	0.01	0.00	0.10	0.00
Avail Cap(c_a), veh/h	530	584	561	524	584	495	1260	1491	1264	1332	1419	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	37.6	34.8	37.8	37.6	37.6	1.5	1.7	1.7	2.3	2.5	2.3
Incr Delay (d2), s/veh	0.0	0.2	0.5	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	37.8	35.3	38.0	37.8	37.7	1.5	1.8	1.7	2.3	2.7	2.3
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		20			11			114			150	
Approach Delay, s/veh		35.8			38.0			1.7			2.7	
Approach LOS		D			D			A			A	

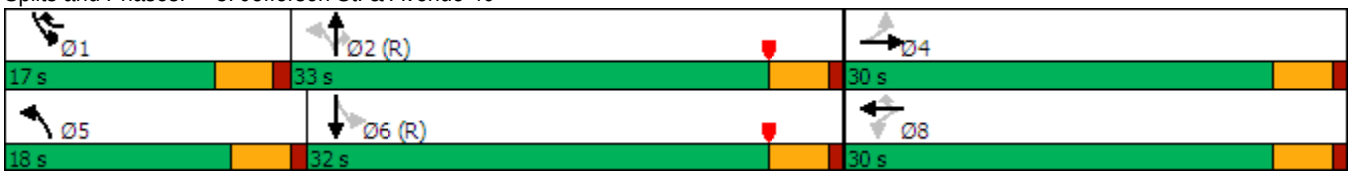
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	68.3		7.0	7.8	65.2		7.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	11.5	30.0		25.0	11.5	30.0		25.0				
Max Q Clear Time (g_c+I1), s	2.0	2.8		2.8	2.2	3.7		2.5				
Green Ext Time (p_c), s	0.0	0.4		0.0	0.0	0.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			5.9
HCM 6th LOS			A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	53	26	92	92	9	24	94	67	8	147	6
Future Volume (vph)	1	53	26	92	92	9	24	94	67	8	147	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	17.0	18.0	33.0	33.0	17.0	32.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	21.3%	22.5%	41.3%	41.3%	21.3%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



HCM 6th Signalized Intersection Summary Buildout (2025) Ambient AM Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	53	26	92	92	9	24	94	67	8	147	6
Future Volume (veh/h)	1	53	26	92	92	9	24	94	67	8	147	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1	58	28	100	100	10	26	102	73	9	160	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	179	87	230	282	275	905	1231	1043	887	1113	49
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.66	0.66	0.02	0.63	0.63
Sat Flow, veh/h	1283	1192	575	1311	1870	1585	1781	1870	1585	1781	1779	78
Grp Volume(v), veh/h	1	0	86	100	100	10	26	102	73	9	0	167
Grp Sat Flow(s),veh/h/ln	1283	0	1767	1311	1870	1585	1781	1870	1585	1781	0	1856
Q Serve(g_s), s	0.1	0.0	3.5	5.9	3.8	0.4	0.4	1.6	1.3	0.1	0.0	3.0
Cycle Q Clear(g_c), s	3.9	0.0	3.5	9.4	3.8	0.4	0.4	1.6	1.3	0.1	0.0	3.0
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	222	0	266	230	282	275	905	1231	1043	887	0	1162
V/C Ratio(X)	0.00	0.00	0.32	0.43	0.36	0.04	0.03	0.08	0.07	0.01	0.00	0.14
Avail Cap(c_a), veh/h	437	0	563	451	596	541	1108	1231	1043	1125	0	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	30.3	34.5	30.5	27.5	4.2	4.9	4.9	5.0	0.0	6.2
Incr Delay (d2), s/veh	0.0	0.0	0.7	1.3	0.8	0.1	0.0	0.1	0.1	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	1.9	1.7	0.2	0.1	0.5	0.4	0.0	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	0.0	31.0	35.8	31.3	27.6	4.2	5.1	5.0	5.0	0.0	6.4
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		87			210			201			176	
Approach Delay, s/veh		31.0			33.2			4.9			6.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	57.1		16.5	8.9	54.6		16.5
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	12.5	28.5		25.5	13.5	27.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	3.6		5.9	2.4	5.0		11.4
Green Ext Time (p_c), s	0.0	0.7		0.4	0.0	0.8		0.7

Intersection Summary			
HCM 6th Ctrl Delay			17.5
HCM 6th LOS			B

Return to Agenda

Open Bookmarks

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	11	15	10	16	10	23	82	10	11	80	7
Future Volume (vph)	15	11	15	10	16	10	23	82	10	11	80	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			35	
Link Distance (ft)		1696			2120			1349			428	
Travel Time (s)		38.5			48.2			23.0			8.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	11	15	10	16	10	23	82	10	11	80	7
Future Vol, veh/h	15	11	15	10	16	10	23	82	10	11	80	7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	12	16	11	17	11	25	88	11	12	86	8
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.1	8	8.8	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	20%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	71%	0%	42%	0%	100%	0%	88%	0%
Vol Right, %	9%	0%	58%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	115	15	26	10	16	10	91	7
LT Vol	23	15	0	10	0	0	11	0
Through Vol	82	0	11	0	16	0	80	0
RT Vol	10	0	15	0	0	10	0	7
Lane Flow Rate	124	16	28	11	17	11	98	8
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.173	0.026	0.038	0.017	0.025	0.014	0.138	0.009
Departure Headway (Hd)	5.024	5.784	4.874	5.785	5.282	4.578	5.085	4.323
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	716	620	736	620	679	782	706	829
Service Time	2.74	3.508	2.598	3.51	3.008	2.304	2.804	2.043
HCM Lane V/C Ratio	0.173	0.026	0.038	0.018	0.025	0.014	0.139	0.01
HCM Control Delay	8.8	8.7	7.8	8.6	8.1	7.4	8.6	7.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.1	0.1	0.1	0	0.5	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	14	9	2	2	17	99	6	1	107	1
Future Volume (vph)	5	1	14	9	2	2	17	99	6	1	107	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	16.0	29.5	29.5	29.5	16.0	34.5	34.5	16.0	34.5	34.5
Total Split (%)	36.9%	36.9%	20.0%	36.9%	36.9%	36.9%	20.0%	43.1%	43.1%	20.0%	43.1%	43.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary Buildout (2025) Ambient MD Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	14	9	2	2	17	99	6	1	107	1
Future Volume (veh/h)	5	1	14	9	2	2	17	99	6	1	107	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	1	15	10	2	2	18	108	7	1	116	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	136	63	119	136	63	54	1107	1486	1260	1061	1414	1199
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.79	0.79	0.00	0.76	0.76
Sat Flow, veh/h	1412	1870	1585	1397	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	5	1	15	10	2	2	18	108	7	1	116	1
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1397	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.0	0.7	0.6	0.1	0.1	0.2	1.0	0.1	0.0	1.3	0.0
Cycle Q Clear(g_c), s	0.4	0.0	0.7	0.6	0.1	0.1	0.2	1.0	0.1	0.0	1.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	136	63	119	136	63	54	1107	1486	1260	1061	1414	1199
V/C Ratio(X)	0.04	0.02	0.13	0.07	0.03	0.04	0.02	0.07	0.01	0.00	0.08	0.00
Avail Cap(c_a), veh/h	530	584	561	526	584	495	1290	1486	1260	1312	1414	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	37.4	34.6	37.7	37.4	37.4	1.6	1.8	1.7	2.3	2.5	2.4
Incr Delay (d2), s/veh	0.1	0.1	0.5	0.2	0.2	0.3	0.0	0.1	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	37.5	35.0	37.9	37.6	37.7	1.6	1.9	1.7	2.3	2.6	2.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		21			14			133			118	
Approach Delay, s/veh		35.8			37.8			1.8			2.6	
Approach LOS		D			D			A			A	

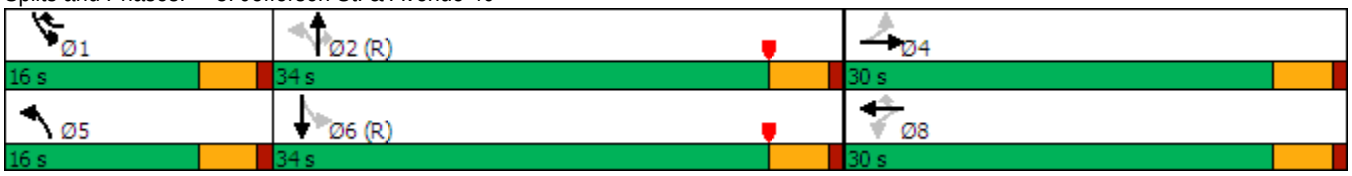
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	68.1		7.2	7.8	65.0		7.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	30.0		25.0	11.5	30.0		25.0
Max Q Clear Time (g_c+I1), s	2.0	3.0		2.7	2.2	3.3		2.6
Green Ext Time (p_c), s	0.0	0.5		0.0	0.0	0.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	69	28	91	55	9	25	114	108	9	114	7
Future Volume (vph)	6	69	28	91	55	9	25	114	108	9	114	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	30.0	30.0		30.0	30.0	16.0	16.0	34.0	34.0	16.0	34.0	
Total Split (%)	37.5%	37.5%		37.5%	37.5%	20.0%	20.0%	42.5%	42.5%	20.0%	42.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40



HCM 6th Signalized Intersection Summary Buildout (2025) Ambient MD Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	69	28	91	55	9	25	114	108	9	114	7
Future Volume (veh/h)	6	69	28	91	55	9	25	114	108	9	114	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	6	71	29	94	57	9	26	118	111	9	118	7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	191	78	220	283	276	945	1229	1042	850	1093	65
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.66	0.66	0.02	0.63	0.63
Sat Flow, veh/h	1335	1262	515	1295	1870	1585	1781	1870	1585	1781	1748	104
Grp Volume(v), veh/h	6	0	100	94	57	9	26	118	111	9	0	125
Grp Sat Flow(s),veh/h/ln	1335	0	1778	1295	1870	1585	1781	1870	1585	1781	0	1852
Q Serve(g_s), s	0.3	0.0	4.0	5.6	2.1	0.4	0.4	1.8	2.1	0.1	0.0	2.2
Cycle Q Clear(g_c), s	2.5	0.0	4.0	9.7	2.1	0.4	0.4	1.8	2.1	0.1	0.0	2.2
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	256	0	269	220	283	276	945	1229	1042	850	0	1158
V/C Ratio(X)	0.02	0.00	0.37	0.43	0.20	0.03	0.03	0.10	0.11	0.01	0.00	0.11
Avail Cap(c_a), veh/h	480	0	567	437	596	541	1103	1229	1042	1066	0	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	30.5	34.9	29.7	27.5	4.2	5.0	5.1	5.0	0.0	6.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.3	0.3	0.0	0.0	0.2	0.2	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.8	1.8	1.0	0.1	0.1	0.6	0.6	0.0	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	31.4	36.2	30.1	27.5	4.2	5.2	5.3	5.0	0.0	6.2
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	A
Approach Vol, veh/h		106			160			255			134	
Approach Delay, s/veh		31.4			33.5			5.1			6.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.3	57.1		16.6	8.9	54.5		16.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	11.5	29.5		25.5	11.5	29.5		25.5
Max Q Clear Time (g_c+I1), s	2.1	4.1		6.0	2.4	4.2		11.7
Green Ext Time (p_c), s	0.0	1.0		0.5	0.0	0.6		0.5

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

APPENDIX 5.5:

PROJECT BUILDOUT YEAR (2025) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Return to Agenda

Open Bookmarks

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	13	46	8	13	7	49	99	7	9	139	15
Future Volume (vph)	18	13	46	8	13	7	49	99	7	9	139	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			7.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	13	46	8	13	7	49	99	7	9	139	15
Future Vol, veh/h	18	13	46	8	13	7	49	99	7	9	139	15
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	14	49	9	14	7	52	105	7	10	148	16
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.5	8.5	9.8	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	32%	100%	0%	100%	0%	0%	6%	0%
Vol Thru, %	64%	0%	22%	0%	100%	0%	94%	0%
Vol Right, %	5%	0%	78%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	18	59	8	13	7	148	15
LT Vol	49	18	0	8	0	0	9	0
Through Vol	99	0	13	0	13	0	139	0
RT Vol	7	0	46	0	0	7	0	15
Lane Flow Rate	165	19	63	9	14	7	157	16
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.244	0.032	0.088	0.015	0.022	0.01	0.229	0.02
Departure Headway (Hd)	5.332	6.1	5.044	6.192	5.687	4.981	5.238	4.505
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	673	586	707	576	627	715	685	792
Service Time	3.076	3.851	2.794	3.95	3.445	2.739	2.979	2.247
HCM Lane V/C Ratio	0.245	0.032	0.089	0.016	0.022	0.01	0.229	0.02
HCM Control Delay	9.8	9.1	8.3	9	8.6	7.8	9.5	7.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1	0.1	0.3	0	0.1	0	0.9	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	2	14	7	2	1	16	626	7	1	788	40
Future Volume (vph)	34	2	14	7	2	1	16	626	7	1	788	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary uildout (2025) w/ Project AM Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	2	14	7	2	1	16	626	7	1	788	40
Future Volume (veh/h)	34	2	14	7	2	1	16	626	7	1	788	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	2	16	8	2	1	18	696	8	1	876	44
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	91	142	156	91	77	476	1459	1237	578	1387	1176
Arrive On Green	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.78	0.78	0.00	0.74	0.74
Sat Flow, veh/h	1414	1870	1585	1395	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	38	2	16	8	2	1	18	696	8	1	876	44
Grp Sat Flow(s),veh/h/ln	1414	1870	1585	1395	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	2.1	0.1	0.7	0.4	0.1	0.0	0.2	10.4	0.1	0.0	18.2	0.6
Cycle Q Clear(g_c), s	2.2	0.1	0.7	0.5	0.1	0.0	0.2	10.4	0.1	0.0	18.2	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	157	91	142	156	91	77	476	1459	1237	578	1387	1176
V/C Ratio(X)	0.24	0.02	0.11	0.05	0.02	0.01	0.04	0.48	0.01	0.00	0.63	0.04
Avail Cap(c_a), veh/h	530	584	561	524	584	495	625	1459	1237	796	1387	1176
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	36.3	33.5	36.5	36.3	36.2	4.1	3.1	1.9	3.0	5.0	2.7
Incr Delay (d2), s/veh	0.8	0.1	0.3	0.1	0.1	0.1	0.0	1.1	0.0	0.0	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.3	0.2	0.0	0.0	0.0	2.2	0.0	0.0	4.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	36.4	33.8	36.6	36.4	36.3	4.1	4.2	2.0	3.0	7.2	2.8
LnGrp LOS	D	D	C	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		56			11			722			921	
Approach Delay, s/veh		36.8			36.6			4.2			7.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	66.9		8.4	7.8	63.8		8.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	2.0	12.4		4.2	2.2	20.2		2.5
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	4.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	7.0
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	53	26	92	92	73	24	544	67	85	686	45
Future Volume (vph)	33	53	26	92	92	73	24	544	67	85	686	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			13.2			21.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	26.5	26.5		26.5	26.5	14.5	14.5	39.0	39.0	14.5	39.0	
Total Split (%)	33.1%	33.1%		33.1%	33.1%	18.1%	18.1%	48.8%	48.8%	18.1%	48.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

HCM 6th Signalized Intersection Summary uildout (2025) w/ Project AM Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	53	26	92	92	73	24	544	67	85	686	45
Future Volume (veh/h)	33	53	26	92	92	73	24	544	67	85	686	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	58	28	100	100	79	26	591	73	92	746	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	181	87	232	284	413	421	1067	904	571	1084	71
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.57	0.57	0.11	0.62	0.62
Sat Flow, veh/h	1205	1192	575	1311	1870	1585	1781	1870	1585	1781	1736	114
Grp Volume(v), veh/h	36	0	86	100	100	79	26	591	73	92	0	795
Grp Sat Flow(s),veh/h/ln	1205	0	1767	1311	1870	1585	1781	1870	1585	1781	0	1850
Q Serve(g_s), s	2.2	0.0	3.5	5.9	3.8	3.1	0.4	15.9	1.7	1.3	0.0	22.6
Cycle Q Clear(g_c), s	6.0	0.0	3.5	9.4	3.8	3.1	0.4	15.9	1.7	1.3	0.0	22.6
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	215	0	268	232	284	413	421	1067	904	571	0	1155
V/C Ratio(X)	0.17	0.00	0.32	0.43	0.35	0.19	0.06	0.55	0.08	0.16	0.00	0.69
Avail Cap(c_a), veh/h	364	0	486	394	514	608	546	1067	904	600	0	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.1	0.0	30.2	34.4	30.4	23.0	7.9	10.8	7.7	6.0	0.0	9.9
Incr Delay (d2), s/veh	0.4	0.0	0.7	1.3	0.7	0.2	0.1	2.1	0.2	0.1	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.5	1.9	1.7	1.1	0.1	6.2	0.5	0.3	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	30.9	35.7	31.1	23.2	7.9	12.9	7.9	6.1	0.0	13.2
LnGrp LOS	C	A	C	D	C	C	A	B	A	A	A	B
Approach Vol, veh/h		122			279			690			887	
Approach Delay, s/veh		31.7			30.5			12.1			12.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	50.1		16.7	8.9	54.5		16.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	34.5		22.0	10.0	34.5		22.0
Max Q Clear Time (g_c+I1), s	3.3	17.9		8.0	2.4	24.6		11.4
Green Ext Time (p_c), s	0.1	3.7		0.4	0.0	3.8		0.8

