CITY OF
LAKE
ELSINORE

PROPOSAL FOR

PROFESSIONAL ENGINEERING SERVICES

THE AVENUES DRAINAGE AREA STUDY AND DRAINAGE IMPROVEMENTS DESIGN

PROJECT NO. Z10000

ADAMS STREETER
Civil Engineers

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A. COVER LETTER

August 27, 2020

Carlos Norvani, Land Development Engineer
City of Lake Elsinore
130 S. Main Street
Lake Elsinore, California 92530

SUBJECT: Proposal to Provide Professional Engineering Services for Project No. Z10000

Dear Mr. Norvani,

Adams Streeter Civil Engineers (ASCE) appreciates the opportunity to submit a Proposal to the City of Lake Elsinore in response to the Request for Proposals (RFP) to provide Professional Engineering Services for "The Avenues" Drainage Area Study and Drainage Improvements Design. ASCE is a full-service civil engineering and surveying firm based in Irvine, California that specializes in project delivery for public agencies, special districts and private developers. We have successfully delivered projects for our clients over the past 39 years, and have the expertise and resources to assist the City in providing the services in a timely, efficient and cost-effective manner. ASCE have also included NMG Geotechnical and ECORP Consulting, our team sub-consultants that will be responsible for performing the geotechnical and CEQA environmental scope of work for the project.

ASCE's point of contact during the proposal evaluation period is as follows:

- Khoon Tan, P.E., QSD, Director of Municipal Services (Primary Contact)
  Office: (949) 474-2330 x231, Cell: (949) 390-0984, E-mail: ktan@adams-streeter.com

- Mohammad Abadi, P.E., Senior Project Manager (Secondary Contact)
  Office: (949) 474-2330 x209, E-mail: mabadi@adams-streeter.com

Mr. Tan will serve as the direct liaison to the City and will provide the overall project management for this endeavor. Both Mr. Tan and Mr. Abadi will be responsible for overseeing engineering design for the project. With a combined experience of over sixty-seven years in the engineering and construction industry including for Mr. Tan's decade long public agency background in administrating and managing Capital Projects and Mr. Abadi's extensive expertise in drainage design, ASCE is confident in our ability to deliver exceptional work products and services to the City of Lake Elsinore.

ASCE acknowledge the receipt of Q & A postings on 8/19/2020 and 8/24/2020 for the RFP. A completed Non-Collusion Affidavit Form (RFP Attachment 3) is provided in Section "F" of this Proposal. ASCE also concurs with the terms of the Professional Services Agreement (PSA) with certain exceptions to the indemnification clauses as provided in Section "G" of this Proposal. Modifications to the clauses shown are provided as suggestions for the City's consideration as we understand that the City does not ordinarily allow modifications to the standard agreement when contracting for services from outside firms.

This Proposal shall remain valid for a period of not less than 120 calendar days from the date and time of submittal. The signer of this Proposal has the full authority to bind Adams-Streeter and attest that all information submitted with this Proposal is true and correct.

Thank you for this opportunity to be of service to the City of Lake Elsinore. Please don't hesitate to contact Mr. Tan for any questions about any portion of this Proposal during the evaluation period.

Sincerely,

Randal L. Streeter
President / Principal In-Charge

B. STATEMENT OF QUALIFICATIONS

1. Firm Information and Qualifications

FIRM QUALIFICATIONS

AREAS OF EXPERTISE

CIVIL ENGINEERING & LAND SURVEYING

SELECT AWARDS

HomeAid Orange County & OC United – *Recognition of Contribution to the OC United THRIVE Quad Development, 2019*

Family Assistance Ministries & HomeAid Orange County – *Recognition of Contribution to the Calle Canasta House, 2016*

American Society of Civil Engineers, Orange County Branch – *Land Development Project of the Year Award for Lambert Ranch, 2013*

American Public Works Association, Southern California Chapter – *2016 Storm Water Quality Project of the Year for the Glassell Campus LID Retrofit & Parking Rehabilitation Project*

American Society of Civil Engineers, Orange County Branch – *2017 Outstanding Sustainable Engineering Project, 2017.*

American Society of Civil Engineers, Region 9 (CA) – *2010 Outstanding Community Improvement Project for the Irvine Ranch Outdoor Education Center*

Orange County Engineering Council – *2010 Engineering Project Achievement Award for the Irvine Ranch Outdoor Education Center*

ADAMS STREETER CIVIL ENGINEERS *is a premier civil engineering and surveying firm that specializes in project delivery for local and regional public agencies, special districts and private developers. We are a client-centered, service-oriented small business dedicated to providing exceptional services through thoroughness, rapid turnaround, cost efficiency and quality work.*

FIRM BACKGROUND

Adams Streeter is founded by Jan Adams and Randal Streeter in 1981, and is headquartered in Irvine, California. The firm is a small business enterprise with over 38 years of experience and specializes in private and public-realm design through innovative and cost-effective design solutions for dozens of public municipalities and private entities throughout California. The firm is currently staffed by twenty-three employees, comprising of fourteen civil engineers and technicians, six surveyors and mappers, and three administrative staff.

EXPERIENCE

- Parks, Open Space & Trails
- Street Beautification, Improvement, Rehabilitation
- Public Facility Improvements and Renovations
- Office and Retail Facilities
- Single and Multi-Family Residential Developments
- Urban In-Fill/Mixed-Use Developments
- Affordable Housing
- Campus Housing Planning and Design
- Commercial and Industrial Site Development
- Retail Site Development
- Public and Commercial ADA Upgrades

CAPABILITIES

- Streetscape and Parking Lots
- Parks & Open Space
- Low Impact Development, Stormwater Management and Water Quality
- Hydrology and Hydraulics
- Site Development, Planning and Due Diligence
- Site Grading & Earthwork
- Site ADA Evaluations
- Storm Drainage and Sanitary Sewer
- Domestic and Reclaimed Water
- Plan Check / Plan Review
- Boundary Surveys, Land Title Surveys, Topographic Survey, Construction Staking, As-built Surveys and Mapping Services

FIRM INFORMATION	
Company Legal Name:	Adams Streeter Civil Engineers, Inc. 16755 Von Karman Avenue, Suite 150 Irvine, CA 92606
Organizational Structure:	California "C" Corporation
State Entity Number:	C1014113
Certification	Small Business Enterprise (Certification No. 59891)
Years in Business:	39 Years
Company Officers:	Jan A. Adams (Chief Executive Officer) Randal L. Streeter (Secretary) Linda I. Adams (Chief Financial Officer)

Adams Streeter Civil Engineers (ASCE) is a full-service civil engineering and land surveying firm that specializes in project delivery for local and regional public agencies, special districts and private developers, and have been providing civil engineering and surveying services in Southern California since 1981 to both our public and private sector clients. ASCE is a California "C" corporation that was incorporated in January 8, 1981 by Jan Adams and Randal Streeter, and is a small business enterprise (SBE) based in Irvine, California. Over the last 39 years of business, the company has earned a reputation for thoroughness, rapid turnaround, cost efficiency and overall quality of work and is one of Orange County's premier firms for civil engineering and surveying services. ASCE takes pride in the fact that ninety percent of our business comes from repeat clientele due in part to our quality of work, competitive prices and our ability to meet deadlines.

ASCE have extensive experience and a proven track record in providing Public Works related services encompassing the civil engineering, surveying and mapping fields to various cities, municipalities and districts including, but not limited to the following:

City of Aliso Viejo	City of Newport Beach	Chino Basin Desalter Authority
City of Anaheim	City of Orange	Eastern Municipal Water District
City of Buena Park	Coast College	Irvine Ranch Water District
City of Diamond Bar	Concordia University	Irvine Campus Housing Authority
City of Fullerton	City of Perris	Jurupa Community Services Dist.
City of Garden Grove	City of Redlands	Long Beach City College
City of Hermosa Beach	City of Riverside	Orange County Water District
City of Huntington Beach	City of San Clemente	Santa Margarita Water District
City of Irvine	City of San Juan Capistrano	Riverside County Flood Control District
City of La Habra	City of Tustin	Trabuco Canyon Water District
City of Laguna Niguel	City of Villa Park	University of California, Bakersfield
City of Lake Elsinore	City of Yorba Linda	University of California, Irvine
City of Loma Linda	CALTRANS	Vanguard University
City of Mission Viejo	County of Orange	
City of Moreno Valley	County of Riverside	

ASCE have also provided services on numerous development and facility improvement-based projects (residential, commercial, industrial) to our private clientele that involves extensive public infrastructure improvements including, but not limited to the following:

Amgen	Irvine Unified School Dist.	Sukut Construction
Armada, LLC	John Laing Homes	SunCal Companies
Arnel Development	Joseph Nicholas Homes	Sunrise Communities
Artisan Communities	K. Hovnanian Companies	Taylor Morrison Homes
Barratt American	Kaufman & Broad	The Garrett Group
Baywood Development	Keystone Pacific	The Irvine Company
Boeing Realty Corporation	Koll Company	The Olson Company
Brookfield Homes	Lambert Ranch	Valeo Companies
CalAtlantic Homes	Lennar Communities	Warmington Homes
California Pacific Homes	Mastercraft Homes	William Lyon Homes
Centex Homes	MBK Homes	Catalina Freight Line
Citation Homes	Oak Tree Industries	Schafer Logistics
Cook Hill Properties	O Hill Partners	Travis Companies, Inc.
D. R. Horton Homes	Pacific Communities	Urban Commons
Fieldstone Development	Pardee Construction	Ferrado
Griffin Communities	Pulte Homes	Shlemmer Algaze Assoc
Habitat for Humanity	Rancho Mission Viejo Co	TD Architects, Inc.
Irvine Apt. Communities	Red Mountain Retail Group	Trico Realty
Irvine Community Dev.	Richmond American Homes	Ware Malcomb Architect
California Building & Maintenance Industries, Inc.	Grand Valley Healthcare Skilled Nursing Facility	The Irvine Ranch Outdoor Education Center
Coast to Coast Commercial, LLC	Newport Partners, LLC	Santa Margarita Ford

Our "in-house" survey department also provide survey and mapping related services in support of engineering projects undertaken by ASCE's engineering department, inclusive of Capital Projects for public agencies. Land surveying and mapping related services typically performed by ASCE is as follows:

Aerial Mapping & Aerial Control Surveys	Monitoring Well Surveys
ALTA/ACSM Surveys	Monumentation
Boundary and Property Surveys	Parcel, Tract and Final Maps
Condominium Mapping	Legal Descriptions for Easements and R/W
Construction As-Built Surveys	Quantity Surveys and Earthwork
Construction Staking	Record of Surveys
Control Surveys	Records and Title Research
Digital Terrain Modelling	Right-of-Way Surveys, Mapping and Exhibits
Entitlements	Subdivision Planning and Mapping
Environmental Surveys	Subdivision Plan Checking
FEMA Elevation Certificates	Topographic Surveys and Design Surveys
GPS/GIS Surveys	Utility Research & Utility As-Builts

ASCE brings over 39 years of experience working concurrently with public agencies and private entities on projects ranging from site planning and due diligence to infrastructure design and facility improvements, and is very familiar with the scope of work as provided in the Request for Proposal (RFP). ASCE is well qualified and capable to perform the required work and is confident in our ability to provide exceptional services to the City of Lake Elsinore in a timely and cost-effective manner.

2. Subconsultant Firms

ASCE have included NMG Geotechnical and ECORP Consulting, our team subconsultants that will be responsible for performing the geotechnical and CEQA environmental scope of work for the project. An overview of our team subconsultant firms are provided below as reference.

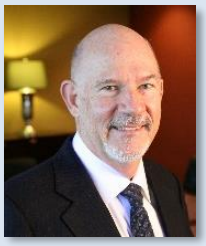
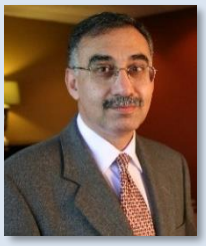
OVERVIEW OF SUBCONSULTANT FIRMS		
DESCRIPTION	**NMG**	**ECORP**
Discipline:	Geotechnical	Environmental Science
Inception:	1994	1987
Staff / Resource:	50+	100+
Firm Certifications:	SBE	-
Office Location:	Irvine	Santa Ana

NMG Geotechnical, Inc. (NMG) – NMG was established in 1994 and provides a broad range of professional services in the disciplines of geotechnical engineering, engineering geology, soils, and materials testing for projects encompassing public works, institutional, to large acreage master planned communities. NMG is based in Irvine where its soil and concrete testing laboratories are located, and primarily serves the southern California region, from San Diego to Santa Clarita, and into the Inland Empire. NMG currently employs over 50 people, including eight geotechnical engineers, eight engineering geologists, and more than 20 field/laboratory technicians and materials inspectors. NMG has performed numerous geotechnical investigations and design studies for pavement rehabilitation projects. Typical geotechnical services for pavement evaluation and design include site reconnaissance and mapping, drilling and coring, remedial earthwork and subgrade evaluation, R-value testing, and structural pavement section recommendations. Services during construction include geotechnical observation and testing of compacted fill, subgrade, aggregate base and asphalt pavement. NMG also provides materials testing services and batch plant inspections. A sampling of public clients includes various municipalities/agencies (Costa Mesa, Tustin, Irvine, Garden Grove, Anaheim, Fountain Valley, San Clemente, Aliso Viejo, Newport Beach, OCTA, Caltrans), water districts (Irvine Ranch, Orange County, Santa Margarita, Metropolitan, Mesa Consolidated) and school districts (Capistrano Unified, Tustin Unified). *Address: 17991 Fitch, Irvine, CA 92614 | (949) 442-2442*

ECORP Consulting, Inc. (ECORP) – ECORP is a California corporation founded in 1987 with over a 100 experienced staff members that specializes in assisting government agencies and private clients with a wide range of environmental services including technical expertise in land use planning; biological, cultural, and water resources; and regulatory compliance with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), Clean Water Act, federal and state Endangered Species Acts, NHPA, and other laws and regulations. ECORP have well-established working relationships with the resources agencies, including the U.S. Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and the U.S. Fish and Wildlife Service (USFWS). ECORP is registered with the Department of Industrial Relations (DIR): #1000012875 (exp. 6/30/19). ECORP's current clients include the City of Anaheim, City of Costa Mesa, City of Lake Forest and Orange County Public Works. *Address: 1801 Park Court Place, B-103, Santa Ana, CA 90701 | (714) 648-0630*

3. Key Team Personnel Qualifications

Key personnel for the project are assigned based upon their experience, project management abilities, technical expertise and design competency, prior involvement with projects of similar scope, and prior experience with the public sector. Brief overview of the key team personnel assigned to perform the scope of work is provided below for quick reference. Full page resumes of all key personnel are also provided in the Appendix.

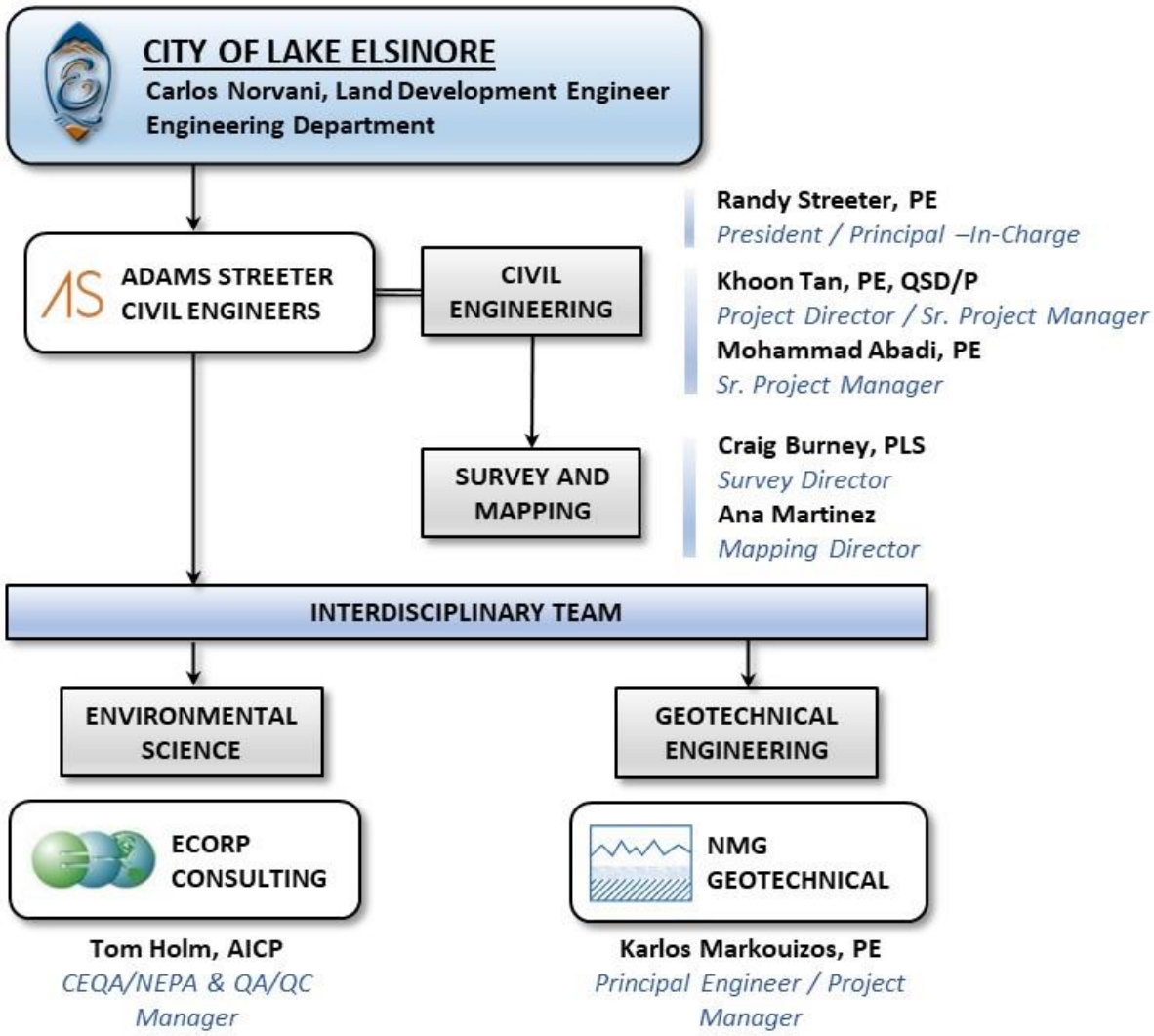
PERSONNEL	EXPERIENCE	HIGHLIGHTS, EDUCATION AND CERTIFICATIONS
Randy Streeter, PE Principal-In-Charge  *39 Years w/ ASCE*	**43 Years** (Civil and Survey) AS	• President and Principal-in-Charge w/ extensive experience in civil engineering and surveying, and licensed to practice both disciplines in the State of California and Arizona. • Directed numerous City & County engineering and survey projects involving road and utility improvements, public parks, public buildings and low-income housing. • BS in Civil Engineering Degree, California State University, Long Beach, California (1971); Registered Civil Engineer (CA RCE 25083 and AZ RCE No. 25846). • PE License Expiration Date: December 31, 2021
Khoon Tan, PE, QSD Project Director and Sr. Project Manager  *10 Years w/ ASCE*	**32 Years** (Civil) AS	• Experienced project manager with broad knowledge and hands-on experience in engineering design and construction. • Private and public-sector practice including ten years of public agency experience in managing capital improvement projects and construction. • CIP projects managed is inclusive of, but not limited to local, arterial street and state highway improvements, pavement rehabilitation, parks and open space development, storm drainage, sanitary sewer, domestic and reclaimed water infrastructure improvements, project grant funding and management. • BS in Civil Engineering, Oklahoma State University, Oklahoma; Registered Civil Engineer (CA RCE 60131); Qualified SWPPP Developer / Practitioner (No. 20862). • PE License Expiration Date: June 30, 2022
Mohammad Abadi, PE Sr. Project Manager  *32 Years w/ ASCE*	**35 Years** (Civil) AS	• Experienced project and technical engineering manager. • Possesses extensive background and hands-on knowledge in engineering design and construction with expertise in drainage design. • Extensive technical expertise in Infrastructure Planning, Development and Design encompassing site layout, grading, roadway improvements, storm drainage, sewer and water facilities, Hydrology and Hydraulics, and water quality. • BS in Civil Engineering, University of California, Irvine, California; Registered Civil Engineer (CA RCE 42615). • PE License Expiration Date: March 31, 2022

PERSONNEL	EXPERIENCE	HIGHLIGHTS, EDUCATION AND CERTIFICATIONS
Craig Burney, PLS Survey Director  *30 Years w/ ASCE*	**31 Years** (Survey)	• Experienced survey manager and field surveyor. • Oversees daily survey crew operations. • Extensive experience in performing ALTA, boundary, aerial, topographic, GPS, and construction surveys. • BA in Psychology, CSU, Long Beach, California; Licensed Land Surveyor (PLS 7732); GPS Certificate Program, UC Riverside. • PLS License Expiration Date: December 31, 2021
Ana Martinez Mapping Director  *15 Years w/ ASCE*	**37 Years** (Mapping)	• Experienced mapping professional serving the regions of Orange, Los Angeles, San Bernardino and Riverside Counties. • Extensive experience in Boundary Analysis, Title Report Due-Diligence, Record of Surveys, ALTA Surveys, Final Parcel Maps, Tract Maps, Lot Line Adjustments, Easement Rights & Exhibits and Legal Descriptions. • Rancho Santiago College, County of Orange, California
Karlos Markouizos, PE Principal Engineer / Project Manager 	**32 Years** (Geotechnical)	• Experienced in field exploration and monitoring, field and laboratory soil testing, grading and earthwork, slope stability analysis, design of shallow and deep foundations, shoring and retaining structures, settlement analysis, seismic hazard analysis, structural pavement design, and construction of underground utilities. • BS in Civil Engineering, CSU, Long Beach, California; Graduate Study in Civil Engineering, Carnegie-Mellon University, Pittsburgh, Pennsylvania • Registered Civil Engineer (CA RCE 50312).
Tom Holm, AICP CEQA/NEPA QA/QC Manager 	**37 Years** (Environmental)	• Diverse planning and environmental experience involving environmental, natural resource, and regulatory compliance. • Provides updates on CEQA and Planning Law to local APA and AEP chapters. • Former Planning and Transportation Commissioner for City of Mission Viejo and Board Member of the Orange County Natural History Foundation. • Masters of Arts in Urban & Regional Planning, Environmental Policy & Management emphasis, UCLA; Bachelor of Arts in Political Science, UC Irvine; American Institute of Certified Planners (AICP).