Intersection Summary			
HCM 6th Ctrl Delay			16.1
HCM 6th LOS			B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	77	386	579	77	161	32
Future Volume (vph)	77	386	579	77	161	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	77	386	579	77	161	32
Future Vol, veh/h	77	386	579	77	161	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	420	629	84	175	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1535	193	210	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	1342	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	128	849	1361	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	244	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 69	849	1361	-	-	-
Mov Cap-2 Maneuver	2306	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	244	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.2	8.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1361	-	2306	849	-	-
HCM Lane V/C Ratio	0.462	-	0.036	0.494	-	-
HCM Control Delay (s)	9.9	-	6.6	13.3	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	2.5	-	0.1	2.8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	307	0	656	515	32
Future Volume (vph)	0	307	0	656	515	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	307	0	656	515	32
Future Vol, veh/h	0	307	0	656	515	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	334	0	713	560	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	578	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	516	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	516	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.9	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	516	-	-
HCM Lane V/C Ratio	-	0.647	-	-
HCM Control Delay (s)	-	23.9	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	4.6	-	-

Return to Agenda

Open Bookmarks

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	11	17	10	16	10	60	119	10	11	82	7
Future Volume (vph)	15	11	17	10	16	10	60	119	10	11	82	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		50	0		0	0		50
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	90			90			90			90		
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1696			2120			821			428	
Travel Time (s)		38.5			48.2			14.0			7.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	11	17	10	16	10	60	119	10	11	82	7
Future Vol, veh/h	15	11	17	10	16	10	60	119	10	11	82	7
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	12	18	11	17	11	65	128	11	12	88	8
Number of Lanes	1	1	0	1	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	2	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	2	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	3	2
HCM Control Delay	8.4	8.3	9.9	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	32%	100%	0%	100%	0%	0%	12%	0%
Vol Thru, %	63%	0%	39%	0%	100%	0%	88%	0%
Vol Right, %	5%	0%	61%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	15	28	10	16	10	93	7
LT Vol	60	15	0	10	0	0	11	0
Through Vol	119	0	11	0	16	0	82	0
RT Vol	10	0	17	0	0	10	0	7
Lane Flow Rate	203	16	30	11	17	11	100	8
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.289	0.027	0.043	0.018	0.026	0.014	0.146	0.009
Departure Headway (Hd)	5.126	6.038	5.104	6.04	5.536	4.831	5.269	4.508
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	701	593	701	592	646	740	681	793
Service Time	2.851	3.774	2.84	3.779	3.275	2.569	2.999	2.238
HCM Lane V/C Ratio	0.29	0.027	0.043	0.019	0.026	0.015	0.147	0.01
HCM Control Delay	9.9	8.9	8.1	8.9	8.4	7.6	8.9	7.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	1.2	0.1	0.1	0.1	0.1	0	0.5	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1	14	9	2	2	17	126	6	1	728	38
Future Volume (vph)	7	1	14	9	2	2	17	126	6	1	728	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	100		50	500		0	100		50
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1038			624			1416			269	
Travel Time (s)		23.6			14.2			24.1			4.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Turn Type	Perm	NA	pm+ov	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	5	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	10.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.5	29.5	14.5	23.5	23.5	23.5	14.5	26.5	26.5	14.5	28.5	28.5
Total Split (s)	29.5	29.5	14.5	29.5	29.5	29.5	14.5	36.0	36.0	14.5	36.0	36.0
Total Split (%)	36.9%	36.9%	18.1%	36.9%	36.9%	36.9%	18.1%	45.0%	45.0%	18.1%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?			Yes				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Description:

Splits and Phases: 2: Jefferson St. & Avenue 39

HCM 6th Signalized Intersection Summary ildout (2025) w/ Project MD Peak Hour
2: Jefferson St. & Avenue 39

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1	14	9	2	2	17	126	6	1	728	38
Future Volume (veh/h)	7	1	14	9	2	2	17	126	6	1	728	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	1	15	10	2	2	18	137	7	1	791	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	67	122	139	67	56	542	1483	1257	1034	1411	1196
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.79	0.79	0.00	0.75	0.75
Sat Flow, veh/h	1412	1870	1585	1397	1870	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	8	1	15	10	2	2	18	137	7	1	791	41
Grp Sat Flow(s),veh/h/ln	1412	1870	1585	1397	1870	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.4	0.0	0.7	0.6	0.1	0.1	0.2	1.3	0.1	0.0	14.4	0.5
Cycle Q Clear(g_c), s	0.5	0.0	0.7	0.6	0.1	0.1	0.2	1.3	0.1	0.0	14.4	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	67	122	139	67	56	542	1483	1257	1034	1411	1196
V/C Ratio(X)	0.06	0.02	0.12	0.07	0.03	0.04	0.03	0.09	0.01	0.00	0.56	0.03
Avail Cap(c_a), veh/h	530	584	561	526	584	495	692	1483	1257	1251	1411	1196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.5	37.2	34.4	37.5	37.2	37.2	3.0	1.9	1.7	2.4	4.2	2.5
Incr Delay (d2), s/veh	0.2	0.1	0.4	0.2	0.2	0.3	0.0	0.1	0.0	0.0	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.2	0.0	0.0	0.0	0.2	0.0	0.0	3.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	37.3	34.9	37.7	37.4	37.5	3.0	2.0	1.7	2.4	5.8	2.5
LnGrp LOS	D	D	C	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		24			14			162			833	
Approach Delay, s/veh		35.9			37.6			2.1			5.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.7	67.9		7.4	7.8	64.9		7.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.0	31.5		25.0	10.0	31.5		25.0
Max Q Clear Time (g_c+I1), s	2.0	3.3		2.7	2.2	16.4		2.6
Green Ext Time (p_c), s	0.0	0.7		0.0	0.0	4.9		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	69	28	91	55	12	25	136	108	82	626	44
Future Volume (vph)	8	69	28	91	55	12	25	136	108	82	626	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		175	205		500	195		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	90			90			90			90		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			40			40	
Link Distance (ft)		1680			1768			679			1272	
Travel Time (s)		38.2			40.2			11.6			21.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Shared Lane Traffic (%)												
Turn Type	Perm	NA		Perm	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4			8	1	5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	10.0	10.0	5.0	5.0	10.0	5.0	
Minimum Split (s)	26.5	26.5		19.5	19.5	14.5	14.5	26.5	26.5	14.5	19.5	
Total Split (s)	26.6	26.6		26.6	26.6	14.6	14.6	38.8	38.8	14.6	38.8	
Total Split (%)	33.3%	33.3%		33.3%	33.3%	18.3%	18.3%	48.5%	48.5%	18.3%	48.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	

Splits and Phases: 3: Jefferson St. & Avenue 40

HCM 6th Signalized Intersection Summary ildout (2025) w/ Project MD Peak Hour
3: Jefferson St. & Avenue 40

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	69	28	91	55	12	25	136	108	82	626	44
Future Volume (veh/h)	8	69	28	91	55	12	25	136	108	82	626	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	71	29	94	57	12	26	140	111	85	645	45
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	190	78	219	282	407	491	1075	911	889	1081	75
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.57	0.57	0.11	0.63	0.63
Sat Flow, veh/h	1332	1262	515	1295	1870	1585	1781	1870	1585	1781	1728	121
Grp Volume(v), veh/h	8	0	100	94	57	12	26	140	111	85	0	690
Grp Sat Flow(s),veh/h/ln	1332	0	1778	1295	1870	1585	1781	1870	1585	1781	0	1849
Q Serve(g_s), s	0.4	0.0	4.1	5.6	2.1	0.5	0.4	2.8	2.6	1.2	0.0	17.8
Cycle Q Clear(g_c), s	2.6	0.0	4.1	9.7	2.1	0.5	0.4	2.8	2.6	1.2	0.0	17.8
Prop In Lane	1.00		0.29	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	255	0	268	219	282	407	491	1075	911	889	0	1157
V/C Ratio(X)	0.03	0.00	0.37	0.43	0.20	0.03	0.05	0.13	0.12	0.10	0.00	0.60
Avail Cap(c_a), veh/h	422	0	491	382	517	606	618	1075	911	925	0	1157
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.9	0.0	30.6	34.9	29.8	22.3	6.8	7.8	7.8	3.9	0.0	8.9
Incr Delay (d2), s/veh	0.0	0.0	0.9	1.3	0.3	0.0	0.0	0.3	0.3	0.0	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.8	1.8	1.0	0.2	0.1	1.0	0.8	0.3	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	31.4	36.3	30.1	22.3	6.8	8.1	8.1	3.9	0.0	11.2
LnGrp LOS	C	A	C	D	C	C	A	A	A	A	A	B
Approach Vol, veh/h		108			163			277			775	
Approach Delay, s/veh		31.4			33.1			8.0			10.4	
Approach LOS		C			C			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	50.5		16.6	8.9	54.6		16.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	10.1	34.3		22.1	10.1	34.3		22.1
Max Q Clear Time (g_c+I1), s	3.2	4.8		6.1	2.4	19.8		11.7
Green Ext Time (p_c), s	0.1	1.1		0.4	0.0	3.9		0.4

Intersection Summary			
HCM 6th Ctrl Delay			14.4
HCM 6th LOS			B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	73	366	29	115	108	2
Future Volume (vph)	73	366	29	115	108	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150	0	150			0
Storage Lanes	1	1	1			0
Taper Length (ft)	90		90			
Link Speed (mph)	30			40	40	
Link Distance (ft)	812			629	528	
Travel Time (s)	18.5			10.7	9.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	73	366	29	115	108	2
Future Vol, veh/h	73	366	29	115	108	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	398	32	125	117	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	307	118	119	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	685	934	1469	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	934	1469	-	-	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	887	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1469	-	690	934	-	-
HCM Lane V/C Ratio	0.021	-	0.115	0.426	-	-
HCM Control Delay (s)	7.5	-	10.9	11.7	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	2.2	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	292	0	144	472	2
Future Volume (vph)	0	292	0	144	472	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	30			40	40	
Link Distance (ft)	331			435	629	
Travel Time (s)	7.5			7.4	10.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	292	0	144	472	2
Future Vol, veh/h	0	292	0	144	472	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	317	0	157	513	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	514	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	560	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	560	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	560	-	-
HCM Lane V/C Ratio	-	0.567	-	-
HCM Control Delay (s)	-	19.5	-	-
HCM Lane LOS	-	C	-	-
HCM 95th %tile Q(veh)	-	3.5	-	-

Queuing and Blocking Report
Project Buildout (2025) w/ Project AM Peak Hour

Intersection: 4: Jefferson St. & Youngs Wy.

Movement	EB	EB	NB	NB	SB
Directions Served	L	R	L	T	TR
Maximum Queue (ft)	128	134	193	44	35
Average Queue (ft)	59	77	93	4	4
95th Queue (ft)	124	129	182	60	24
Link Distance (ft)		778		567	452
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	150		150		
Storage Blk Time (%)	2	0	2		
Queuing Penalty (veh)	8	0	2		

Intersection: 5: Jefferson St. & S. Dwy.

Movement	EB
Directions Served	R
Maximum Queue (ft)	163
Average Queue (ft)	94
95th Queue (ft)	173
Link Distance (ft)	297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 10

Queuing and Blocking Report
Project Buildout (2025) w/ Project MD Peak Hour

Intersection: 4: Jefferson St. & Youngs Wy.

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	42	103	24
Average Queue (ft)	30	66	2
95th Queue (ft)	48	98	18
Link Distance (ft)		778	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: Jefferson St. & S. Dwy.

Movement	EB
Directions Served	R
Maximum Queue (ft)	161
Average Queue (ft)	81
95th Queue (ft)	148
Link Distance (ft)	297
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 0

Open Bookmarks

THE GARDEN FELLOWSHIP

DESIGN REVIEW BOOKLET

APRIL 2018

Overall Site Plan (1 Sheet)

Engineering Plans (2 Sheets)

Sign Entry and Conceptual Landscape (4 Sheets)

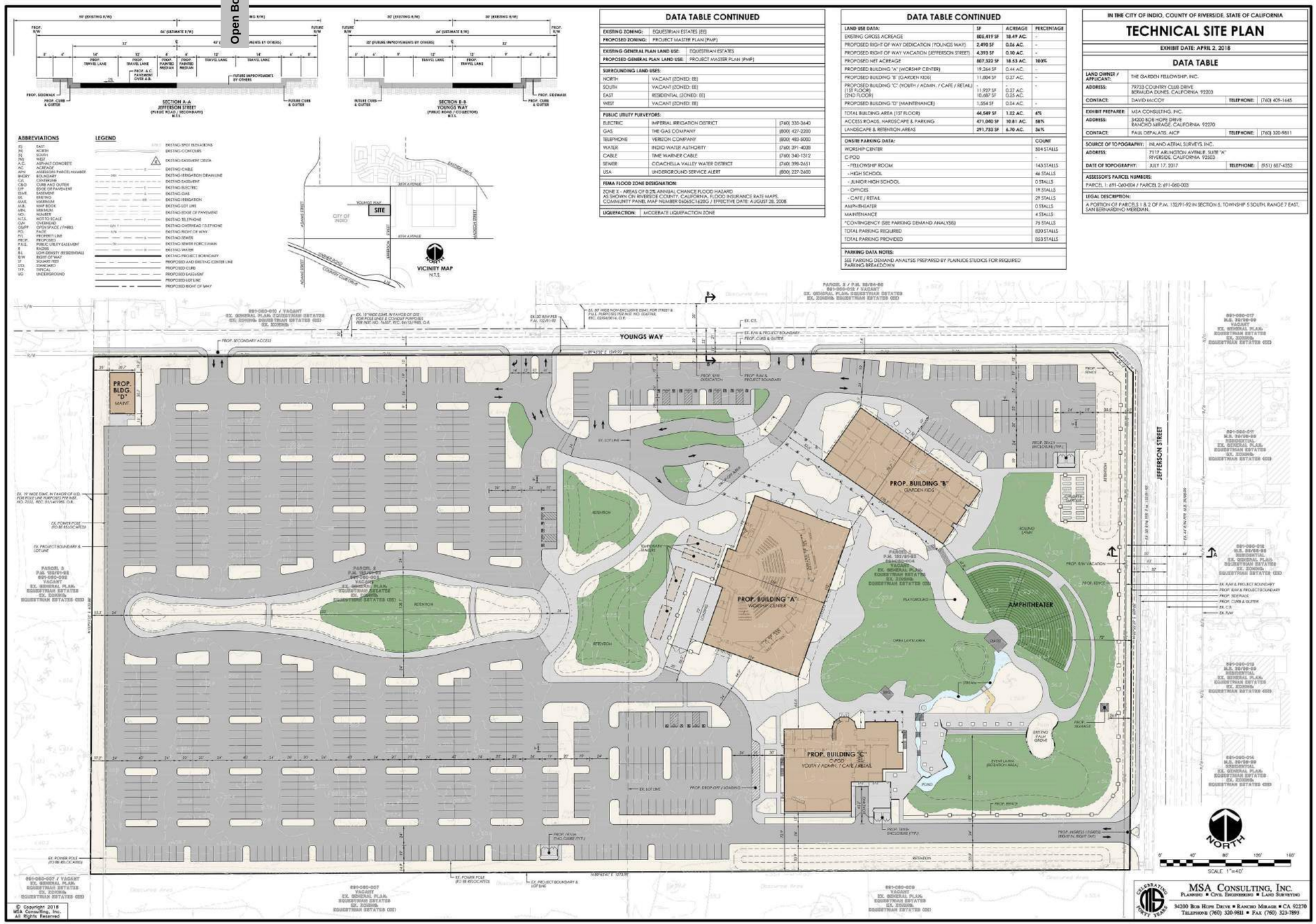
Architecture (16 Sheets)

Worship Center (4 Sheets)

Kids Building (4 Sheets)

POD & Maintenance Buildings (6 Sheets)