Note: Single-page resumes of the above key personnel are provided to the Appendix section of this Proposal.

4. Organizational Chart

A project team organizational chart identifying communication and reporting relationships, and key personnel that will perform the work for the project is provided as follows:



ASCE is committed to maintaining the selected personnel for the duration of the project with the City of Lake Elsinore. In the event that substitution or addition in key personnel and/or subconsultant is necessary due to circumstances that are outside of our control, a written request will be made to the City for the proposed change(s) for consideration and approval.

5. Sample Projects and References

ASCE have been administrating civil engineering projects to numerous cities, counties, water districts, local public agencies and developers within the Southern California region since 1981, most of which involve various aspects of drainage analysis and design. Samples of recent projects for ASCE and our team sub-consultants, including for reference contact information is provided as follows:

GLASSELL CAMPUS LID RETROFIT (DEMONSTRATION CAMPUS)

Location - Orange, California | Client – Orange County Public Works

Adams Streeter lead this multi-benefit project in conjunction with the landscape architect (Schmidt Design Group), geotechnical engineer (NMG Geotechnical) and other third-party vendors for the development of schematic designs and concept plan drawings, and for the preparation of final construction documents for this **9.4-acre Low-Impact Development (LID) retrofit** of the County's Glassell Campus Facility which consists of three parcels located on Glassell Street and Bristol Lane in the City of Orange. The team also provided construction support services for the project.

The Glassell Campus LID Retrofit project is funded through a Proposition 84 grant and showcase the transformation of an existing 9.4-acre industrial/commercial site with 95% impervious area into a state of the art MS4 compliant storm-water capture, treatment, outreach and research center. The project restored the pre-development hydrologic conditions by constructing various LID BMPs such as porous asphalt, porous concrete, porous pavers, bio-remediation swales and planters, media filter, modular wetlands, above-ground cistern and subterranean water storage structures. The project also required extensive re-construction of the existing parking lots and the County's paved maintenance yard facility.

This site now serves as an educational venue for the public, informing visitors of the function and purpose of each BMP while providing relief from urbanism to the residing tenants. The project was completed on-time and on-budget and received the 2016 APWA Regional Storm Water Quality Project of the Year and 2017 ASCE Outstanding Sustainable Engineering Project awards.

PRIME FIRM: Adams Streeter Civil Engineers

AWARDS: APWA Regional Storm Water Quality Project of the Year, 2016
ASCE Outstanding Sustainable Engineering Project Award, 2017

COMPLETED: 2016

CLIENT REFERENCE:

Orange County Public Works
Robert McLean, Senior Civil Engineer
OC Infrastructure Programs, Hydrology Section
(714) 647-3951
robert.mclean@ocpw.ocgov.com

BALL ROAD BASIN SITE DEVELOPMENT ANALYSIS

Location - Anaheim, California | Client – Orange County Water District

Adams Streeter assisted the Orange County Water District (OCWD) in performing a site development analysis as part of the feasibility and planning study to assess development of its Ball Road Recharge Basin located south of Ball Road in the City of Anaheim for commercial/industrial use. A mapping and boundary analysis of this 29-acre site consisting of multiple parcels was initially performed to re-establish both property boundary and easement constraints over the property. Conceptual Site Grading and earthwork to allow mass grading and pads establishment was developed in consideration of constraints imposed by adjacent streets (Ball Road, Phoenix Club Drive and the Santa Ana River service road), drainage patterns, dry and wet utilities infrastructure, proposed facilities (injection wells, etc.), significant easements and other factors. Off-site and on-site hydrology, drainage analysis and water quality assessments were also performed in consideration of the City of Anaheim's 42" Sanderson Avenue and 36" Auto Center Drive storm drain systems and the Orange County Flood Control District's (OCFCD) Chantilly Regional Storm Drain System (12' x 9.5' RCB) that discharges in to the recharge basin. This effort resulted in the development of a Conceptual Storm Drain Plan that provide options for the extension, re-routing and discharging of the various City and regional storm drain facilities (including for the local storm drain collection system) to the Santa Ana River and/or proposed water quality basin. A Conceptual Sewer and Water Plan was also developed to indicate required improvements within Phoenix Club Drive for connection into the City of Anaheim's public sewer system. Preliminary cost estimates to develop the site was prepared in accordance with the various concept plan improvements.

PRIME FIRM: Adams Streeter

COMPLETED: 2017 / On-Going On-Call Engineering Services

CLIENT REFERENCE:

Orange County Water District
Bruce Dosier, Director of Information Services & Property Management
714-378-3298
bdosier@ocwd.com

INTERSTATE 5 / STATE ROUTE 74 HIGHWAY INTERCHANGE STORM DRAIN AND WATER QUALITY TREATMENT PROJECT

Location – San Juan Capistrano, California | Client – City of San Juan Capistrano

Adams Streeter assisted the City of San Juan Capistrano in providing the design for this water quality driven project involving storm drain and water quality enhancements / structural BMP retrofits at a busy downtown commercial district along Del Obispo Street immediately south of Ortega Highway for the treatment of storm water run-off into City streets originating from the construction of the I-5 / SR-74 Ortega Highway Interchange Project that was administered and recently completed by Caltrans. This project was initiated through a Cooperative Agreement between Caltrans and the City of San Juan Capistrano. Design was completed on-time and on a minimum budget.

PRIME FIRM: Adams Streeter Civil Engineers
COMPLETED: Design Completed 2017, Construction Completed 2019
CLIENT REFERENCE: **City of San Juan Capistrano**
George Alvarez, PE, TE, Project Manager (former City Engineer)
(949) 443-6351, galvarez@sanjuancapistrano.org

SCE VENTURA STORAGE EXPANSION

Location – Ventura, California | Client – Ware Malcomb for Southern California Edison

The project consists of 1.62 acres of vacant dirt lot that was converted to an SCE storage expansion lot at their Ventura facility. Low Impact Development techniques were employed for the project to mitigate the additional storm water run-off generated by the increased impervious surface area of the paved lot. Post-construction run-off conditions was designed to mimic the pre-construction sheet flow that drains to the adjacent orchard. The difference in the run-off was detained and infiltrated on-site and a weir structure with rip-rap was designed to mimic the pre-construction condition. On-site run-off is captured via a series of inlets and conveyed to a dual corrugated metal pipe system with a CDS pre-treatment structure for storage and treatment respectively. Infiltration of the detained storm water quality design volume (SWQDv) is provided through four (4) modified MaxWell IV dry wells that penetrates into permeable soil at thirty (30) feet below grade.

PRIME FIRM: Adams Streeter for Ware Malcomb
COMPLETED: 2017
CLIENT REFERENCE: **Southern California Edison**
Daniel Slider, Manager
(805) 654-7238, Daniel.Slider@sce.com

Ware Malcom Project Manager: Felix Gonzalez, PE
(949) 430-2531, FGonzalez@adams-streeter.com

ICHA UNIVERSITY HILLS STORM DRAIN IMPROVEMENTS

Location – Irvine, California | Client – Irvine Campus Housing Authority

The ICHA University Hills Storm Drain Improvement Project is part of a 28-acre Planning Area 11 development for the Irvine Campus Housing Authority (ICHA) that involved mass excavation operations and includes the installation of water quality BMPs consisting of a 51,000 cubic-feet storm drain retention and infiltration system with upstream storm filtration units for pre-treatment purposes. The scope of work for corresponding off-site improvements within the public right-of-way also includes the reconfiguration of a 30" public storm-drain by-pass system to intercept and redirect off-site storm run-on. The 1,600 feet linear storm drain system with a 58-cfs capacity was reviewed and approved by both City of Irvine and Orange County Flood Control District and was completed in 2016.

PRIME FIRM: Adams Streeter
COMPLETED: January 2016
CLIENT: **Irvine Housing Campus Authority**
Victor Van Zandt, President of Planning and Construction
949-824-4827, victor.vanzandt@icha.uci.edu

ALSTON DEVELOPMENT

Location – Anaheim, California | Client – Tri Pointe Homes

The Alston Development Project is a 12-acre residential development in City of Anaheim consisting of 75 single family residential lots, open space areas utilized as community parks with bio-swales, proprietary bio-filtration systems and underground detention chambers. Detention chambers are utilized to capture the storm water runoffs from the majority of development site since infiltration for the project site is infeasible. The underground detention chambers for the project site are designed as a series of corrugated metal pipes (CMP) sized to hold both the Design Capture Volume (DCV) which is the 85th percentile, 24-hour storm event with peak flows per 100-year storm event. Peak flows are mitigated to equal or be less than the site pre-development flows. Low flow from the detention chambers is conveyed into a proprietary bio-filtration structure for treatment. The bio-filtration structure is a Modular Wetland System (MWS) designed specifically as a volume-based structure to both treat the DCV and drawdown the DCV within 48 hours. For portion of the site that does not drain into detention chambers, flows from the street are conveyed by series of curb opening into a vegetated bio-swale for treatment. The vegetated bio-swale system provides for pollutant removal through settling and filtration via the vegetation lining the channels. The bio-swale also incorporates a sub-drain system that connects to the storm drain system where treated flow is captured and conveyed to the storm drain system.