Open Bookmarks



DATA TABLE CONTINUED

EXISTING ZONING:	EQUESTRIAN ESTATES (EE)
PROPOSED ZONING:	PROJECT MASTER PLAN (PMP)
EXISTING GENERAL PLAN LAND USE:	EQUESTRIAN ESTATES
PROPOSED GENERAL PLAN LAND USE:	PROJECT MASTER PLAN (PMP)
SURROUNDING LAND USES:	
NORTH	VACANT (ZONED: EE)
SOUTH	VACANT (ZONED: EE)
EAST	RESIDENTIAL (ZONED: EE)
WEST	VACANT (ZONED: EE)
PUBLIC UTILITY PURVEYORS:	
ELECTRIC	IMPERIAL IRRIGATION DISTRICT (760) 335-3640
GAS	THE GAS COMPANY (800) 427-2200
TELEPHONE	VERIZON COMPANY (800) 483-5000
WATER	INDIO WATER AUTHORITY (760) 391-4038
CABLE	TIME WARNER CABLE (760) 340-1312
SEWER	COACHELLA VALLEY WATER DISTRICT (760) 398-2651
USA	UNDERGROUND SERVICE ALERT (800) 227-2600
FEMA FLOOD ZONE DESIGNATION:	
ZONE X - AREAS OF 0.2% ANNUAL CHANCE FLOOD HAZARD AS SHOWN ON RIVERSIDE COUNTY, CALIFORNIA FLOOD INSURANCE RATE MAPS, COMMUNITY PANEL MAP NUMBER 06065C1620G / EFFECTIVE DATE: AUGUST 28, 2008	
LIQUEFACTION:	MODERATE LIQUEFACTION ZONE

DATA TABLE CONTINUED

LAND USE DATA:	SF	ACREAGE	PERCENTAGE
EXISTING GROSS ACREAGE	805,419 SF	18.49 AC.	-
PROPOSED RIGHT OF WAY DEDICATION (YOUNGS WAY)	2,490 SF	0.06 AC.	-
PROPOSED RIGHT OF WAY VACATION (JEFFERSON STREET)	4,393 SF	0.10 AC.	-
PROPOSED NET ACREAGE	807,322 SF	18.53 AC.	100%
PROPOSED BUILDING "A" (WORSHIP CENTER)	19,264 SF	0.44 AC.	-
PROPOSED BUILDING "B" (GARDEN KIDS)	11,004 SF	0.27 AC.	-
PROPOSED BUILDING "C" (YOUTH / ADMIN. / CAFE / RETAIL) (1ST FLOOR) (2ND FLOOR)	11,927 SF 10,687 SF	0.27 AC. 0.25 AC.	-
PROPOSED BUILDING "D" (MAINTENANCE)	1,354 SF	0.04 AC.	-
TOTAL BUILDING AREA (1ST FLOOR)	44,549 SF	1.02 AC.	6%
ACCESS ROADS, HARDSCAPE & PARKING	471,040 SF	10.81 AC.	58%
LANDSCAPE & RETENTION AREAS	291,733 SF	6.70 AC.	36%
ONSITE PARKING DATA:			**COUNT**
WORSHIP CENTER			504 STALLS
C-POD			-
- FELLOWSHIP ROOM			143 STALLS
- HIGH SCHOOL			46 STALLS
- JUNIOR HIGH SCHOOL			0 STALLS
- OFFICES			19 STALLS
- CAFE / RETAIL			29 STALLS
AMPHITHEATER			0 STALLS
MAINTENANCE			4 STALLS
*CONTINGENCY (SEE PARKING DEMAND ANALYSIS)			75 STALLS
TOTAL PARKING REQUIRED			820 STALLS
TOTAL PARKING PROVIDED			853 STALLS
PARKING DATA NOTES:			
SEE PARKING DEMAND ANALYSIS PREPARED BY PLAN1ICE STUDICS FOR REQUIRED PARKING BREAKDOWN			

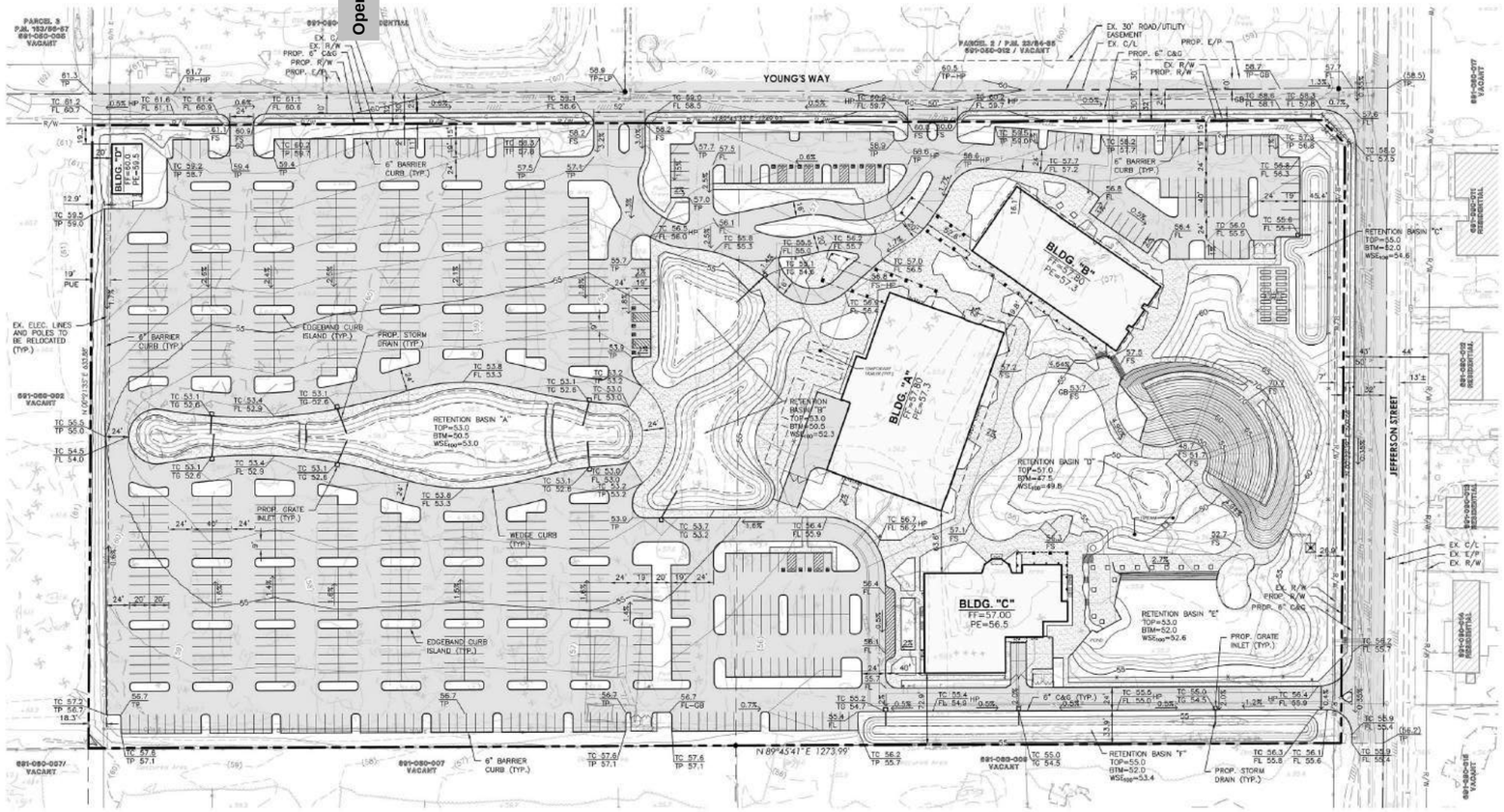
IN THE CITY OF INDIO, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TECHNICAL SITE PLAN

EXHIBIT DATE: APRIL 2, 2018

DATA TABLE

LAND OWNER / APPLICANT:	THE GARDEN FELLOWSHIP, INC.		
ADDRESS:	79733 COUNTRY CLUB DRIVE BERMUDA DUNES, CALIFORNIA 92203		
CONTACT:	DAVID McCOY	TELEPHONE:	(760) 409-1645
EXHIBIT PREPARER:	MSA CONSULTING, INC.		
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270		
CONTACT:	PAUL DEPALATIS, AICP	TELEPHONE:	(760) 320-9811
SOURCE OF TOPOGRAPHY:	INLAND AERIAL SURVEYS, INC.		
ADDRESS:	7117 ARLINGTON AVENUE, SUITE "A" RIVERSIDE, CALIFORNIA 92503		
DATE OF TOPOGRAPHY:	JULY 17, 2017	TELEPHONE:	(951) 687-4252
ASSESSOR'S PARCEL NUMBERS:			
PARCEL 1: 691-060-004 / PARCEL 2: 691-060-003			
LEGAL DESCRIPTION:			
A PORTION OF PARCELS 1 & 2 OF P.M. 13291-92 IN SECTION 5, TOWNSHIP 5 SOUTH, RANGE 7 EAST, SAN BERNARDINO MERIDIAN.			



IN THE CITY OF INDIO, THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

GARDEN FELLOWSHIP CHURCH PRELIMINARY GRADING AND DRAINAGE PLAN

EXHIBIT DATE: MARCH 20, 2018

DATA TABLE

LAND OWNER / APPLICANT:	THE GARDEN FELLOWSHIP, INC.		
ADDRESS:	79733 COUNTRY CLUB DRIVE BERMUDA DUNES, CALIFORNIA 92203		
CONTACT:	DAVID McCOY	TELEPHONE:	(760) 409-1645
EXHIBIT PREPARER:	MSA CONSULTING, INC.		
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270		
CONTACT:	PAUL DEPALATIS, AICP	TELEPHONE:	(760) 320-9811
SOURCE OF TOPOGRAPHY:	INLAND AERIAL SURVEYS, INC.		
ADDRESS:	7117 ARLINGTON AVENUE, SUITE "A" RIVERSIDE, CALIFORNIA 92503		
DATE OF TOPOGRAPHY:	JULY 17, 2017	TELEPHONE:	(951) 687-4252

ASSESSOR'S PARCEL NUMBERS:

PARCEL 1: 691-060-004 / PARCEL 2: 691-060-003

LEGAL DESCRIPTION:

A PORTION OF PARCELS 1 & 2 OF P.M. 132/91-92 IN SECTION 5, TOWNSHIP 5 SOUTH, RANGE 7 EAST, SAN BERNARDINO MERIDIAN.

FEMA FLOOD ZONE DESIGNATION:

ZONE X - AREAS OF 0.2% ANNUAL CHANCE FLOOD HAZARD
AS SHOWN ON RIVERSIDE COUNTY, CALIFORNIA, FLOOD INSURANCE RATE MAPS;
COMMUNITY PANEL MAP NUMBER 06065C1620G / EFFECTIVE DATE: AUGUST 28, 2008

LIQUEFACTION: MODERATE LIQUEFACTION ZONE

PRELIMINARY EARTHWORK

CUT..... 48,425 CY
FILL..... 39,065 CY
EXPORT..... 9,361 CY

EARTHWORK ASSUMPTIONS

(PRELIMINARY GEOTECHNICAL REPORT PREPARED BY PETRA GEOTECHNICAL, INC.; DATED 10/15/2014; REPORT # 14-305)

SUBSIDENCE= 1.5'
SHRINKAGE= 15%
BUILDING OVER-EXCAVATION - 4'
AC PAVEMENT SECTION= 4"AC OVER 5" CL II A.B.

PAVING LEGEND

PROPOSED BUILDING
PROPOSED AC PAVEMENT
PROPOSED CONCRETE

NORTH

0' 60' 120' 180' 240'
SCALE 1"=60'

NORTH
VICINITY MAP
N.T.S.

ABBREVIATIONS

(E)	EAST
(N)	NORTH
(S)	SOUTH
(W)	WEST
A.C.	ASPHALT CONCRETE
AC	ACREAGE
APN	ASSESSORS PARCEL NUMBER
BNDRY	BOUNDARY
C/L	CENTERLINE
C&G	CURB AND GUTTER
E/P	EDGE OF PAVEMENT
EMAL	EASEMENT
EX.	EXISTING
GFA	GROUND FLOOR AREA
MAX.	MAXIMUM
M.B.	MAP BOOK
MIN.	MINIMUM
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/H	OVERHEAD
OS/PP	OPEN SPACE / PARKS
PED.	PEDESTRIAN
PG.	PAGE
P/L	PROPERTY LINE
PROP.	PROPOSED
P.U.E.	PUBLIC UTILITY EASEMENT
R	RADIUS
R-L	LOW DENSITY (RESIDENTIAL)
R/W	RIGHT OF WAY
SCE	SOUTHERN CALIFORNIA EDISON
SF	SQUARE FEET
STD.	STANDARD
TYP.	TYPICAL
U/G	UNDERGROUND

LEGEND

679.5	EXISTING SPOT ELEVATIONS
	EXISTING CONTOURS
C	EXISTING CABLE
	EXISTING CITY / COUNTY LIMITS
X	EXISTING FENCE
	EXISTING EASEMENT
E	EXISTING ELECTRIC
G	EXISTING GAS
	EXISTING LOT LINE
	EXISTING EDGE OF PAVEMENT
T	EXISTING TELEPHONE
	PROPOSED RIGHT OF WAY
O/H T	EXISTING OVERHEAD TELEPHONE
R/W	EXISTING RIGHT OF WAY
W	EXISTING WATER LINE
	PROJECT BOUNDARY
	PROJECT BUILDING
	PROPOSED AND EXISTING CENTER LINE
	PROPOSED CURB OR E/P
	PROPOSED EASEMENT
X X X X	PROPOSED FENCE
	PROPOSED RETENTION BASIN
S	PROPOSED SEWER LINE
W	PROPOSED WATER LINE
T	PROPOSED FIRE LINE
SD SD	PROPOSED STORM DRAIN

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DESIGN BY FOS
DRAWN BY FOS
CHECK BY MSR

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Open Bookmarks

IN THE CITY OF INDIO, THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

GARDEN FELLOWSHIP CHURCH
PRELIMINARY HYDROLOGY EXHIBIT
RCFCD SYNTHETIC UNIT (SHORTCUT METHOD)

EXHIBIT DATE: MARCH 20, 2018

DATA TABLE

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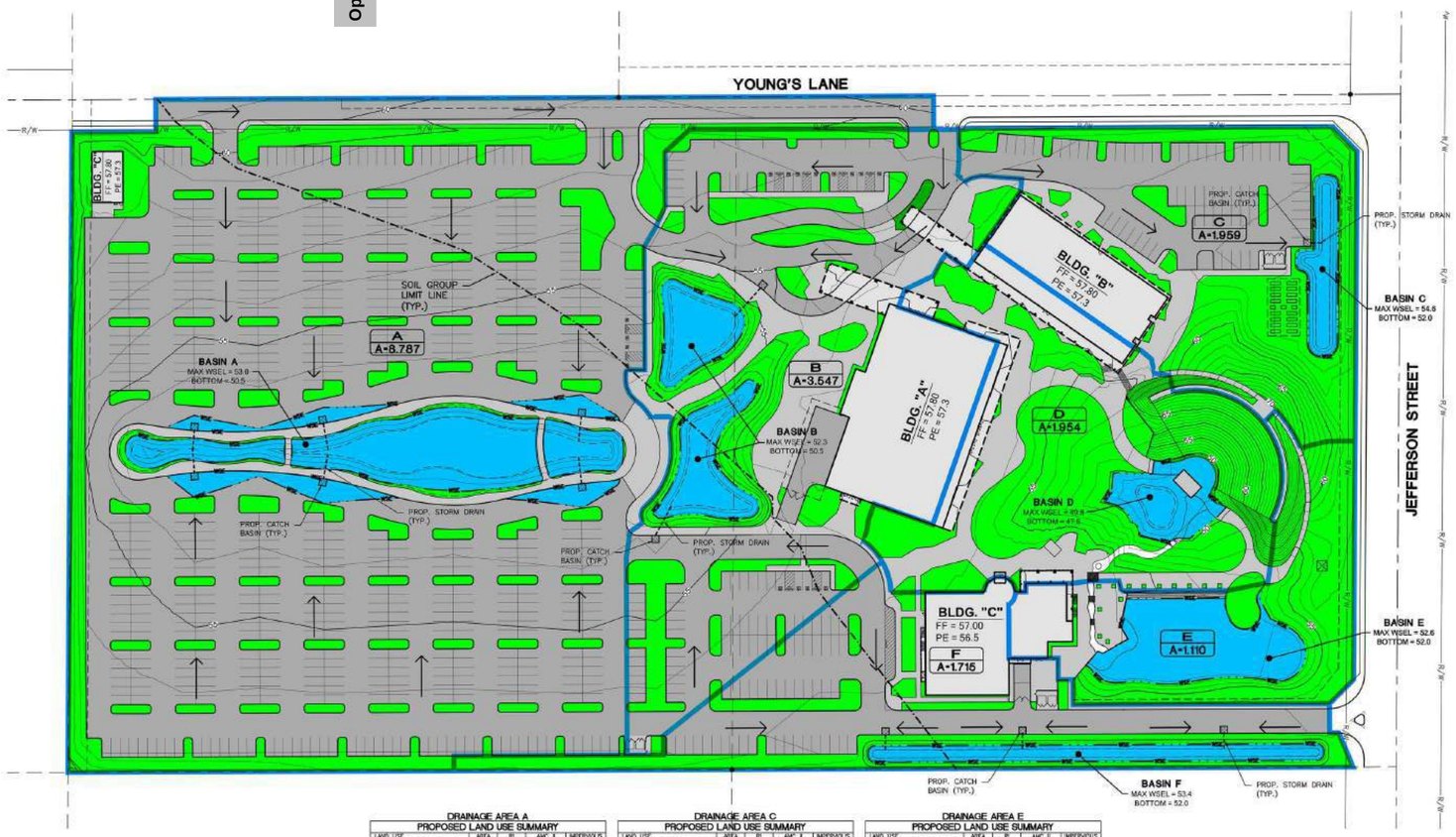
LIQUEFACTION: MODERATE LIQUEFACTION ZONE