PRIME FIRM: Adams Streeter
COMPLETED: 2017 (Other Phases On-Going)
CLIENT: TRI Pointe Homes
Rick Wood, Vice President of Project Management
949-478-8638; Rick.Wood@TRIPointehomes.com

ON-CALL ENVIRONMENTAL SERVICES CONTRACT, RIVERSIDE COUNTY

Client/Owner: Riverside County Flood Control and Water Conservation District
Performance Period: 2020 -- Ongoing Since 2011

ECORP has held two on-call contracts with the Riverside County Flood Control and Water Conservation District (District) to provide environmental and regulatory services for District projects throughout western Riverside. Examples of task orders conducted as part of this contract include:

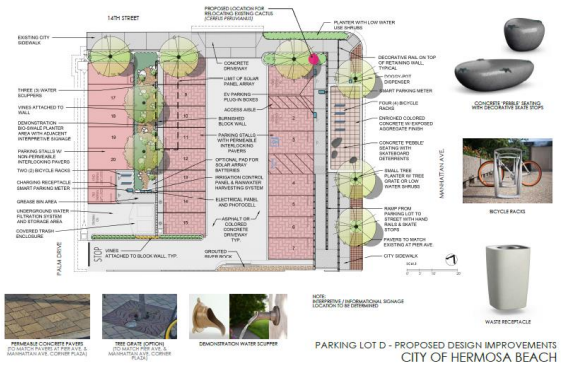
- ♣ IS/MND, Technical Studies, and Regulatory Permitting for the Gilman Home Channel Improvement Project (Banning)
- ♣ Short Notice Environmental Services Response to Emergency Situations during the El Niño Rain Season
- ♣ Biological, Cultural, and Air Quality Services for the Woodcrest Dam Outlet Modification Project
- ♣ Addendum EIR, Technical Studies, and Regulatory Permitting for the Lakeland Village Master Drainage Plan (MDP)
- ♣ Invasive Species Control Habitat Mitigation and Monitoring Plan (HMMP) for the Banning Master Drainage Plan Line H Stage 1 Project
- ♣ IS/MND, Air Quality/Greenhouse Gas Memorandum, Aquatic Resources Delineation and Cultural and Biological Surveys for the Wildomar Master Drainage Plan Lateral C Revision Project
- ♣ Construction Worker Training for Archaeological Resources Paleontological Resources, and Hazardous Materials for Three District Construction Projects

References:

- ♣ Joan Valle, Associate Engineer, Riverside County Flood Control and Water Conservation District, (951) 955-8856, jvalle@rivco.org
- ♣ Nancy Sansonetti, AICP, Planner III, San Bernardino County Department of Public Works (909) 387-7876, nancy.sansonetti@dpw.sbcounty.gov
- ♣ George Zakhari, Associate Water Quality Engineer, Golden State Water Company, (760) 515-8322, George.Zakhari@gswater.com

CITY PARKING LOT D IMPROVEMENTS, HERMOSA BEACH, LOS ANGELES COUNTY

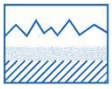
Client/Owner: City of Hermosa Beach (subcontractor to Adams-Streeter Civil Engineers, Inc.)
Performance Period: 2018



ECORP prepared a CEQA Categorical Exemption (CE) with Technical Studies for improvements to a 0.25-acre public parking lot that is in disrepair. This multi-benefit demonstration project is the first of its kind undertaken by the City as a pilot program for potential future implementation at other City facilities. Project water quality enhancements include: Storm water collection via permeable paver system, storm water treatment via a Modular Wetlands unit, storm water storage, harvesting and reuse via a cistern/pump manhole and irrigation control system, and storm water infiltration via bioswale demonstration planter. The project includes drought tolerant landscaping, tree planting, ADA improvements, enhanced lighting and electrical upgrades, a bicycle corral, electric vehicle charging stations, and storm water capture and retention.

Reference: Reed Salan, Associate Engineer, Public Works Department, (310) 318-0229, rsalan@hermosabch.org

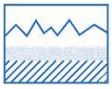
Summerly Recycled Waterline, Lake Elsinore



Client: RW Beck
Project Period:2009-2010
Contact: Mr. Stephen Dopudja, Vice President
West Yost (formerly RW Beck)
(949) 517-9060
sdopudja@westyost.com

Field exploration, soil testing, design and construction services for a 30-inch waterline for the Elsinore Valley Municipal Water District. The new line extended over 5,000 linear feet and included a crossing under the San Jacinto River which required 35- to 50-foot deep jack and bore pits. Excavations and dewatering during construction showed very permeable conditions in the native earth units.

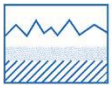
Corporate Yard Infiltration Ponds, City of Corona



Client: City of Corona
Project Period: 2014
Contact: Mr. Vernon R. Weisman, P.E., District Engineer
City of Corona Department of Water and Power, Public Works Department
(951) 739-4912
vernon.weisman@CoronaCA.gov

City improvement project consisting of geotechnical exploration and infiltration study within an existing 3.4-acre infiltration pond. NMG provided geotechnical review and field percolation testing to evaluate soil layers below the basin. Percolation testing was performed at depths between 5 and 20 feet to assist in design of basin reconfiguration and grading to achieve increased infiltration performance.

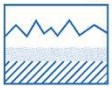
Veterans Park Storm Water Diversion and Infiltration, Redondo Beach



Client: AKM Consulting Engineers
Project Period: 2017
Mr. John Loague, Engineer
(949) 753-7333 x103
jloague@akmce.com

Exploration including borings and in-situ percolation testing for proposed storm drain improvements and a network of subterranean infiltration galleries. The exploration involved city encroachment permitting and exploration and testing within an active/existing public park. Percolation testing was governed by County of Los Angeles Guidelines. The project included a feasibility study and development of a design infiltration rates.

Camellia Court, City of Alhambra, California



Client: Lennar
Project Period: 2018 – 2020
Client: Mr. Dan Hosseinzadeh, Project Manager
(949) 349- 8215
Dan.Hosseinzadeh@lennar.com

This approximately 12-acre mixed use development utilized both infiltration chambers and deep drywell systems. NMG performed Cone Penetration Testing (CPTs) to obtain continuous soil stratigraphic information coupled with hollow-stem auger borings in order to develop a subsurface stratigraphic profile of the site. Both near surface and deep percolation testing was performed, up to 60 feet below existing grade, in order to provide design infiltration rates for the proposed infiltration systems.

C. PROJECT UNDERSTANDING AND APPROACH

THE PURPOSE of this project is to implement simple and cost-effective drainage improvements to alleviate flooding within the "Avenues" residential neighborhood from hillside runoff. The project will generally entail a drainage study of the "Avenues" Drainage Study Area in conjunction with the review of the Master Drainage Plan (MDP) prepared in October 2016 for the development of drainage concept alternatives and associated costs for the City's consideration. Final project plans will be prepared based on the City-selected alternative for implementation. An appropriate CEQA document (IS/ND or IS/MND) will also be prepared to support the project based on the City's selection of drainage alternatives to be implemented.

Design parameters identified in the RFP calls for the following to be incorporated in developing drainage alternatives for the project:

- Emphasis on value engineering where proposed design alternatives are simple and cost-effective.
- Improvements that will result in minimal impacts to the surrounding community.
- Alternatives that can be developed and designed within a short timeframe (6 months) to coincide with the Downtown Streets Paving Phase II Project that will be ready for construction in April 2021, based on a kick off meeting date of October 1, 2020.

Per the RFP, the MDP identified a total of seventy-nine (79) drainage issue locations, including for the top ten flooding locations provided by City staff. Three of the top ten locations that are adjacent and within the "Avenues" Drainage Study Area are identified as (A) High Street / Park Way e/o of Lakeshore Drive, (B) Pepper Street / Dawes Street, and (C) Avenue 6 / Lakeshore Drive, as illustrated by Figure "P-1" on Page 18. The MDP is not available for review during the proposal process to discern the drainage alternatives proposed to address the current flooding condition. However, RFP Figure A – Lake Zone MDP indicate that the ultimate improvements would be to provide underground storm drain systems (Lines L-10 through L-13) to capture and convey hillside run-off to Lake Elsinore. Implementation of the ultimate improvements will require a considerably longer timeline for design, environmental determination, permitting, and funding that may not be currently available to the City. In addressing the City's desire to mitigate drainage concerns within the short timeline and in consideration of funding constraints, stopgap alternatives will be needed to eliminate or reduce the potential of private property flooding and long-term ponding within the "Avenues" streets, and at the above-mentioned issue locations.

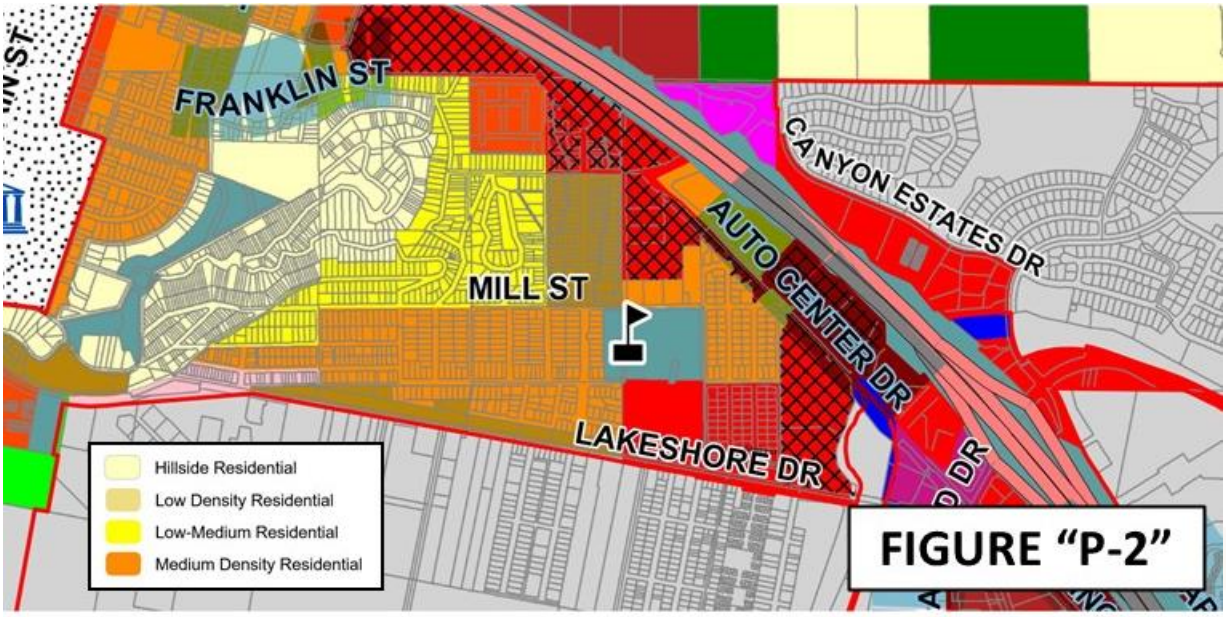
INITIAL ASSESSMENTS of this project identified two factors that needs to be considered in developing the drainage improvement alternatives, as follows:

- Potential 5.7-acre development of a Senior Independent Living Facility (or any potential future private development) along the Lakeshore Drive northerly frontage within the limits of the "Avenues" from Center Street to Avenue 3, encompassing properties defined by APNs 373-185-022 (0.62 AC), 373-185-023 (0.40 AC), 373-185-036 (0.60 AC), 373-185-037 (0.10 AC), 373-185-038 (0.29 AC), 373-185-046 (3.00 AC) and 373-176-019 (0.71 AC), as illustrated by Figure "P-1" on Page 18, and the Assessor's Maps provided in the Appendix as reference. The Assessor's Maps indicate property ownership of APNs 373-176-019 and 373-185-046 by the Atchison, Topeka and Santa Fe Railway (AT&SF RR). It is likely that the old railroad properties would have been quit-claimed to the City so it is not clear if the railroad property would be privately developed, available as City-owned property to be utilized in the City's interests, or both. Based on the City's General Plan Land Use Map, the AT&SF RR properties are zoned for *Residential Mixed Use* (see Figure "P-2" on Page 19). Collaboration with City staff regarding the disposition of the old AT & SF RR frontage properties that could potentially be used for drainage improvement purposes will be crucial for the development of drainage improvement alternatives.