LEGEND

DRAINAGE FLOW →
TRIBUTARY AREA BOUNDARY
DRAINAGE AREA ID / AREA (AC): A / A=X.X

LAND USE LEGEND

BUILDING / ROOFLINE
AC PAVING
CONCRETE HARDSCAPE
LANDSCAPED AREA
WATER SURFACE

TOTAL HYDROLOGIC AREA

BUILDINGS	1.466	AC
PAVEMENT / HARDSCAPE	10.917	AC
LANDSCAPED / OPEN	6.689	AC
TOTAL HYDROLOGIC AREA	19.072	AC

PROPOSED RETENTION BASIN VOLUME SUMMARY

DRAINAGE AREA	REQUIRED RETENTION BASIN STORAGE	PROVIDED STORAGE (@ 3' Depth)	MAXIMUM STORM WATER DEPTH
	(cu-ft)	(cu-ft)	(ft)
DA-A	44,866	66,832	2.5
DA-B	17,404	23,579	1.8
DA-C	9,117	10,983	2.6
DA-D	8,082	13,531	2.3
DA-E	4,111	42,030	0.6
DA-F	7,471	22,750	1.4
TOTAL SITE	91,051	179,705	

DRAINAGE AREA A
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
BUILDINGS	0.036	32	0.74	100.0
PAVING/HARDSCAPE	5.407	32	0.74	100.0
LANDSCAPED/OPEN SPACE	1.578	32	0.74	10.0
PAVING/HARDSCAPE	1.348	56	0.51	100.0
LANDSCAPED/OPEN SPACE	0.418	56	0.51	10.0
TOTAL AREA	8.787			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.28	1.54	1.87	1.77
FLOOD VOLUME	(cu-ft)	40,934	48,979	50,197	**56,411**
	(acre-ft)	0.94	1.12	1.15	**1.30**
REQUIRED STORAGE	(cu-ft)	39,552	**44,866**	43,552	38,164
	(acre-ft)	0.91	**1.03**	1.00	0.90
STORAGE PROVIDED	(cu-ft)	103,081			
	(acre-ft)	2.37			
PEAK FLOW	(cfs)	N/A	16.74	14.39	3.77
MAXIMUM WSEL	(ft)	52.97	**53.04**	53.02	52.85
DEPTH	(ft)	2.37	**2.54**	2.52	2.35

DRAINAGE AREA B
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
PAVING/HARDSCAPE	0.552	32	0.74	100.0
LANDSCAPED/OPEN SPACE	0.349	32	0.74	10.0
BUILDINGS	0.804	56	0.51	100.0
PAVING/HARDSCAPE	1.295	56	0.51	100.0
LANDSCAPED/OPEN SPACE	0.747	56	0.51	10.0
TOTAL AREA	3.547			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.28	1.52	1.54	1.72
FLOOD VOLUME	(cu-ft)	16,445	19,541	19,848	**22,176**
	(acre-ft)	0.38	0.45	0.46	**0.51**
REQUIRED STORAGE	(cu-ft)	15,710	**17,404**	16,355	14,046
	(acre-ft)	0.36	**0.40**	0.38	0.32
STORAGE PROVIDED	(cu-ft)	45,915			
	(acre-ft)	1.05			
PEAK FLOW	(cfs)	N/A	6.74	5.79	1.50
MAXIMUM WSEL	(ft)	52.19	**52.32**	52.24	52.07
DEPTH	(ft)	1.69	**1.82**	1.74	1.57

DRAINAGE AREA C
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
BUILDINGS	0.264	56	0.51	100.0
PAVING/HARDSCAPE	0.768	56	0.51	100.0
LANDSCAPED/OPEN SPACE	0.927	56	0.51	10.0
TOTAL AREA	1.959			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.23	1.39	1.34	1.44
FLOOD VOLUME	(cu-ft)	8,772	9,867	9,521	**10,211**
	(acre-ft)	0.20	0.23	0.22	**0.23**
REQUIRED STORAGE	(cu-ft)	8,5003	**9,117**	8,302	6,886
	(acre-ft)	0.20	**0.21**	0.19	0.16
STORAGE PROVIDED	(cu-ft)	20,522			
	(acre-ft)	0.47			
PEAK FLOW	(cfs)	N/A	3.63	3.11	0.73
MAXIMUM WSEL	(ft)	54.49	**54.62**	54.45	54.16
DEPTH	(ft)	2.49	**2.62**	2.45	2.16

DRAINAGE AREA D
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
BUILDINGS	0.259	56	0.51	100.0
PAVING/HARDSCAPE	0.525	56	0.51	100.0
LANDSCAPED/OPEN SPACE	1.170	56	0.51	10.0
TOTAL AREA	1.954			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.18	1.24	1.21	1.15
FLOOD VOLUME	(cu-ft)	8,381	**8,824**	8,606	8,184
	(acre-ft)	0.19	**0.20**	0.20	0.19
REQUIRED STORAGE	(cu-ft)	**8,082**	8,040	7,528	5,145
	(acre-ft)	**0.19**	0.18	.017	.012
STORAGE PROVIDED	(cu-ft)	18,515			
	(acre-ft)	0.43			
PEAK FLOW	(cfs)	N/A	3.52	3.09	0.66
MAXIMUM WSEL	(ft)	**49.78**	49.77	49.69	49.29
DEPTH	(ft)	**2.28**	2.27	2.19	1.79

DRAINAGE AREA E
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
BUILDINGS	0.693	56	0.51	100.0
PAVING/HARDSCAPE	0.171	56	0.51	100.0
LANDSCAPED/OPEN SPACE	0.846	56	0.51	10.0
TOTAL AREA	1.110			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.11	1.07	1.07	0.97
FLOOD VOLUME	(cu-ft)	**4,489**	4,299	4,308	3,896
	(acre-ft)	**0.10**	0.10	0.10	0.09
REQUIRED STORAGE	(cu-ft)	**4,111**	3,525	3,188	1,424
	(acre-ft)	**0.09**	0.08	0.07	0.03
STORAGE PROVIDED	(cu-ft)	6,995			
	(acre-ft)	0.16			
PEAK FLOW	(cfs)	N/A	1.93	1.63	0.31
MAXIMUM WSEL	(ft)	**52.59**	52.50	52.46	52.20
DEPTH	(ft)	**0.59**	0.50	0.46	0.20

DRAINAGE AREA F
PROPOSED LAND USE SUMMARY

LAND USE	AREA (acres)	RI NUMBER	AMC I INFILTRATION RATE (in/hr)	IMPERVIOUS PERCENT
PAVING/HARDSCAPE	0.410	32	0.74	100.0
LANDSCAPED/OPEN SPACE	0.268	32	0.74	10.0
BUILDINGS	0.219	56	0.51	100.0
PAVING/HARDSCAPE	0.441	56	0.51	100.0
LANDSCAPED/OPEN SPACE	0.386	56	0.51	10.0
TOTAL AREA	1.715			

STORM EVENT SUMMARY
PROPOSED CONDITIONS

DURATION		1-HOUR	3-HOUR	6-HOUR	24-HOUR
EFFECTIVE RAIN	(in)	1.23	1.39	1.34	1.43
FLOOD VOLUME	(cu-ft)	7,678	8,651	8,327	**8,939**
	(acre-ft)	0.18	0.20	0.19	**0.20**
REQUIRED STORAGE	(cu-ft)	7,239	**7,471**	6,895	4,800
	(acre-ft)	0.17	**0.17**	0.15	0.11
STORAGE PROVIDED	(cu-ft)	22,750			
	(acre-ft)	0.52			
PEAK FLOW	(cfs)	N/A	3.18	2.72	0.66
MAXIMUM WSEL	(ft)	53.33	**53.36**	53.25	53.00
DEPTH	(ft)	1.33	**1.36**	1.25	1.00

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DESIGN BY FOS
DRAWN BY FOS
CHECK BY MRS

R:\2899-AC-AD-Hydrology\Preliminary\2899 PRELIMINARY SYNTHETIC UNIT EXHIBIT.DWG, 3/20/2018 4:37:11 PM, tdowney, MSA Consulting, Inc.

PRELIMINARY DRAINAGE PLAN

Open Bookmarks

IN THE CITY OF DESERT HOT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

CONCEPTUAL LANDSCAPE DESIGN

PROJECT NAME:

THE GARDEN FELLOWSHIP

EXHIBIT DATE: APRIL 2, 2018

APPLICANT / LAND OWNER:	THE GARDEN FELLOWSHIP, INC.		
ADDRESS:	79733 COUNTRY CLUB DRIVE BERMUDA DUNES, CALIFORNIA 92203		
CONTACT:	DAVID McCOY	TELEPHONE:	(760) 409-1640
EXHIBIT PREPARER:	MSA CONSULTING, INC.		
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ASSESSOR'S PARCEL NUMBER:	PARCEL 1: 691-060-004 / PARCEL 2: 691-060-003		

PLANTING LEGEND CONTINUED

ACCENTS

- **CAMPSIS RADICANS** — TRUMPET CREEPER, 5 GALLON
- **ALYOGYNE HUEGELII** — BLUE HIBISCUS, 1 GALLON
- **HESPERALOE PARVIFLORA 'DESERT FLAMENCO'** — DESERT FLAMENCO® HESPERALOE, 1 GALLON
- **COCCULUS LAURIFOLIUS** — LAUREL LEAF COCCULUS, 1 GALLON
- **ZEPHYRANTHES CANDIDA** — RAIN LILY, 1 GALLON
- **HARDENBERGIA** — DESERT MARIGOLD, 1 GALLON
- **YUCCA ELATA** — SOAPTREE YUCCA, SPECIMEN

INERT MATERIALS

- **BLUE CRESTA** — 3" MINUS
- **BROWN CRESTA BOULDERS** — 2' x 2' x 2' MINIMUM

GENERAL NOTES

1. PLANT QUANTITIES INDICATED IN THE PLANT LIST ARE FOR CONTRACTOR CONVENIENCE ONLY. CONTRACTOR TO VERIFY PLANT QUANTITIES PER PLAN. TO BID. CONTRACTOR TO PROVIDE AND INSTALL ALL PLANTS INDICATED PER PLAN.
2. THE PROJECT WILL HAVE AN UNDERGROUND AUTOMATIC LOW WATER USE DRIP IRRIGATION SYSTEM.
3. ALL PLANTING AREAS WILL RECEIVE A D.G. (DECOMPOSED GRANITE) MULCH OF 2" DEPTH
4. ALL PLANTING TO CONFORM TO COACHELLA VALLEY WATER DISTRICT GUIDELINES AND LOW WATER USE PLANT LIST.

PLANTING LEGEND

TREES

- **CASUARINA EQUISITIFOLIA** — SHE OAK, 15 GALLON
- **DAHLBERGIA SISSOO** — SISSOO TREE, 15 GALLON
- **ULMUS PARVIFOLIA** — CHINESE ELM, 15 GALLON
- **TIPUANA TIPU** — TIPU TREE, 15 GALLON
- **CHILOPSIS LINEARIS** — DESERT WILLOW, 15 GALLON
- **EUCALYPTUS PAPUANA** — GHOST GUM, 15 GALLON
- **WASHINGTONIA HYBRID** — HYBRID CALIFORNIA FAN PALM, 15' TRUNK HEIGHT
- **LAGERSTROEMIA INDICA** — CRAPE MYRTLE, 15 GALLON
- **CHAMAEROPS HUMILIS** — MEDITERRANEAN FAN PALM, 15' TRUNK HEIGHT

SHRUBS

- **TECOMA STANS 'GOLD STAR'** — 'GOLD STAR' YELLOW BELLS, 5 GALLON
- **CAESALPINIA PULCHERRIMA** — MEXICAN BIRD OF PARADISE, 1 GALLON
- **MUHLENBERGIA EMERSLEYI** — BULL GRASS, 5 GALLON
- **LEUCOPHYLLUM LANGMANIAE 'RIO BRVO'** — 'RIO BRAVO' TEXAS RANGER, 5 GALLON
- **EREMOPHILA HYGROPHANA** — BLUE BELLS, 5 GALLON

GROUND COVERS

- **LANTANA 'NEW GOLD'** — NEW GOLD LANTANA, 1 GALLON
- **LANTANA MONTEVIDENSIS** — PURPLE TRAILING LANTANA, 1 GALLON
- **LANTANA MONTEVIDENSIS 'WHITE'** — WHITE TRAILING LANTANA, 1 GALLON
- **BOUTELOUA GRACILIS 'BLONDE AMBITION'** — 'BLONDE AMBITION' BOUTELOUA, 1 GALLON

ACCENTS

- **BOUGAINVILLEA 'BARBARA KARST'** — 'BARBARA KARST' BOUGAINVILLEA, 5 GALLON
- **AGAVE WEBERI** — WEBER AGAVE, 15 GALLON
- **PACHYCEREUS MARGINATUS** — MEXICAN FENCE POST, 15 GALLON
- **PHILODENDRON SELLOUM** — PHILODENDRON, 15 GALLON
- **XYLOSMA CONGESTUM** — XYLOSMA, 5 GALLON

NORTH
0' 30' 60'
SCALE: 1"=30'

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CONCEPTUAL LANDSCAPE PLAN: SHEET 1

Open Bookmarks

IN THE CITY OF DESERT HOT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

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EXHIBIT DATE: APRIL 2, 2018

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NORTH

SCALE 1"=30'

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2 OF 4

CONCEPTUAL LANDSCAPE PLAN: SHEET 2

Open Bookmarks

IN THE CITY OF DESERT HOT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

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CASUARINA EQUISITIFOLIA
SHE OAK


DAHLBERGIA SISSOO
SISSOO TREE


ULMUS PARVIFOLIA
CHINESE ELM


TIPUANA TIPU
TIPU TREE


CHILOPSIS LINEARIS
DESERT WILLOW


EUCALYPTUS PAPUANA
GHOST GUM


WASHINGTONIA HYBRID
HYBRID CALIFORNIA FAN PALM


LAGERSTROEMIA INDICA
CRAPE MYRTLE


CHAMAEROPS HUMILIS
MEDITERRANEAN FAN PALM


TECOMA STANS 'GOLD STAR'
'GOLD STAR' YELLOW BELLS


MUHLENBERGIA EMERSLEYI
BULL GRASS


CAESALPINIA PULCHERRIMA
MEXICAN BIRD OF PARADISE


PACHYCEREUS MARGINATUS
MEXICAN FENCE POST


LEUCOPHYLLUM LANGMANIAE
'RIO BRAVO'
'RIO BRAVO' TEXAS RANGER


EREMOPHILA HYGROPHANA
BLUE BELLS


LANTANA 'NEW GOLD'
'NEW GOLD' LANTANA


LANTANA MONTEVIDENSIS
PURPLE TRAILING LANTANA


LANTANA MONTEVIDENSIS 'WHITE'
WHITE TRAILING LANTANA


AGAVE WEBERI
WEBER AGAVE


BOUTELOUA GRACILIS 'BLONDE AMBITION'
'BLONDE AMBITION' BOUTELOUA


BOUGAINVILLEA 'BARBARA KARST'
'BARBARA KARST' BOUGAINVILLEA


PHILODENDRON SELLOUM
PHILODENDRON


XYLOSMA CONGESTUM
XYLOSMA


CAMPSIS RADICANS
TRUMPET CREEPER


ALYOGYNE HUEGELII
BLUE HIBISCUS


COCCULUS LAURIFOLIUS
LAUREL LEAF COCCULUS


HESPERALOE PARVIFLORA
'DESERT FLAMENCO'
'DESERT FLAMENCO' HESPERALOE


ZEPHYRANTHES CANDIDA
RAIN LILY


HARDENBERGIA
DESERT MARIGOLD


YUCCA ELATA
SOAPTREE YUCCA


BLUE CRESTA


BROWN CRESTA BOULDERS

MSA CONSULTING, INC.
PLANNING ■ CIVIL ENGINEERING ■ LAND SURVEYING
34200 BOB HOPE DRIVE ■ RANCHO MIRAGE ■ CA 92270
TELEPHONE (760) 320-9811 ■ FAX (760) 323-7893

CONCEPTUAL LANDSCAPE PLAN: SHEET 3

Open Bookmarks

IN THE CITY OF DESERT HOT SPRINGS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