Ex. Outlet
Ex. Headwall Culvert
Ex. Catch Basins
LINE L-10
A High Street / Park Way
Limits of 5.7 AC Zoned Residential Mixed Use Property for Potential Senior Independent Living Facility Development, Or Other Potential Future Development
D Mill Street / Avenue 1
LINE L-11
E Mill Street / Crescent Dr.
AT & SF RR
THE "AVENUES" DRAINAGE SUB-AREA
B Pepper / Dawes Street
F Mill Street / Pell Street
LINE L-12
C Avenue 6 / Lakeshore Drive
Center St
Lake St
Acacia St
Mill St
Country Club Blvd
High St
Park Way
E Lakeshore Dr
LCL Realty & Property Management
Marian St
Avenue 6
Dawes St
Irwin Dr

FIGURE "P-1"

- The undeveloped hillside (Elsinore Heights) area north of Mill Street between Country Club Boulevard and Avenue 6 that contributes run-off to Mill Street and the "Avenues" appears to be partially graded to support streets and subdivision development. The Assessor's Maps provided as reference in the Appendix indicate the land within this area has already been subdivided. Based on the City's General Plan Land Use Map, the land is zoned for *Low-Medium Residential* use (see Figure "P-2" below). Certain lots appear to be listed for sale individually so it is not apparent if the area in its entirety will be developed as part of a larger residential tract development by a housing developer, or lots sold to individual owners. If the area is being developed as part of a larger residential tract development, storm drain improvements as shown on RFP Figure A – Lake Zone MDP may be necessary in order to mitigate the increase in storm run-off resulting from the increase in impervious areas. The MDP's storm drain improvements could either be constructed by the developer as part of the Conditions-of-Approval, or by the City through developer fund contributions and/or other funding sources. Based on the information presented in the RFP, storm drain improvements as shown in the RFP Figure A – Lake Zone MDP (Lines L-10 through L-13) is not anticipated to be implemented in the near future. Since it is unclear when the area will be developed, stopgap drainage improvement alternatives will be needed to serve the community prior to master planned improvements being implemented. The drainage alternatives will also consider potential future integration with master-planned improvements when it is realized. Collaboration with City staff regarding the details and disposition of the hillside development will be crucial in accessing drainage improvement alternatives.



Drainage improvement alternatives developed for the project should consider downstream issues in regards to potential flooding of private property and long-term ponding adjacent to the northerly frontage areas along Lakeshore Drive. Consideration should also be given to provide potential mitigation at upstream locations where significant run-off is being contributed from the hillside areas to Mill Street. The "Avenues" streets may not have adequate capacity to contain the significant hillside run-off within the street (or street right-of-way), which could potentially result in private property flooding. Erosion and sediments from hillside run-off are also of particular concern. Excessive flow amounts and high flow velocities experienced by the "Avenues" streets will also lead to premature pavement deterioration and will continue to be a maintenance item of concern if the issue is not addressed.

Alternative downstream drainage improvements apart from the ultimate master-planned storm drain improvements shall address the issues related to long-term ponding and potential private property flooding at the three downstream locations identified by the MDP, and as shown in Figure "P-1" on Page 18 that includes:

(A) High Street / Park Way east of Lakeshore Drive
(B) Pepper Street / Dawes Street, and
(C) Avenue 6 / Lakeshore Drive

The area's tributary drainage pattern generally flows in a southerly direction from the hillside areas through the "Avenues" streets and ultimately drains to Lake Elsinore. Based on the City's Flood Zones Map, the "Avenues" streets including the northerly frontage of Lakeshore Drive is not within the 100-year or 500-year flood zones (see Figure "P-3" below). However, Lakeshore Drive that traverses in an east-west direction may act as a physical barrier that impedes run-off from draining south towards the lake. Ponding is anticipated to occur along the northerly frontage of Lakeshore Drive within the old AT&SF RR properties before the water is able to breach above the roadway and continue draining south towards the lake, resulting in long-term ponding.

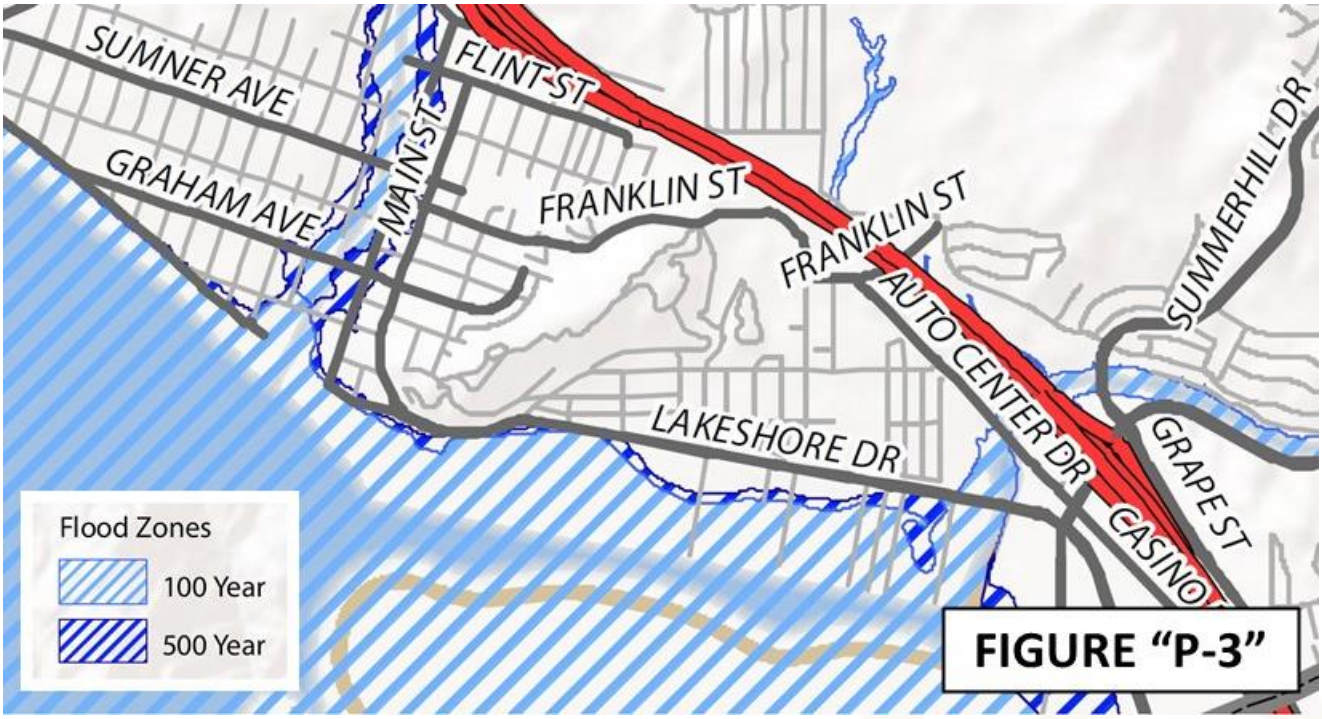
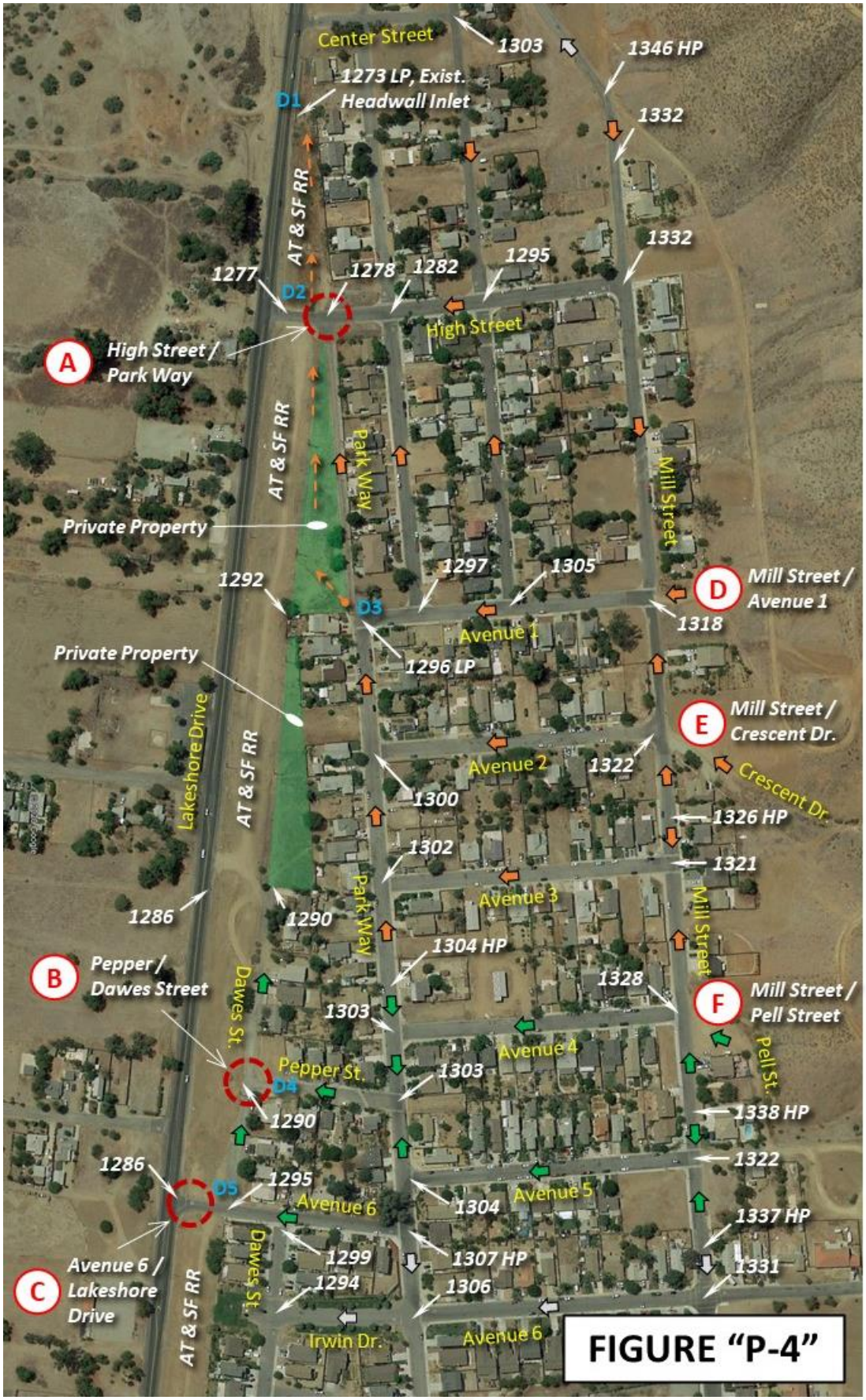
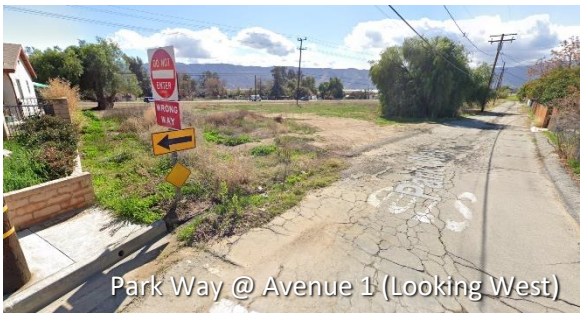


FIGURE "P-3"

Specific drainage patterns within the "Avenues" streets and undeveloped northerly frontage areas of Lakeshore Drive is shown in Figure "P-4" on Page 21. Run-off from the hillside areas draining to Mill Street generally occurs at the intersections of Avenue 1, Crescent Drive, and Pell Street, corresponding to locations "D", "E" and "F" respectively. Run-off will flow from upstream locations along the "Avenues" streets to four downstream locations identified as "D2" through "D5" on Figure "P-4", where street run-off discharges to the undeveloped northerly frontage areas along Lakeshore Drive.