CONCEPTUAL LANDSCAPE DESIGN

PROJECT NAME:
THE GARDEN FELLOWSHIP

EXHIBIT DATE: APRIL 2, 2018

APPLICANT / LAND OWNER:	THE GARDEN FELLOWSHIP, INC.		
ADDRESS:	79733 COUNTRY CLUB DRIVE BERMUDA DUNES, CALIFORNIA 92203		
CONTACT:	DAVID McCOY	TELEPHONE:	(760) 409-1640
EXHIBIT PREPARER:	MSA CONSULTING, INC.		
ADDRESS:	34200 BOB HOPE DRIVE RANCHO MIRAGE, CALIFORNIA 92270		
CONTACT:	PAUL DEFALATE, AICP	TELEPHONE:	(760) 320-9811
ASSESSOR'S PARCEL NUMBER:	PARCEL 1: 691-060-004 / PARCEL 2: 691-060-003		

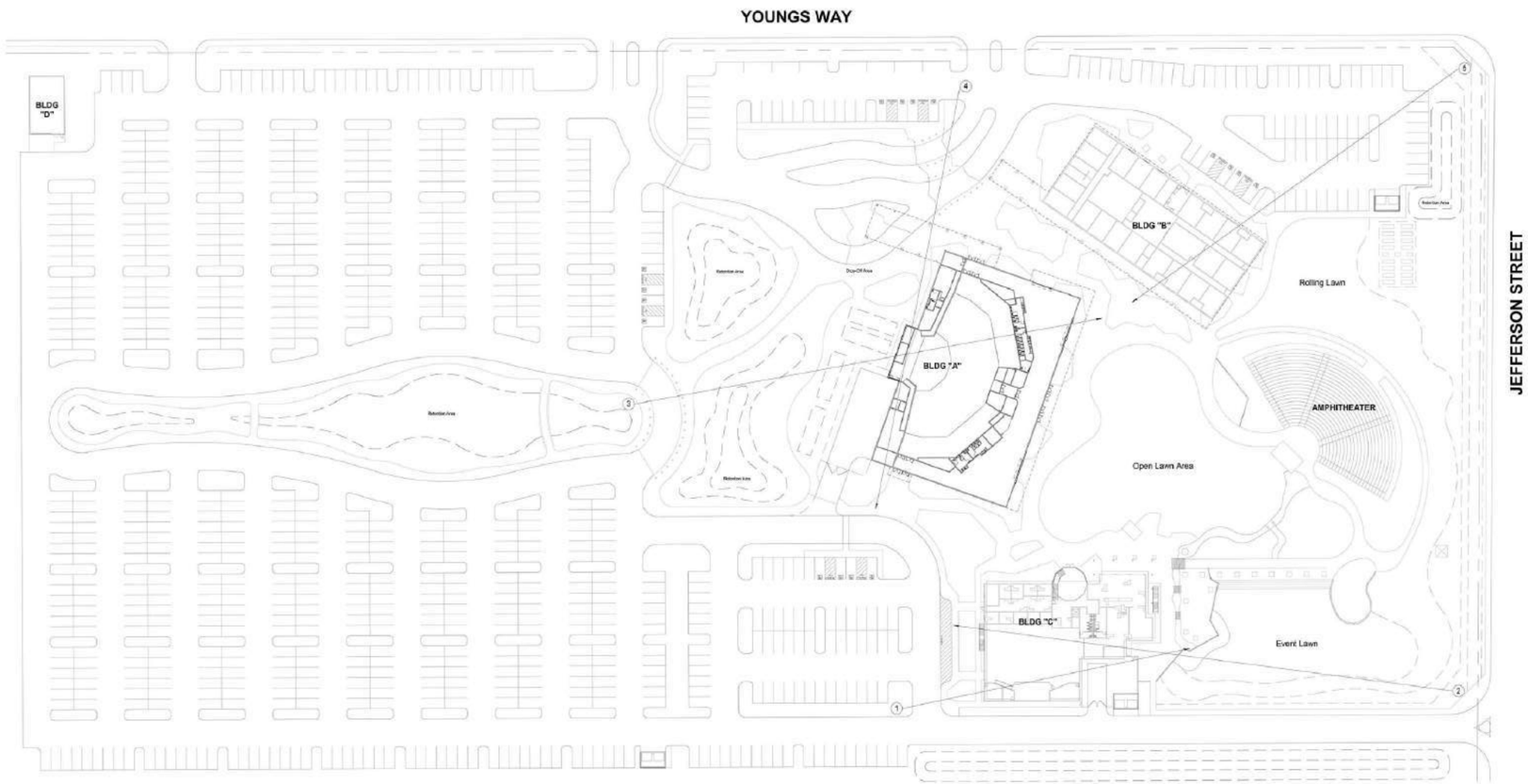
MSA CONSULTING, INC.
PLANNING ■ CIVIL ENGINEERING ■ LAND SURVEYING
34200 BOB HOPE DRIVE ■ RANCHO MIRAGE ■ CA 92270
TELEPHONE (760) 320-9811 ■ FAX (760) 323-7893

4 OF 4

CONCEPTUAL LANDSCAPE PLAN: SHEET 4

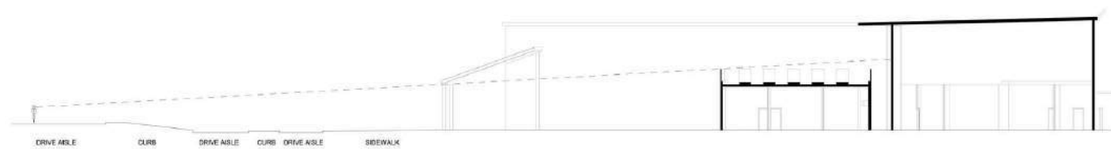
CONCEPTUAL ENTRY SIGNAGE

Open Bookmarks

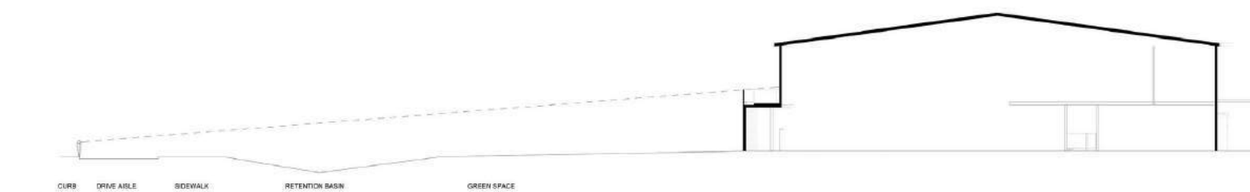


Open Bookmarks

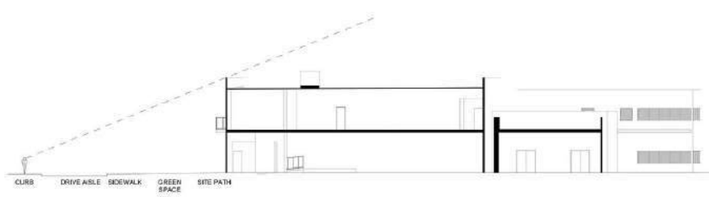
5 Section 5
1/16" = 1'-0"



4 Section 4
1/16" = 1'-0"



3 Section 3
1/16" = 1'-0"



2 Section 2
1/16" = 1'-0"

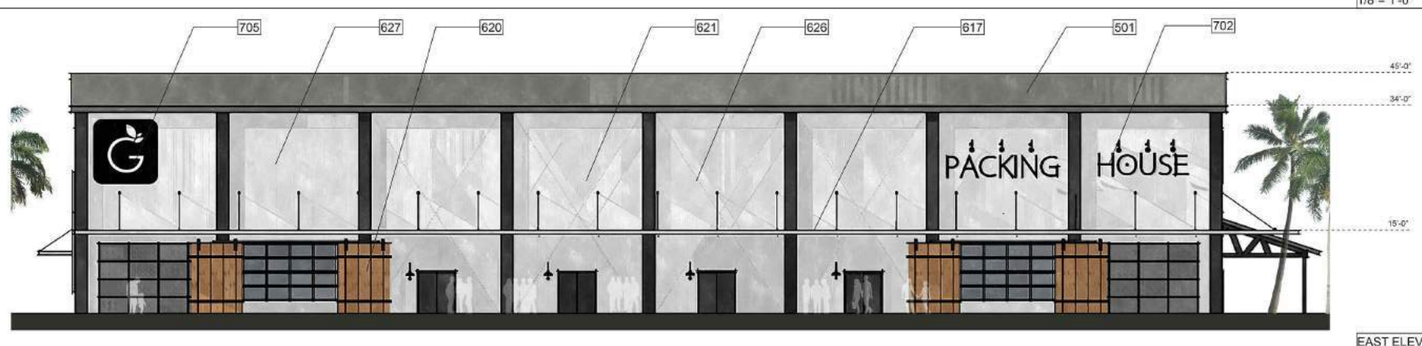
1 Section 1
1/16" = 1'-0"

Open Bookmarks

SOUTH ELEVATION 1
1/8"= 1'-0"

WEST ELEVATION 2
1/8"= 1'-0"

NORTH ELEVATION 3
1/8"= 1'-0"



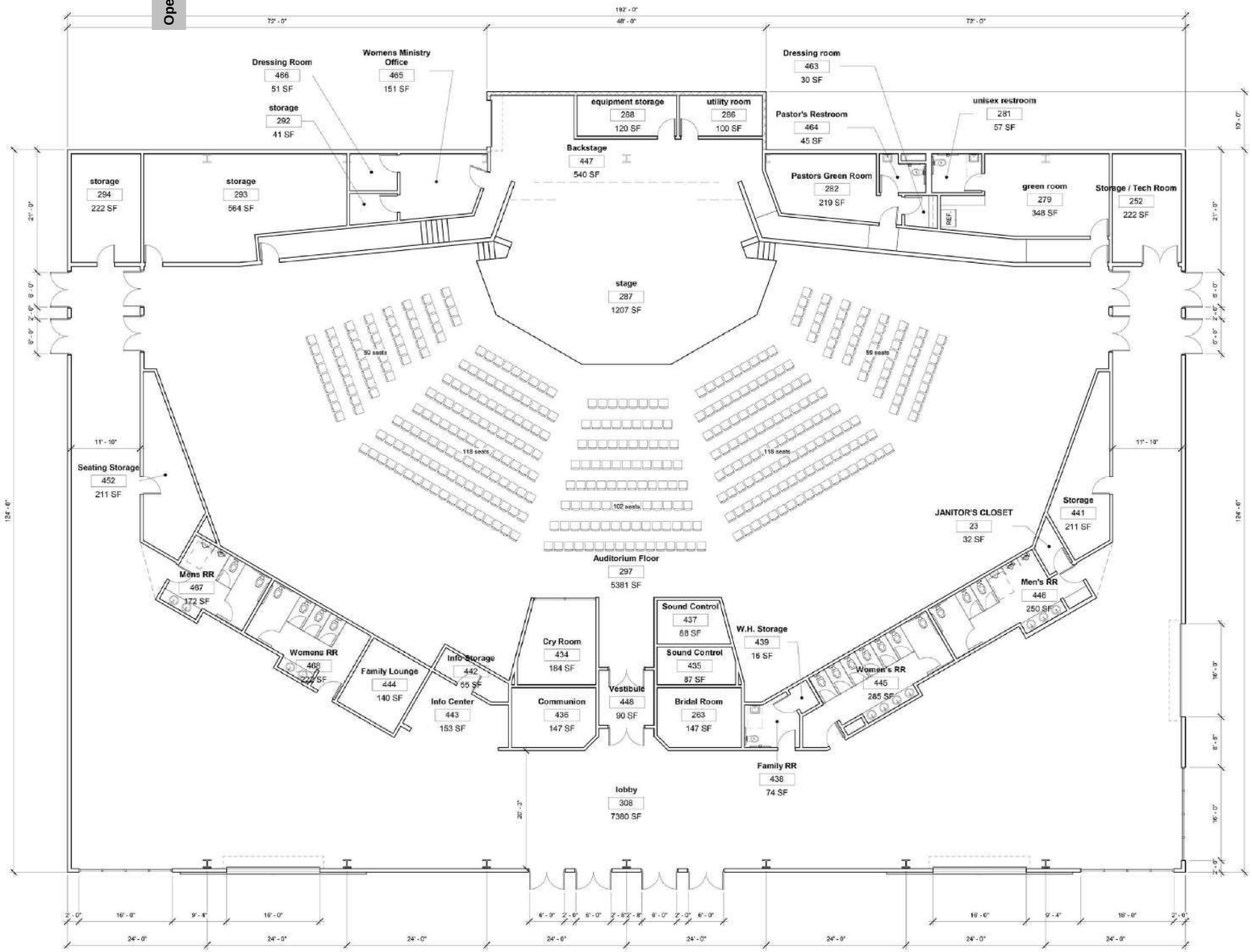
EAST ELEVATION 4
1/8"= 1'-0"

KEYNOTE LEGEND

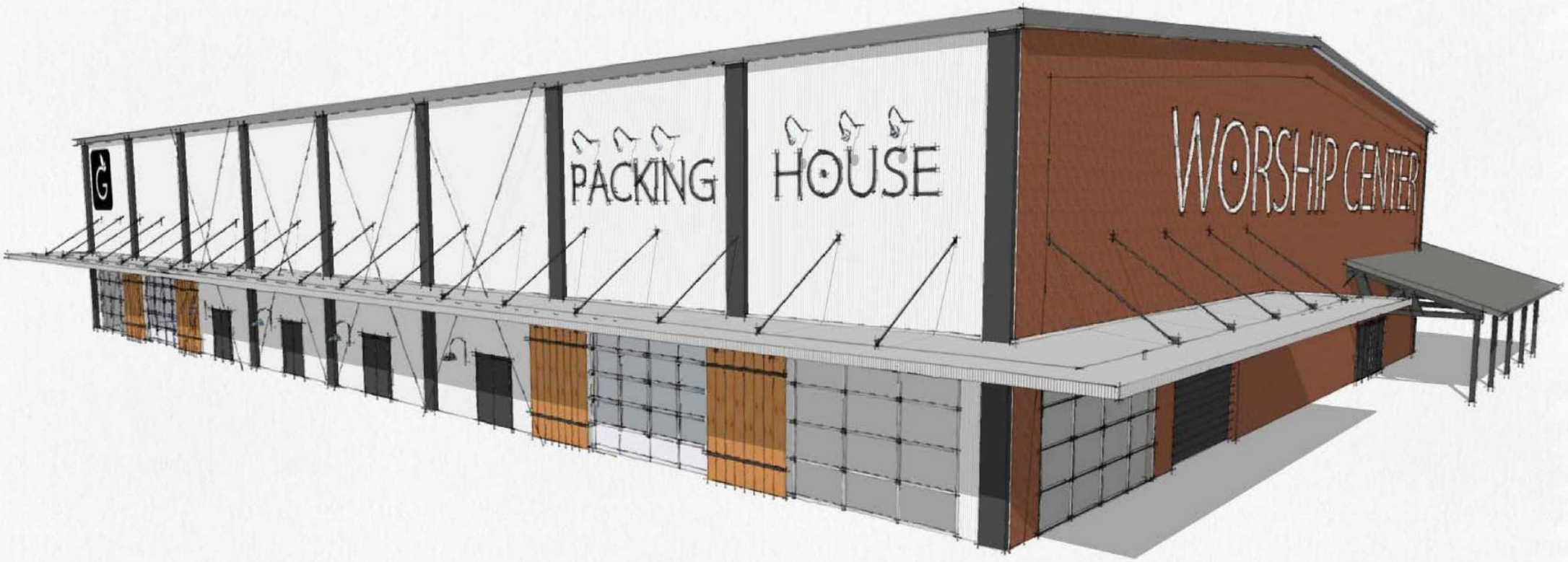
Key Value	Keynote Text
501	STANDING SEAM METAL ROOF
616	CEDAR WOOD PANELING
617	SILVER METAL AWNING
618	AGED CORTEN SHEET METAL SIDING
620	SLIDING BARN DOORS
621	CORRUGATED METAL SIDING
626	STEEL CABLE LATERAL BRACING
627	SHERWIN WILLIAMS SW7102 WHITE FLOUR
701	PAINT TREATMENT
702	CUT LETTERING
703	TRIPTIC BANNER GRAPHIC
704	SNAP GRAPHIC FRAME
705	PLANT ON GRAPHIC

WORSHIP CENTER: ELEVATIONS

Open Bookmarks



WORSHIP CENTER: FLOOR PLAN



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WORSHIP CENTER: MATERIALS

Open Bookmarks

Aged Corten Sheet Metal

Standing Seam Metal Roof

Cedar Wood Paneling

Silver Metal Awning

Sherwin-Williams
SW 7102 White Flour

Sherwin-Williams
SW 6990 Caviar

Metal Siding and Barn Doors

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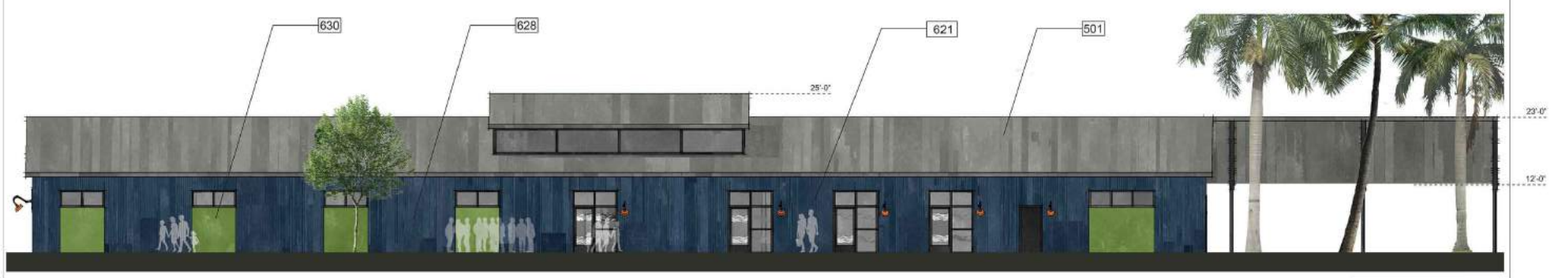
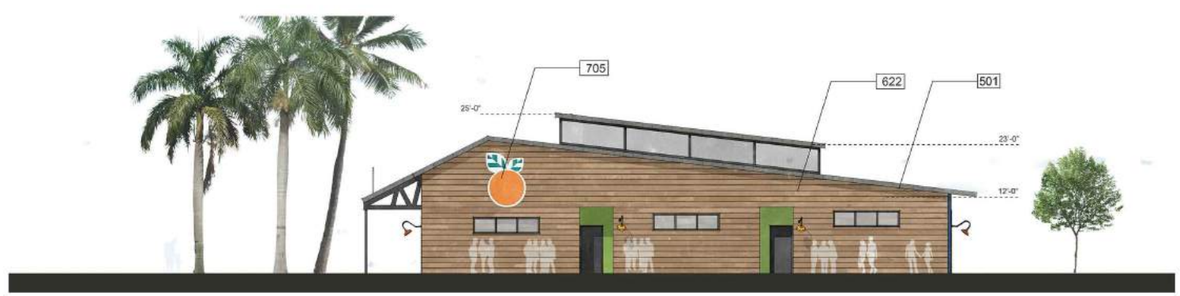
Open Bookmarks

SOUTH ELEVATION 1/8"= 1'-0" 1

WEST ELEVATION 1/8"= 1'-0" 2



NORTH ELEVATION 1/8"= 1'-0" 3



EAST ELEVATION 1/8"= 1'-0" 4

KEYNOTE LEGEND

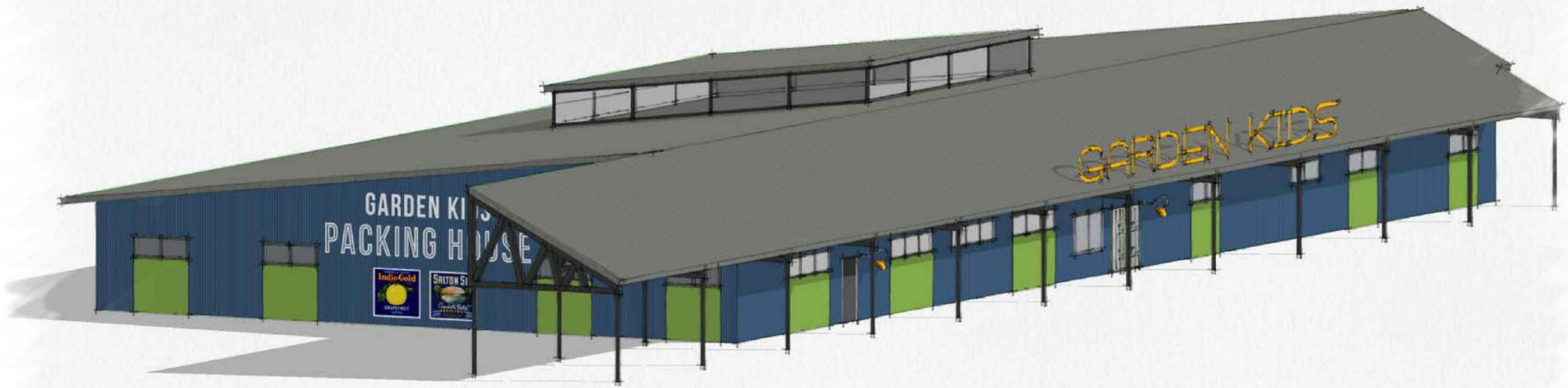
KEY VALUE	KEY DESCRIPTION
501	STANDING SEAM METAL ROOF
621	CORRUGATED METAL SIDING
622	CEDAR WOOD SIDING
628	SHERWIN WILLIAMS SW6510 LOYAL BLUE
629	SHERWIN WILLIAMS SW6893 KIDS STUFF
630	SHERWIN WILLIAMS SW6718 OVERT GREEN
701	PAINT TREATMENT
702	CUT LETTERING
703	TRIPTIC BANNER GRAPHIC
704	SNAP GRAPHIC FRAME
705	PLANT ON GRAPHIC
706	DIMENSIONAL TEXT

KIDS BUILDING: ELEVATIONS

Open Bookmarks

KIDS BUILDING: FLOOR PLAN

Open Bookmarks



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KIDS BUILDING: MATERIALS

Open Bookmarks

Corrugated Metal Siding

Standing Seam Metal Roof

Cedar Wood Siding

Cedar Wood Eves

Sherwin-Williams
SW 6510 Loyal Blue

Sherwin-Williams
SW 6718 Overt Green

Sherwin-Williams
SW 6893 Kids Stuff

Sherwin-Williams
SW 6990 Caviar

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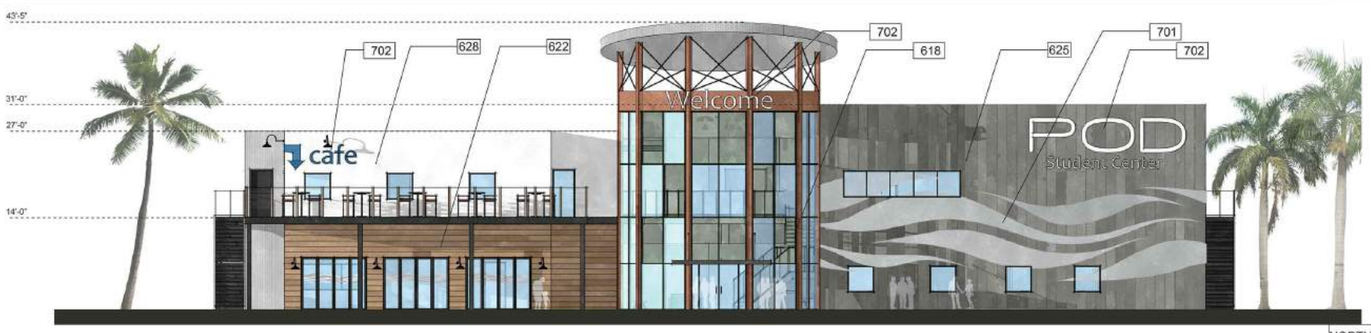
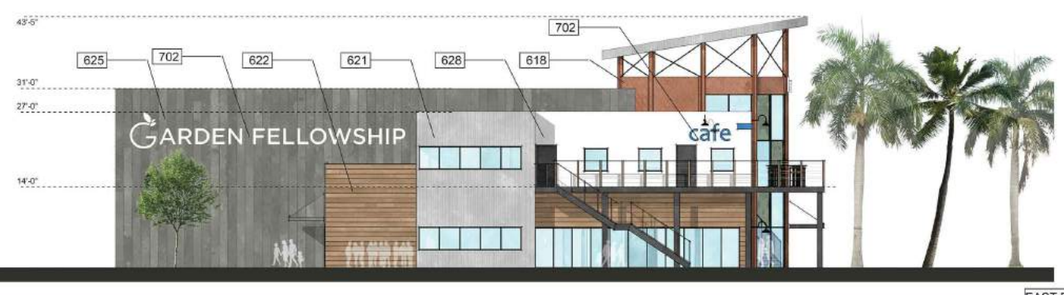
Open Bookmarks

SOUTH ELEVATION 1/8"= 1'-0" 1

WEST ELEVATION 1/8"= 1'-0" 2



NORTH ELEVATION 1/8"= 1'-0" 3



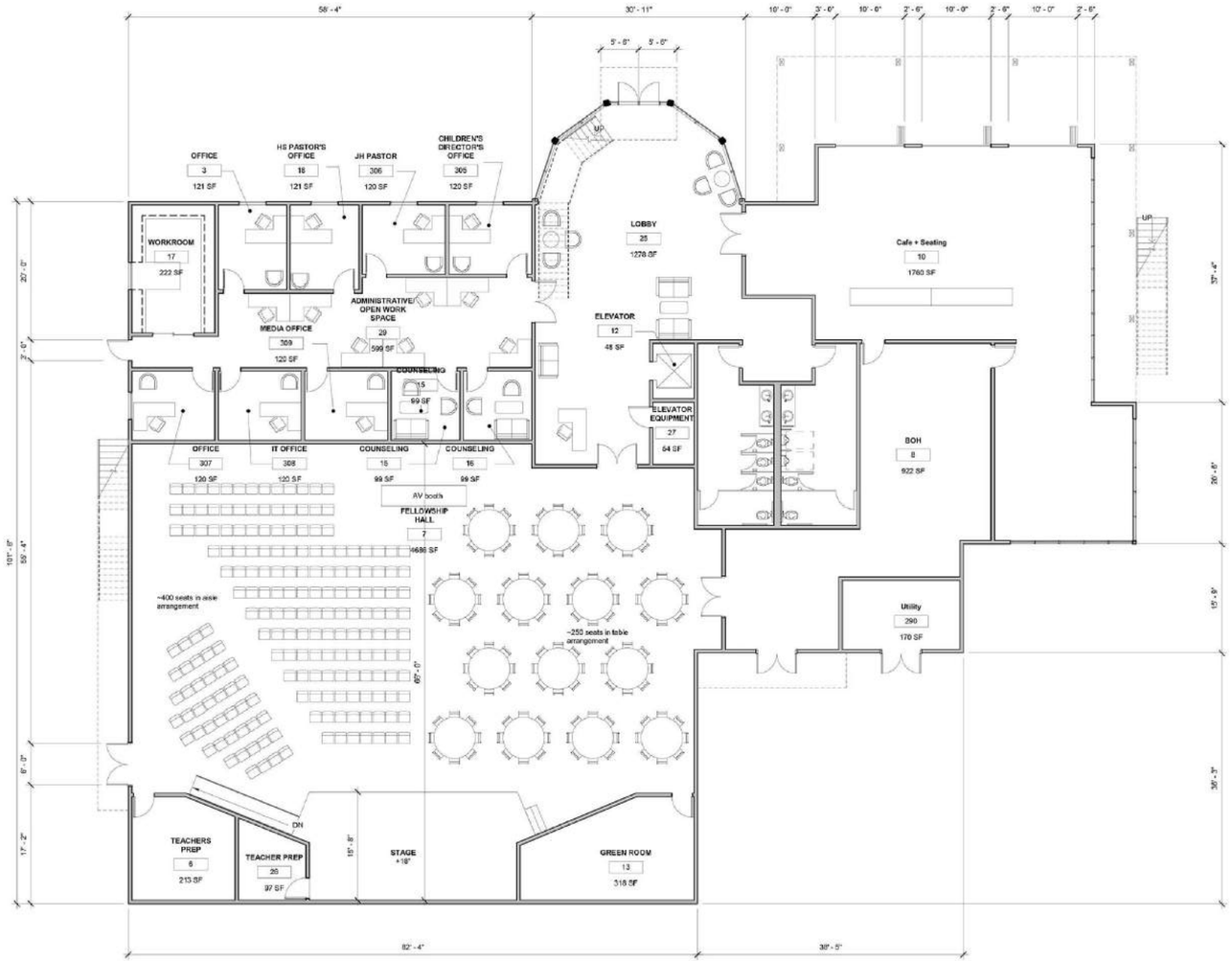
EAST ELEVATION 1/8"= 1'-0" 4

KEYNOTE LEGEND

KEY VALUE	KEY DESCRIPTION
613	STAIRS 7" RISER HEIGHT / 11" TREAD DEPTH
618	AGED CORTEN SHEET METAL SIDING
621	CORRUGATED METAL SIDING
622	CEDAR WOOD SIDING
624	CABLE RAILING
625	STANDING SEAM METAL SIDING
701	PAINT TREATMENT
702	CUT LETTERING
703	TRIPTIC BANNER GRAPHIC
704	SNAP GRAPHIC FRAME

POD BUILDING: ELEVATIONS

Open Bookmarks



POD BUILDING: FIRST FLOOR PLAN

Open Bookmarks

POD BUILDING: SECOND FLOOR PLAN

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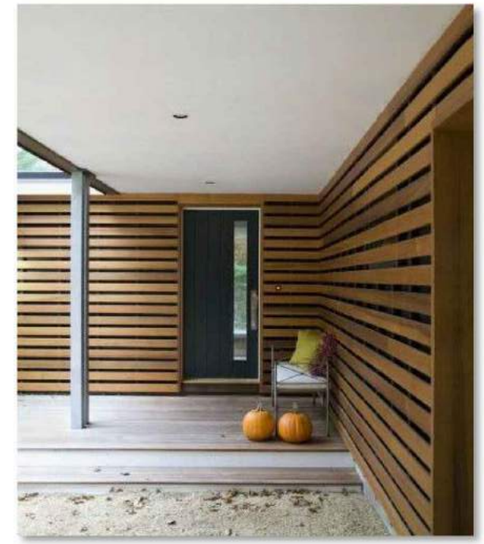
POD BUILDING: MATERIALS

Cable Railing

Corrugated Metal Siding



Cedar Wood Siding

Aged Corten Sheet Metal

Sherwin-Williams
SW 6990 Caviar

Sherwin-Williams
SW 7102 White Flour

Standing Seam Metal Siding

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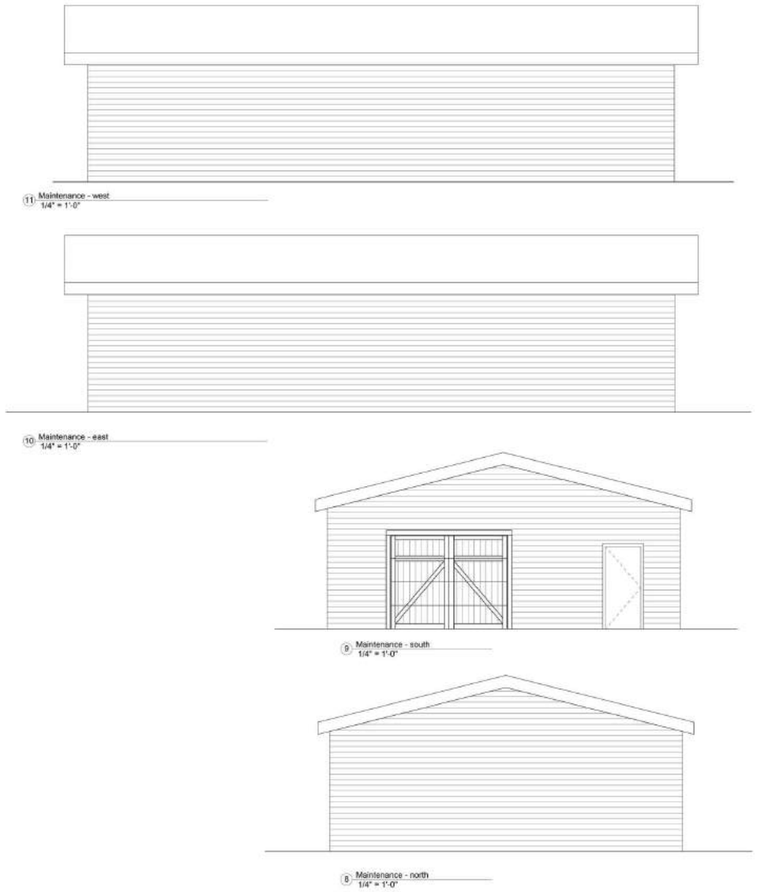
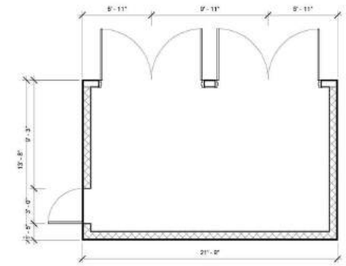
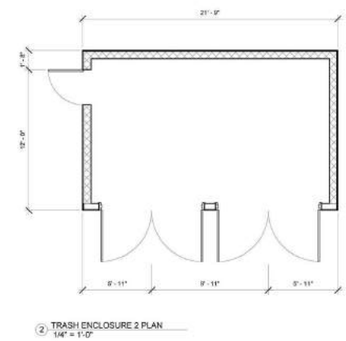
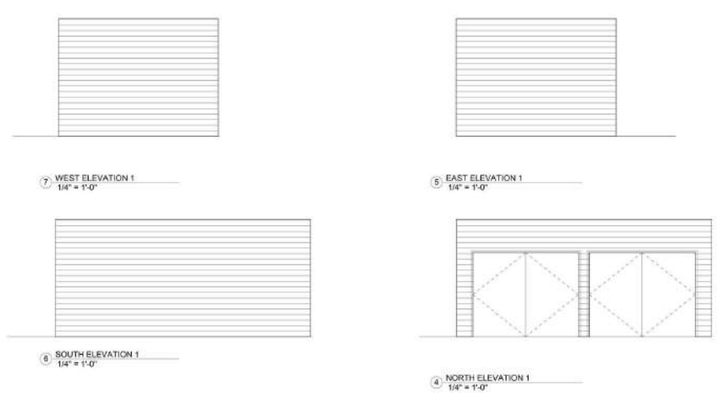
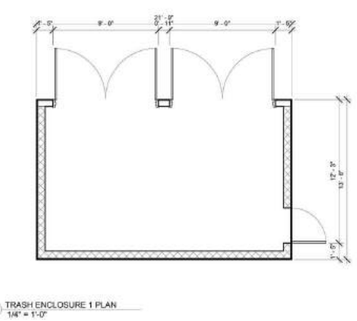
Open Bookmarks