Per Figure "P-4", run-off originating from hillside locations "D" and "E" will flow towards discharge points "D2" and "D3" (see "orange" arrows). Existing run-off at "D3" flow towards "D2" via Park Way and overland flow along the Lakeshore Drive northerly frontage area. Run-off from "D2" will flow towards "D1" where a double-pipe headwall inlet conveys and disperse the runoff to the south side of Lakeshore Drive. Runoff originating from hillside location "F" will flow towards discharge points "D4" and "D5" and congregate/pond within the Lakeshore Drive northerly frontage area located between Avenue 3 and Avenue 6 (see "green" arrows).


Center Street
1303
1346 HP
1273 LP, Exist.
Headwall Inlet
D1
1332
AT & SF RR
1332
1277
1278
1282
1295
D2
High Street
A
High Street /
Park Way
AT & SF RR
Park Way
Mill Street
Private Property
1292
1297
1305
D
Mill Street /
Avenue 1
D3
1318
Avenue 1
1296 LP
Private Property
E
Mill Street /
Crescent Dr.
Lakeshore Drive
AT & SF RR
Avenue 2
1322
Crescent Dr.
1300
1326 HP
1302
1321
Park Way
Avenue 3
Mill Street
1286
1290
1304 HP
B
Pepper /
Dawes Street
1328
F
Mill Street /
Pell Street
Dawes St.
1303
Avenue 4
Pell St.
Pepper St.
D4
1303
1290
1338 HP
1322
1286
D5
1295
Avenue 6
1304
Avenue 5
1337 HP
1299
1307 HP
1331
C
Avenue 6 /
Lakeshore
Drive
1294
1306
Dawes St.
AT & SF RR
Irwin Dr.
Avenue 6
FIGURE "P-4"



The segment of Park Way between High Street and Avenue 1 carries most of the run-off generated from the hillside areas (locations "D" and "E") and the "Avenues" neighborhood to "D2", which is consistent with the severe pavement deterioration observed. As stated, some of the runoff diverts to the undeveloped area along the northerly frontage of Lakeshore Drive and flow towards "D2". Since the strip of land fronting this segment of Park Way represents vacant private properties, routing run-off through private property to provide some relief to Park Way is currently not a viable option. Any formalized drainage improvement alternatives to direct drainage towards the undeveloped frontage area from "D3" will require an easement from the private property owner and may not be feasible until such time when the City decides to implement masterplan improvements for the "Line L-11" storm drain as shown in RFP Figure A – Lake Zone MDP and Figure "P-1" on Page 18). Drainage improvements along this segment of Park Way may also be needed to support any future development within the private frontage properties (such as the potential development for the Senior Independent Living Facility). Park Way may be repaved and improved with an alley gutter to promote better flow conveyance. However, alternatives should also be considered to reduce street flows to the extent possible, to minimize the potential of premature pavement rutting due to water intrusion and scouring, and to reduce the potential of run-off intrusion into adjacent residences. Table "T-1" on Page 28 provides a summary of preliminary alternatives that may be potentially considered during the first phase of the project.

The High Street and Park Way intersection is identified as one of the top ten drainage issue location and represents the point of convergence for hillside area run-off discharging to Mill Street at locations "D" and "E", and the "Avenues" neighborhood areas between High Street and Avenue 4. Minimally, curb and gutter extensions on High Street and cross-gutters across Park Way and High Street may be constructed to convey run-off to discharge point "D2" efficiently (see above illustration). Discharge point "D2" appears to be a localized low-point that ponds even under dry-weather flow conditions. Ideally, flows should be unimpeded between "D2" and "D1" which suggest that elevations within this undeveloped triangular-shaped area be verified via field survey. A number of alternative drainage improvements may be considered to effectively capture and convey run-off from "D2" to "D1", and potentially also provide for flow routing and infiltration at this location,

in consideration of the significant run-off. Table "T-1" on Page 28 provides a summary of preliminary alternatives that may be considered during the first phase of the project. Collaboration with City staff regarding the disposition of the old AT & SF RR frontage properties that makes up the undeveloped triangular-shaped area that could potentially be privately developed, used for drainage improvement purposes, or both will be essential in the development/selection of implementable drainage improvement alternatives at this location.

Partial implementation of master-plan improvements to include portions of Line L-10 consisting of 33" RCP, 36" RCP and 60" RCP pipe segments (depicted in yellow in the illustration at left) between "D2" and "D1" could be further evaluated if needed, for the conveyance of run-off to the south side of Lakeshore Drive. This scenario will require inlet facilities at "D1" and "D2", a "bore and jack" of the 60" RCP pipe segment under Lakeshore Drive, and an interim 60" outlet structure at the south side of Lakeshore Drive. The existing two street catch basins on Lakeshore Drive and the existing headwall culvert system at "D1" may be left in-place for future integration into the storm drain system when master-plan improvements are fully realized. The scope of this particular alternative does not conform to RFP's intent and design parameters and is not anticipated to be a viable option for this project, also in consideration of funding and time constraints. Potential constraints related to pipe cover/depths, and existing grade limitation could also make it unfeasible for the pipe segments to be constructed in the interim. This concept is only provided hereon as an option that could be explored further, if the City desires to do so.

Pepper Street @ Dawes Street (Looking South)

The Pepper Street and Dawes Street intersection is also identified as one of the top ten drainage issue location and represents the point of convergence for hillside area run-off discharging to Mill Street at location "F", and the "Avenues" neighborhood areas between Avenue 4 and Avenue 5 (see Figure "P-4" on Page 21). Run-off to Pepper Street from Park Way is conveyed to the west side of the Pepper Street via a cross-gutter located immediately downstream of Park Way (see picture at right), and generally ponds at the northwesterly corner of the Pepper Street and Dawes Street intersection, adjacent to a residential property. The portion of Dawes Street from Pepper Street to the westerly terminus including the adjacent undeveloped area also appears to be flat.


Pepper St. @ Park Way (Looking South)

Google Earth aerial photos of the Pepper Street and Dawes Street intersection as provided above indicates ponding within the intersection area, which suggest the location to be a localized low point. The aerial photos which were taken at different time periods also suggests that the extent of flooding at this location may have extended into private property, including for the property at the northwesterly corner. Per the aerials, grading is apparent at the property between February 2016 and October 2016. The raised pad along with the perimeter retaining wall was then constructed prior to February 2018, which was likely performed by the property owner as a preventive measure against run-off intrusion into the property.

It is further apparent from the June 2012 aerial (see above) that run-off from Pepper Street will confluence with run-off from Avenue 6 that ponds at the Avenue 6 / Lakeshore Drive intersection due to the close proximity of locations "B" and "C". Per the RFP, Avenue 6 and Lakeshore Drive is also identified as a top ten drainage issue location. To negate ponding adjacent to the private property at the northwesterly corner of Pepper Street and Dawes Street, Pepper Street's westerly curb and gutter and AC pavement could be extended to Dawes Street and cross-gutters provided to effectively convey run-off to the undeveloped AT&SF RR area (see illustrated at left). Optionally, AC berms may also be considered for placement at the northeasterly corner to help negate

run-off intrusion into the adjacent private property. Run-off that converges to this location (within the undeveloped AT & SF RR area) does not have the opportunity to flow across Lakeshore Drive unless the water ponds high enough to breach the roadway. Potential flooding and long-term ponding within this area is anticipated unless drainage facilities can be provided to mitigate significant flows from the hillside areas and the "Avenues" neighborhood. Partial implementation of master-planned improvements related to Line L-12 (or related improvements) for the purpose of conveying run-off across Lakeshore Drive from this area is not feasible due to grade, funding, and other constraints. Since flows cannot be conveyed away from this location until such time when master-planned improvements are realized, storage and infiltration of run-off within the undeveloped AT & SF RR area may be the only plausible alternative that could help prevent potential area flooding and long-term ponding. Storage and infiltration facilities implemented at this juncture can also be integrated into the larger master-planned improvements in the future. Utility considerations within the undeveloped AT & SF RR area minimally includes surface utility poles and underground trunk sewer. Table "T-1" on Page 28 provides a summary of preliminary alternatives that may be considered during the first phase of the project for this location.

Alternative upstream drainage improvements for the project should consider the potential mitigation of hillside run-off to Mill Street at the Avenue 1, Crescent Drive, and Pell Street intersections corresponding to locations "D", "E" and "F" respectively, as shown in Figure "P-5" below.

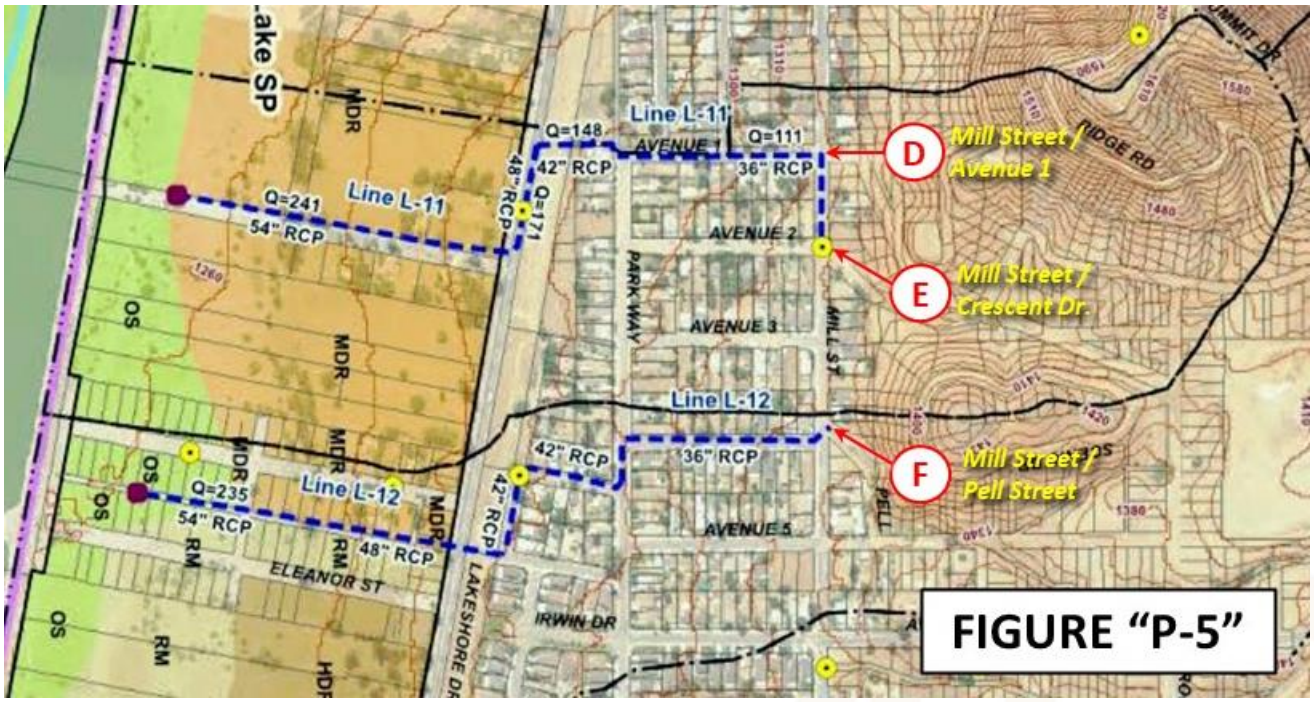


FIGURE "P-5"

Master-planned storm drain improvements shown on RFP Figure A – Lake Zone MDP and Figure "P-5" above indicate a peak run-off of 111 CFS at the upstream pipe segment of Line "L-11", which corresponds to the 100-year storm flows from the hillside areas to Mill Street at locations "D" and "E". Peak run-off storm flows for Line "L-12" conveying hillside area run-off at location "F" is not shown for the upstream pipe segment but is anticipated to be similar to that of Line "L-11". Due to the significant hillside run-off contributions to Mill Street, provisions for the capture and storage of run-off should be provided at these locations in order to limit flows from discharging to Mill Street, to the extent possible. Detention basins and other facilities can potentially be constructed at these locations for that purpose, and to address erosion and sediment transport issues. Limiting run-off volume to Mill Street will also help to lower flow velocities within the streets. Determination of minimum storage volumes to adequately size the detention basins (or other storage facilities) in order for 100-

year storm event run-off to be contained within the right-of-way will involve hydrologic related calculations that involves the following:

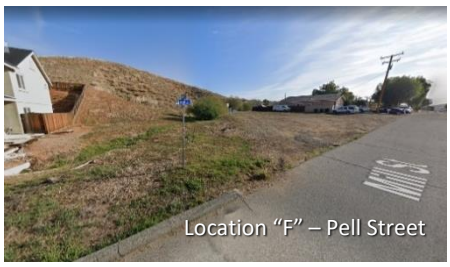
- ♣ Determination/verification of MDP 100-year peak flow values at locations "D", "E", and "F".
- ♣ Determination/verification of MDP 100-year drainage sub-area peak flows within the "Avenues" area, corresponding to drainage from locations D", "E", and "F".
- ♣ Determination of flow capacities of each "Avenues" streets (based on flow depths within the street ROW) along the flow routes corresponding to locations "D", "E", and "F", as depicted in Figure "P-5" on Page 13. The lowest capacity observed within the street segments along each flow route will conservatively be utilized to determine the required storage volume for upstream detention.
- ♣ Develop a 24-hour, 100-year storm event hydrograph representing the hillside area to determine the storage volume for detention.
- ♣ Perform routing calculations to verify volume and peak discharge for the purpose of retaining excess 100-year flows that cannot be contained within the "Avenues" streets.

As mentioned, potential drainage related facilities to intercept and detain hillside run-off at locations "D", "E", and "F" could be placed within the street right-of-way, as illustrated below by the yellow-highlighted areas. Vacant lots within the immediate areas are highlighted in green.

Per the Assessor's Maps, street right-of-way at locations "D", "E", and "F" corresponding to Avenue 1/Flagstaff Road, Crescent Drive, and Pell Street is indicated as 50' wide. In consideration of the steep topography and anticipated hillside runoff at locations "D", "E", and "F", the available areas within the street right-of-way may be insufficient in size to provide full detention of hillside run-off, and will require further analysis through methods as described above. Maintaining property access for adjacent existing residences at locations "D" and "E" (and also to other interior hillside properties) must also be considered in developing the alternate drainage facilities within the right-of-way. Existing driveway locations for consideration at locations "D" and "E" are denoted by red-rectangles on the above illustration. It is unclear if adjacent vacant lots may potentially be utilized for interim facilities so further collaboration with City staff in developing the drainage strategies for the

upstream locations is imperative. Drainage facilities implemented at these locations are assumed to be interim in nature until such time when master-planned improvements can be implemented. However, any underground storage facilities, if opted, could be designed as permanent facilities for future integration into master-planned facilities.

Location "D" – Avenue 1 /Flagstaff Road


Location "F" – Pell Street


Location "E" – Crescent Drive

Potential drainage implementations that may be considered at locations "D", "E", and "F" range from surface facilities such as detention basins to underground facilities such as pre-cast underground storage vaults/galleries. Grading of the immediate areas to accommodate proposed facilities including berms and other appurtenances is also anticipated at these locations. Since these locations lie within the existing hillside, geotechnical investigation and site borings will be needed to verify underlying soils and the potential for shallow bedrock that could directly influence the selection of drainage alternatives to detain hillside runoff, and for post-storm discharge options. Depending on underlying soils and bedrock, shallow infiltration associated with drainage facilities may be better suited at these locations as opposed to deeper infiltration methods associated with the use of dry wells or deep infiltration vault/galleries. Table "T-1" on Page 28 provides a summary of preliminary alternatives that may be potentially considered during the first phase of the project.

Flow routing strategies for the distribution of runoff between the "Avenues" street may also be considered. However, routing strategies via surface means that can potentially be implemented is fairly limited, and will largely depend on the amount of run-off being contributed to locations "D", "E", and "F", the amount of run-off being carried by each street (including hillside and "Avenues" area run-off), and the existing street flow patterns as indicated by Figure "P-5" on Page 13.

Initial observations of existing street flow patterns suggest the following:

- Hillside run-off at location "D" that flows to Avenue 1 cannot be routed anywhere else as this location represents a localized low point on Mill Street. Existing cross-gutters span across Mill Street channeling flows to Avenue 1.
- Portions of the hillside run-off from location "E" that flows westerly along Mill Street to location "D" may be minimized by installing cross-gutters across Mill Street at the Avenue 2 intersection, if needed.
- Portions of the hillside run-off from location "F" that flows westerly along Mill Street towards Avenue 3 may be minimized by installing cross-gutters across Mill Street at the Avenue 4 intersection, and grading of berms within the Pell Street right-of-way if needed.

Avenue 1 through 5 that directly convey flows from upstream to downstream areas of the "Avenues" neighborhood is anticipated to have larger flow capacities due to the steep street gradients, as opposed to the downstream streets with lesser gradients that receive run-off from the "Avenues" streets. Existing street flow patterns as indicated by Figure "P-5" on Page 13 suggests that Park Way would receive most of the run-off from location "D", "E", and "F" and could potentially dictate the sizing of upstream detention facilities.

A summary of preliminary alternatives that may potentially be considered during the first phase of the project for both upstream and downstream locations is tabulated as follows:

TABLE T-1 – SUMMARY OF POTENTIAL DRAINAGE ALTERNATIVES	
ITEM / LOCATION	**POTENTIAL IMPROVEMENTS [1]**
1. Park Way Between High Street and Avenue 1 (Discharge Point "D3" to "D2")	Alley gutter along centerline of Park Way.
	Curb and gutter and/or AC berm on north side of street for additional protection against water intrusion into existing residences. Berm along the south side of street is not currently recommended to permit excess run-off to overflow to the undeveloped area at the south side in order to protect against property flooding of the existing residences along the north side of the street.
	Slotted drain CMP pipe along center of alley gutter with optional inlets at fixed intervals to decrease surface street flows. This option would require connection to drainage facilities proposed at the High Street and Parkway intersection, if opted (see item #2 below).
2. High Street & Park Way – Location "A" (Discharge Point "D2" to "D1")	Curb and gutter extension on High Street to Lakeshore Dr.
	Cross-gutters at the High Street and Park Way intersection.
	Street catch basin at point D2 for capture of run-off.
	Graded natural swale, concrete channel or pipe for effective flow conveyance between "D2" and "D1".
	Detention basin for run-off storage and flow routing prior to draining at "D1", and for infiltration purposes.
	Optional single or linked dry well systems for infiltration purposes and additional storage.
	Optional and partial implementation of master-plan improvements, Line "L-10" between "D1" and "D2" (not anticipated).
3. Pepper St. & Dawes St. – Location "B" (Discharge Point "D4")	Pavement extension at the terminus of Pepper Street (paved section) to Dawes Street, including the westerly curb and gutter (and sidewalk, if needed).
	Cross-gutters across Dawes Street.
	Optional AC berm along the northeasterly corner of the intersection.
	(see additional improvements per item #4 below)
4. Lakeshore Drive & Avenue 6 – Location "C" (Discharge Point "D5")	Detention basin for runoff storage and infiltration.
	Underground storage / infiltration galleries.
	Optional single or linked dry well systems for infiltration purposes and additional storage.
5. Locations "D", "E" and "F"	Miscellaneous grading, berms, and access routing, as needed.
	Detention basin or underground pre-case storage vaults/galleries for storage/infiltration of run-off.
	Optional cross-gutters across Mill Street at locations "E" and "F" for surface flow routing (if warranted).

[1] *Potential drainage improvement alternatives shown above are based on initial observations only. This initial list will be reviewed in detail and expanded upon during the initial project phase to develop a comprehensive assessment of available and implementable alternative.*

D. SCOPE OF WORK PROGRAM

The culmination of required tasks associated with the overall approach by ASCE and team sub-consultant firms are reflected in the below scope of work, in accordance with the RFP.

PHASE 1A - PRELIMINARY ENGINEERING	
TASK	**SUMMARY OF WORK ITEMS**
1.	**Meetings, Project Management and Coordination**
	A. Project management and governmental coordination, including with the City's project administrator / project manager and the City's Engineering Department preparing the Downtown Streets Paving Phase II Project. B. Kick off and initial collaboration meeting with City staff on potential concept drainage alternative, available construction funding, project schedule, etc. C. Second collaboration meeting to review and solidify drainage concept alternatives w/ City staff prior to finalizing and submittal of the Drainage Study. D. Attend City Council meeting (one meeting anticipated).
2.	**Information Research**
	A. Research and review City record drawings and maps (provided by City). B. Notify purveyors, request for utility atlas and maps, and coordination as necessary during the drainage concept alternative development process.
3.	**Mapping and Initial Field Survey Verifications**
	A. Research and analyze underlying record maps for property and right-of-way information, including for records of surveys, parcel and tract maps, survey benchmarks and control, etc. Review available right-of-way, potential easements, etc., and identify site constraints corresponding to applicable drainage concept alternative site locations. B. Order a title search and title report to support initial research and mapping efforts, and for the preparation of plats and legal descriptions as needed in Phase 2 of the project. C. Perform initial topographic survey / field verifications for features and grades to support the development of drainage concept alternatives. D. Perform and develop base maps that will be utilized as the basis for design. Developed base maps will be based on paper boundary. Boundary surveys are not anticipated and not included in the scope of work.
4.	**Drainage Study**
	A. Perform a field review to assess site conditions and constraints. Review site topographical survey, right-of-way and property boundaries, and location and depths of existing utilities for the development of project parameters and constraints. B. Coordinate and review site and sub-surface conditions w/ the geotechnical engineer for the development of drainage concept alternatives. C. Review the Master Drainage Plan (MDP) to verify drainage sub-areas, peak run-off and other pertinent information as it relates to the development of drainage concept alternatives. D. Develop drainage concept alternatives (minimum of two alternatives). Perform hydrology, basin routing and sizing, street flows and other calculations in support of concept alternatives. E. Develop concept-level cost estimates for drainage alternatives presented in the Drainage Study. F. Prepare a Drainage Study Report outlining the drainage concept alternatives and associated estimated costs for implementation.