MAINTENANCE BUILDING & TRASH ENCLOSURE: PLAN VIEW & ELEVATIONS

Return to Agenda
Open Bookmarks

THE GARDEN FELLOWSHIP

Spatial Storytelling
Exterior Signage Package

The Garden Fellowship
79733 Country Club Dr
Bermuda Dunes, CA 92203

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

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Open Bookmarks

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

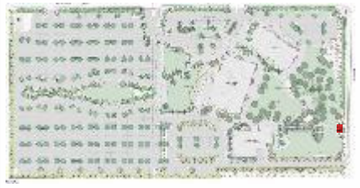
DATE
01.2019

Exterior Signage
M01
Elevation Concept

Return to Agenda
Open Bookmarks

Option A

Image: Monument Sign - M01
Size: See Following Pages
Material: TBD



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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
M01
Elevation Overview

Return to Agenda
Open Bookmarks

Option A

Scale: 1/16” = 1’

THE

Image: M01a
Size: 81.39” x 20.1”
Material: Channel Lit Lettering,
Cut Lettering, TBD

Garden

Image: M01b
Size: 217.12” x 84.23”
Material: Channel Lit Lettering,
Cut Lettering, TBD

FELLOWSHIP

Image: M01c
Size: 201.82” x 13.67”
Material: Channel Lit Lettering,
Cut Lettering, TBD

79733

Image: M01d
Size: 53.19” x 12.81”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

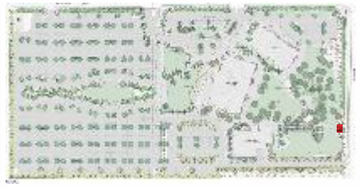
DATE
01.2019

Exterior Signage
M01
Detail

Return to Agenda
Open Bookmarks

Option B

Image: Monument Sign - M01
Size: See Following Pages
Material: TBD



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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

Exterior Signage
M01
Elevation Overview

DATE
01.2019

Return to Agenda
Open Bookmarks

Option B

Scale: 1/16” = 1’

Image: M01a
Size: 79” x 29.75”
Material: Channel Lit Lettering,
Cut Lettering, TBD

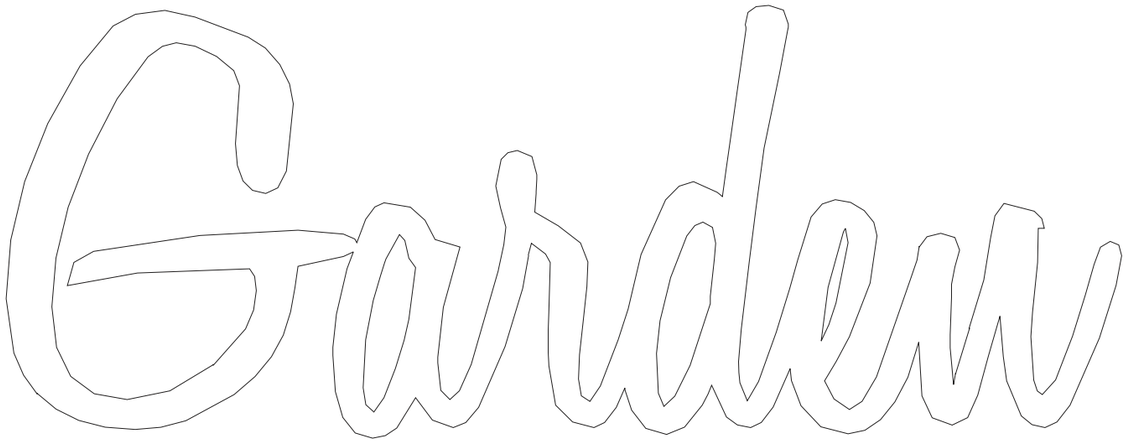

Image: M01b
Size: 217.12” x 84.23”
Material: Channel Lit Lettering,
Cut Lettering, TBD

FELLOWSHIP

Image: M01c
Size: 201.82” x 13.67”
Material: Channel Lit Lettering,
Cut Lettering, TBD

79733

Image: M01d
Size: 53.19” x 12.81”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
M01
Detail

Return to Agenda
Open Bookmarks

Option A

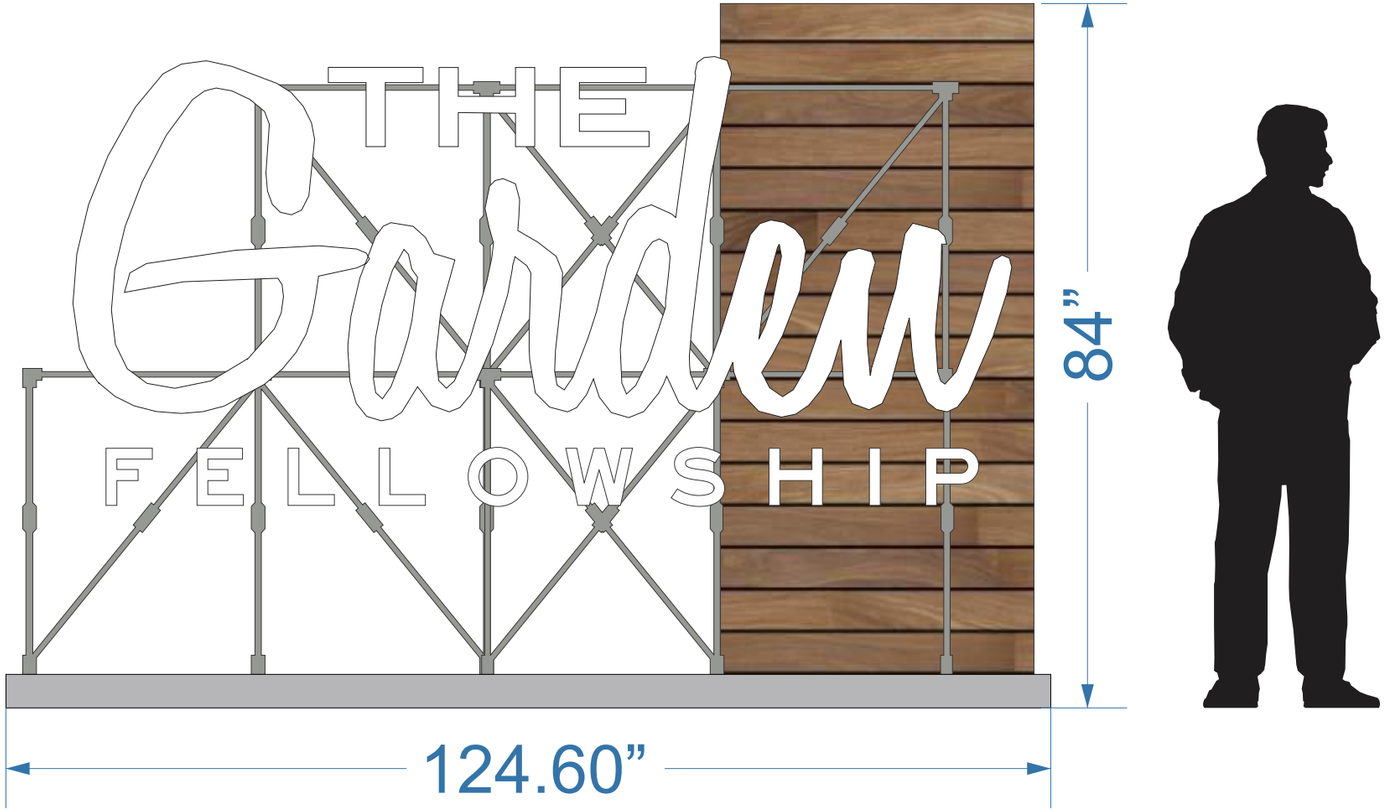

Image: Secondary Monument Sign Typical - SM01, SM02
Size: See Following Pages
Material: TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
SM01, SM02
Elevation Overview

Return to Agenda
Open Bookmarks

Scale: 1/16” = 1’

Option A

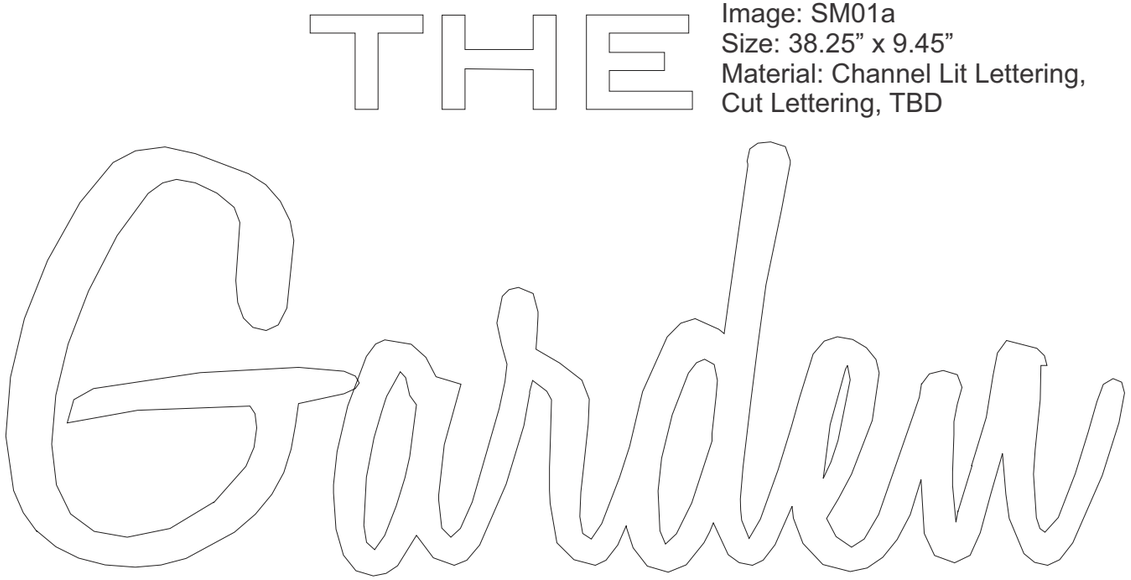

Image: SM01a
Size: 38.25” x 9.45”
Material: Channel Lit Lettering,
Cut Lettering, TBD

Image: SM01b
Size: 111.96” x 43.43”
Material: Channel Lit Lettering,
Cut Lettering, TBD

FELLOWSHIP

Image: SM01c
Size: 104.07” x 7.05”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
SM01
Detail

Return to Agenda
Open Bookmarks

Option B

Image: Secondary Monument Sign Typical - SM01, SM02
Size: See Following Pages
Material: TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
SM01, SM02
Elevation Overview

Return to Agenda
Open Bookmarks

Scale: 1/16” = 1’

Option B

Image: SM01a
Size: 40.73” x 15.33”
Material: Channel Lit Lettering,
Cut Lettering, TBD

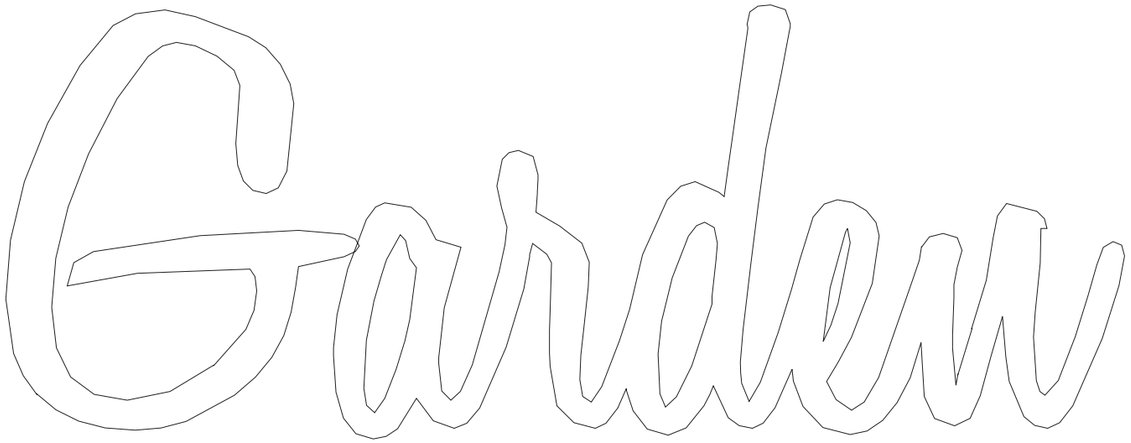

Image: SM01b
Size: 111.96” x 43.43”
Material: Channel Lit Lettering,
Cut Lettering, TBD

FELLOWSHIP

Image: SM01c
Size: 104.07” x 7.05”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
SM01
Detail

Return to Agenda
Open Bookmarks

Vehicular Wayfinding Typical

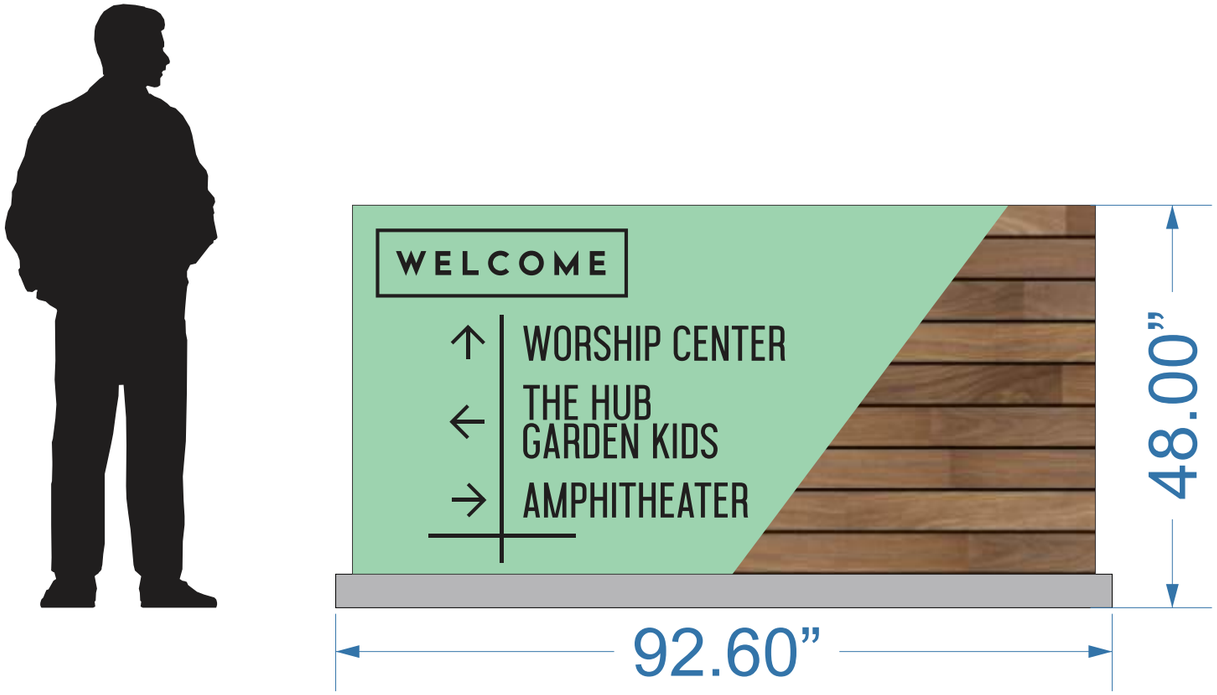

Image: Vehicular Wayfinding Typical - V01-V08
Size: See Following Pages
Material: TBD

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Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
V01-V08
Elevation Overview

Return to Agenda
Open Bookmarks

Scale: 1/16” = 1’

Image: V01
Size: 88.6” x 44”
Material: TBD

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Bermuda Dunes, CA

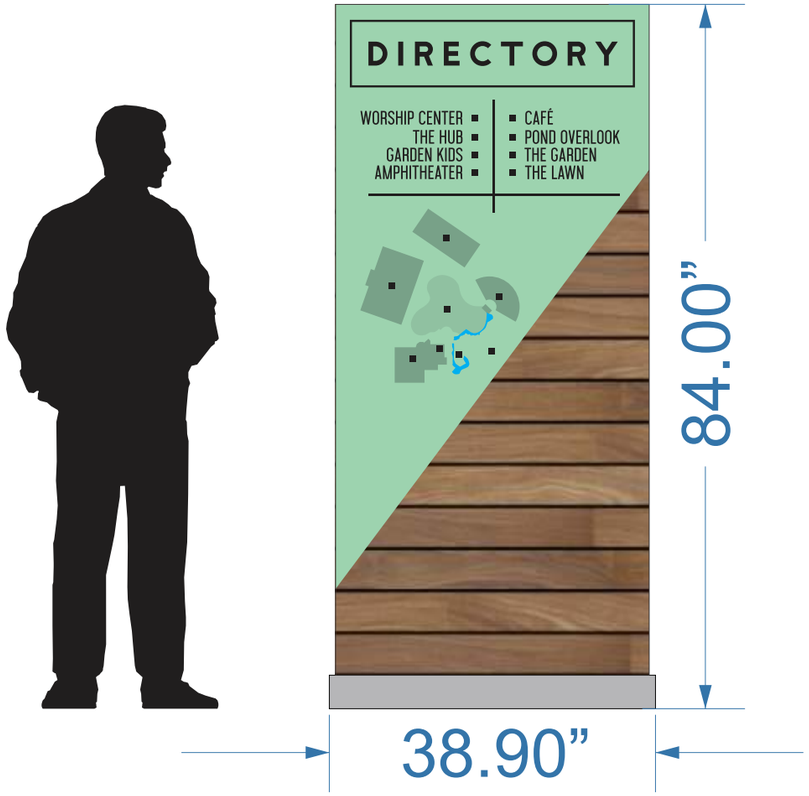
DATE
01.2019

Exterior Signage
V01
Detail

Return to Agenda
Open Bookmarks

Pedestrian Wayfinding Typical

Front View



Side View

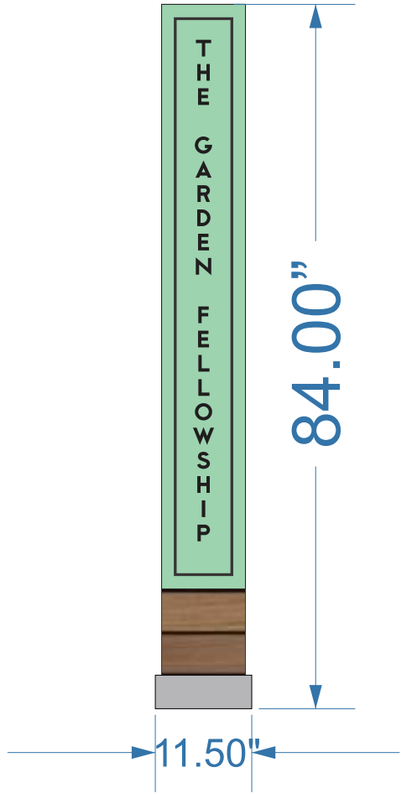


Image: Pedestrian Wayfinding Typical - PW01-PW11
Size: See Following Pages
Material: TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

Exterior Signage
PW01-PW11
Elevation Overview

DATE
01.2019

Scale: 1/16” = 1’

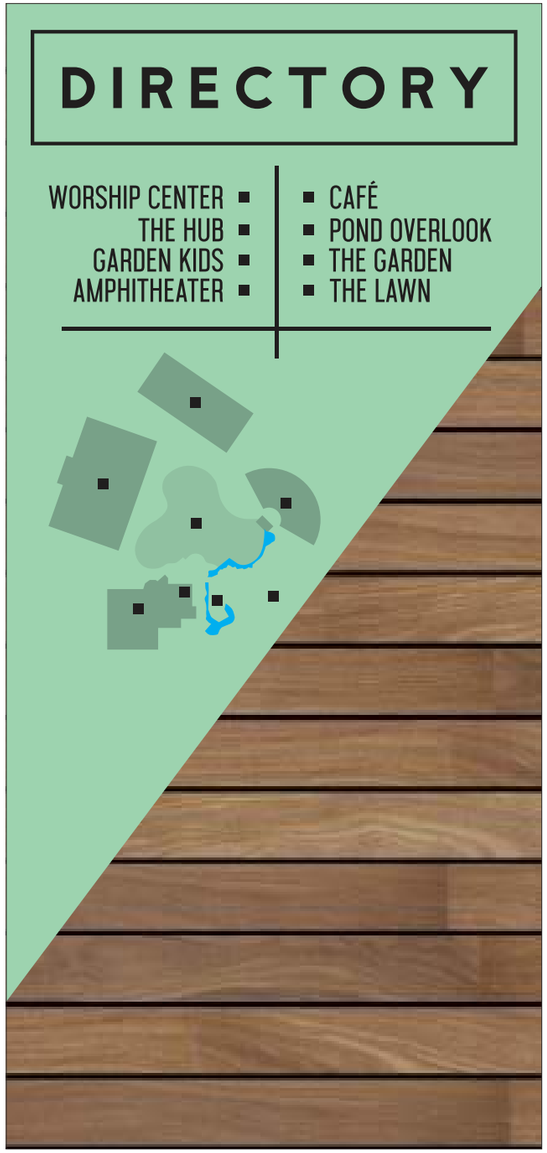

Image: PW01
Size: 37.4” x 80”
Material: TBD

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The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
PW01
Detail

Return to Agenda
Open Bookmarks

Image: Worship Center Building ID
Size: See Following Pages
Material: TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
WC01, WC02
Elevation Concept

Return to Agenda
Open Bookmarks

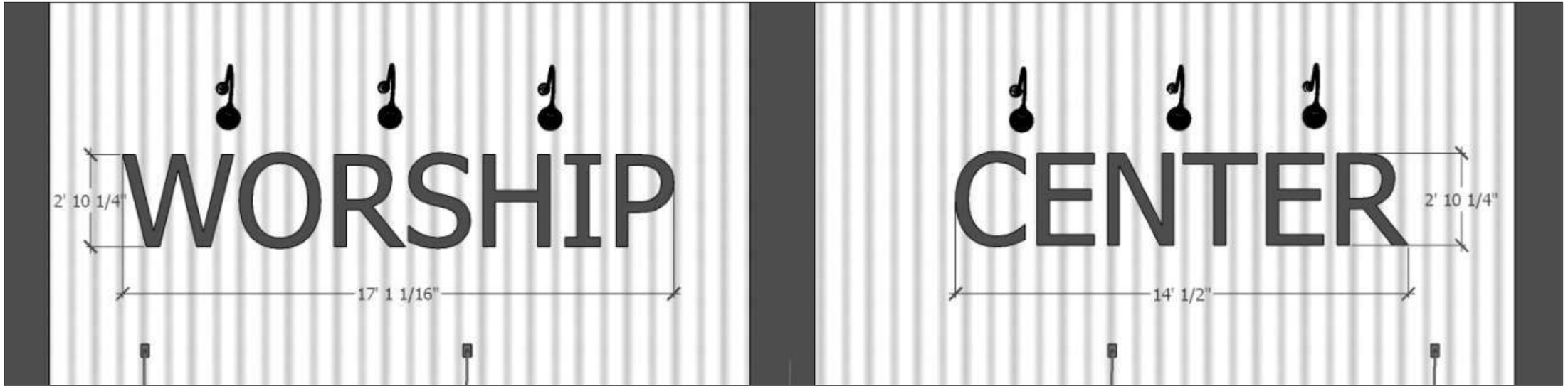

Image: WC01a
Size: 34.25 x 205.06”
Material: Channel Lit Lettering,
Cut Lettering, TBD

Image: WC01b
Size: 34.25 x 168.25”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
WC01
Detail

Return to Agenda
Open Bookmarks

Image: WC02
Size: 127.38 x 127.38”
Material: Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
WC02
Detail

Return to Agenda
Open Bookmarks

Image: Garden Kids Building ID
Size: See Following Pages
Material: TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

DATE
01.2019

Exterior Signage
GK01
Elevation Concept

Return to Agenda
Open Bookmarks

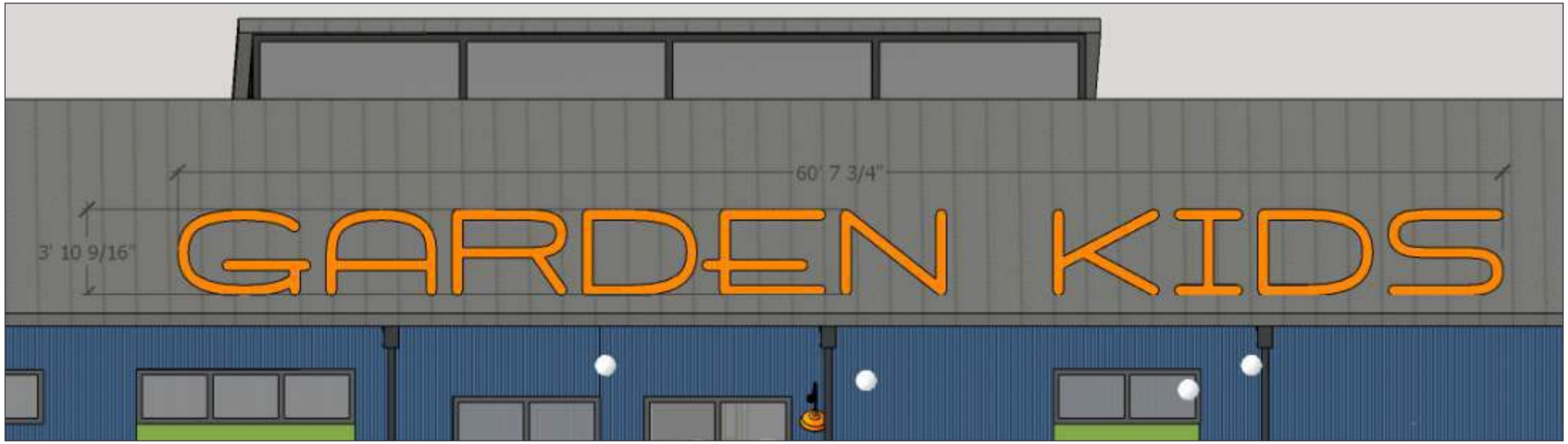

Image: GK01
Size: 46.56 x 727.75”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
Bermuda Dunes, CA

Exterior Signage
GK01
Detail

DATE
01.2019

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DATE
01.2019

Exterior Signage
TO01, TO02
Elevation Concept

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Image: TO01
Size: 143.88 x 145.88”
Material: Channel Lit Lettering,
Cut Lettering, TBD

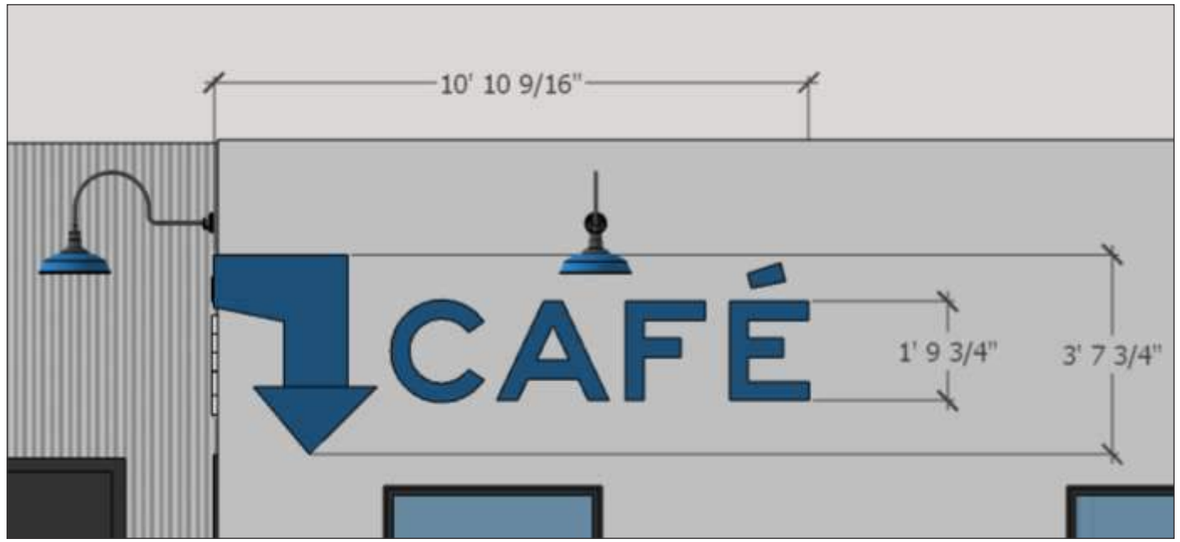

Image: TO02
Size: 43.75 x 130.56”
Material: Channel Lit Lettering,
Cut Lettering, TBD

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Spatial Storytelling Schematic Design Package

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Bermuda Dunes, CA

Exterior Signage
TO01, TO02
Detail

DATE
01.2019

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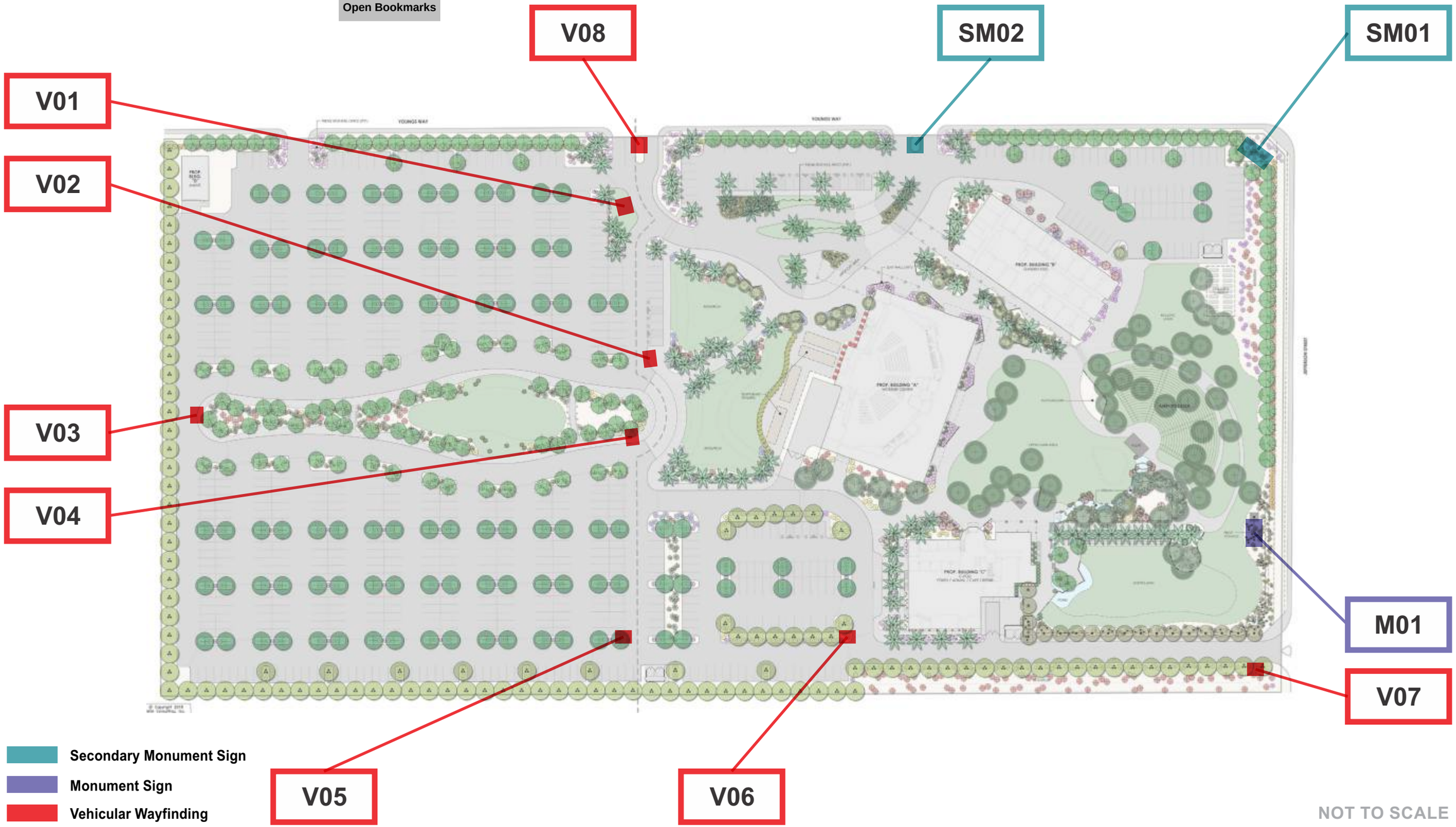

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Spatial Storytelling Schematic Design Package

The Garden Fellowship
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Garden Fellowship
GLP
Exterior Signage

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Building IDs

NOT TO SCALE

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Spatial Storytelling Schematic Design Package

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GLP
Exterior Signage

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01.2019

Attachment F

April 10, Planning Commission Staff Report

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