PHASE 1A - PRELIMINARY ENGINEERING - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
5.	**Geotechnical Exploration, Analysis and Reporting (By NMG Geotechnical)**
	A. **Background Review, Project Initiation, and Permitting:** Review of available published and unpublished geotechnical and groundwater data pertaining to the site. Review of the initial project design information and coordination with the project team. NMG will acquire all necessary encroachment and temporary water access permits (assumed "No Fee") for drilling and percolation testing. We anticipate that a plan will be provided to NMG showing the conceptual design and existing topography and utilities that may be used for permitting purposes. B. **Subsurface Exploration and Percolation Testing:** NMG will perform a site reconnaissance to review and mark boring locations. Prior to drilling, we will coordinate with USA and the City for existing utility clearance. Once utilities have been marked, we will review the field markings for potential conflicts and make any necessary adjustments. We propose to drill 4 hollow-stem auger borings ranging from 10 to 50 feet deep (or refusal). Heavy equipment will be subject to prevailing wage. Soil will be sampled at 2.5- to 5-foot intervals utilizing Modified California sampling methods. We anticipate that a truck-mounted drill rig will be used for our geotechnical exploration and that the scope of work can be performed in consecutive days during weekday daytime hours. Percolation testing in 3 of the 4 proposed borings is anticipated and assumed to evaluate storm water infiltration feasibility and provide design infiltration rates for test locations. Percolation testing will be performed in accordance with the County of Riverside guidelines. Borings may be left open for 24 to 48 hours in order to conduct testing after completion of drilling. All borings will be backfilled after conclusion of percolation testing. We assume the borings will be performed within existing unpaved road shoulders and/or vacant lots and that traffic control plans and/or field traffic control will not be required. Percolation testing will require the use of select materials. The soil cuttings generated at these locations will not be able to be placed back into the boring. Excess soil cuttings will be spread thinly along adjacent dirt roadway shoulders or other designated areas within City property. C. **Laboratory Testing:** Laboratory testing will include moisture content and dry density of the collected samples, grain-size distribution, and hydro-consolidation. D. **Geotechnical Analysis:** Geotechnical evaluation and analysis of existing and collected data with respect to infiltration of storm water at the site and associated design parameters. NMG will review the project plan and perform engineering analyses for grading, liquefaction, and storm water infiltration. E. **Geotechnical Report:** One report will be prepared summarizing our findings and providing recommendations for project improvements and infiltration BMPs. The report will include our boring logs, laboratory data, percolation test data, and a boring location map. Assessment of contaminated soils or other environmental issues are not included in our scope of services and is the purview of others. F. **Project Management, Coordination, and Meetings:** A total of 8 hours of project management, coordination, consultation and meetings is assumed for the project.
OP-1	**Optional Items - Additional Geotechnical Borings and Percolation Testing (Five Additional)**
	Additional borings and percolation testing in the event that testing would need to be expanded in order to evaluate infiltration feasibility near High Street/ Park Way or at the proposed basin locations along Mill Street. This additional scope includes five additional borings and percolation testing to characterize the infiltration potential at these locations. Additional laboratory testing, data review/analysis, and infiltration rate calculation associated with the additional borings is included in this task.

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING)	
TASK	**SUMMARY OF WORK ITEMS**
1.	**CEQA Initial Study/Mitigated Negative Declaration (IS/MND)**
	A. **Administrative Draft IS/MND and Project Description:** An IS/MND will be prepared using the approved checklist format from the City of Lake Elsinore or Appendix G of the CEQA Guidelines. ECORP will prepare a description of the project including the location of the project area (including a project map), a brief description of the environmental setting, an identification of environmental effects using the above-referenced checklist format, a brief substantiation of the checklist entries, and a list of references and preparers. ECORP will provide mitigation measures (if required) that can be developed using existing data. A site visit by an Environmental Scientist will be conducted. The IS/MND will include modeling for air quality, greenhouse gas, noise, and energy impacts. The modeling results will be included as appendices. We assume City will provide any previously prepared technical reports, plans, and other project information, including electronic versions, to the extent possible. Deliverables include: • Project Description • An electronic copy of the Administrative Draft IS/MND that will be submitted to the City via email for review and comment. B. **Prepare and Distribute Draft IS/MND, Notice of Intent / Notice of Completion:** After receipt of one (1) set of integrated comments on the Administrative Draft IS/MND from the City, we will revise the IS/MND accordingly. ECORP will provide five (5) bound copies and one (1) electronic copy of the environmental document to the City for internal use. ECORP will mail twenty (20) copies (on compact disc) of the document to addressees on the mailing list. ECORP will produce and mail fifteen (15) hardcopies of the State Clearinghouse summary form and fifteen (15) CDs of the entire document for submittal to the State Clearinghouse. We have assumed that the City and ECORP will work together to assemble the mailing list. ECORP will prepare the following notices as required by CEQA: • Notice of Intent (NOI) to Adopt a Mitigated Negative Declaration • Notice of Completion (State Clearinghouse Cover) One copy of each of these notices will be filed with the Riverside County Clerk and the State Clearinghouse, as appropriate. One electronic copy of each notice will be provided to the City. The NOI is required by CEQA to be either posted on-site, mailed to the surrounding property owners, or published in a newspaper of general circulation. For costing purposes, it has been assumed that ECORP will arrange for the NOI to be published in a newspaper of general circulation. Deliverables include: • Five (5) bound copies and one (1) electronic copy of the Draft IS/MND for City use • Twenty (20) copies of the Draft IS/MND to mailing list (on CD) • Fifteen (15) copies of the State Clearinghouse summary form and fifteen (15) CDs of the entire document for submittal to the State Clearinghouse • Notice of Intent and Notice of Completion • Newspaper ad for NOI

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	C. **Administrative and Final IS/MND & MMRP:** The Lead Agency (City) must consider any comments received on the MND when making a decision on the project. For costing, we have assumed that ten (10) comment letters containing four (4) comments each will be received (or a total of 40 comments). ECORP will collate all public comments and comment letters regarding the IS and prepare written responses to comments for City review. It is assumed that City staff will receive all comments and will forward to ECORP as soon as possible after receipt. The Final IS/MND will include responses to comments received on the Draft IS/MND, any changes to the Draft IS/MND, and the Mitigation Monitoring and Reporting Program (MMRP), if required, prepared in accordance with CEQA Guidelines Section 15097. ECORP will prepare the MMRP in table format, with input from the City. An Administrative Final IS/ND and MMRP will be prepared, and after review by the City, the Final IS/MND and MMRP will be provided. ECORP will prepare the Notice of Determination (NOD) as required by CEQA. A copy of the NOD will be filed with the Riverside County Clerk and the State Clearinghouse, as appropriate, within five business days of adoption the MND. An electronic copy of the NOD will be provided to the City. It has been assumed that the City will pay any fees associated with this notice. Deliverables include: • Electronic submittal of the Administrative Final IS/MND and MMRP • Five (5) bound copies and one (1) electronic copy of the Final IS/MND and MMRP • Notice of Determination
2.	**Technical Studies**
	A. **Biological Resources Assessment:** Our understanding is that the project site is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) planning area. A brief review of the Riverside County Integrated Project (RCIP) Conservation Summary Report Generator found that the project site is not located within a narrow endemic plant species survey area, nor is it located within or immediately adjacent to an MSHCP Conservation Area, but that the project site is located within a designated survey area for burrowing owl. In order to determine whether sensitive biological resources are present on the project site, a reconnaissance-level survey will be performed. ECORP will conduct a biological reconnaissance survey of an approximate 10-acre project area, which is assumed to comprise proposed detention and/or infiltration basins. The survey would be conducted in order to identify any potential biological constraints to development and, if applicable, make recommendations based on the findings. Prior to conducting the site survey, the biologist will conduct queries of the latest versions of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Data Base (CNDDB) and California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants. In addition, other documentation, range maps of sensitive species, and other site-specific reports regarding biological resources that are relevant to evaluating the biological resources on the site will be reviewed. Based on the literature review, the biologists will identify the special-status species that could occur on the project site.

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	Once the literature review is completed, ECORP biologists with knowledge of the species that could occur on or in the vicinity of the project site will use the information as background information and conduct the biological reconnaissance survey of the project site. Biological resources that are known to occur or could occur on the property, such as burrowing owl, will be searched for during the survey. The survey will consist of a site walkover, taking photographs to document the site conditions, developing plant and wildlife species lists, and characterizing the habitat(s) within the project site and surrounding area. The habitat assessment will identify any areas of suitable habitat for sensitive plant and wildlife species that may or may not require focused wildlife surveys, and any areas that may be potentially under the jurisdiction of the U.S. Army Corps of Engineers or CDFW will be identified. If special-status species are detected, occurrences will be documented using a global positioning system (GPS) device. During the survey, all burrows suitable for burrowing owl use will be documented, in accordance with the Focused Burrow Survey protocol (Step 2A) of the MSHCP Burrowing Owl Survey Guidelines (County of Riverside 2006). Biologists will also document observations of live burrowing owls and their sign (e.g., whitewash, pellets, bones of prey items, feathers). If burrowing owl habitat is found to be present on the project site that is consistent with the definition of habitat in Step 1 of the MSHCP burrowing owl survey guidelines (County of Riverside 2006), then the biologist will also examine areas within a 150-meter buffer around the project area for the presence of habitat. All areas surveyed will be physically traversed on foot, where access permits. During the survey, all burrows suitable for burrowing owl use will be documented, in accordance with the Focused Burrow Survey protocol (Step 2A) of the MSHCP burrowing owl survey guidelines (County of Riverside 2006). Biologists will also document observations of live burrowing owls and their sign (e.g., whitewash, pellets, bones of prey items, feathers). Following the completion of the biological survey, ECORP will prepare a report that details the results of the literature review and field survey. The report will include a description of the proposed project, maps of the project site, methods used to conduct the survey, the survey results, and special-status species potential for occurrence. Habitats, vegetation communities, and biological constraints will be described in the report. The report will also present recommendations for further work, if needed, including focused surveys for sensitive species. Impacts expected from the proposed project will be identified along with mitigation measures to reduce them to below a level of significance, as applicable. The report will serve as a support document for the environmental documentation for the proposed project. The report will conform to the information needed for review under CEQA and will fulfill the requirements of an MSHCP Consistency Analysis. Per MSHCP reporting requirements, the following sections will be included and analyzed in the context of the project: • Section 6.1.2 Riparian/Riverine, Vernal Pool, and Fairy Shrimp Habitat Assessment • Section 6.1.3 Narrow Endemic Plant Species • Section 6.1.4 Urban/Wildlands Interface • Section 6.3.2 Burrowing Owl Habitat Assessment

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	A draft version of the report will be submitted electronically for review. After receipt of one round of compiled comments, a final version of the report will be prepared and submitted electronically to the City. If requested by the City, ECORP will also submit the report to the County of Riverside through their designated FTP site. This task does not include a formal delineation of aquatic resources, focused (protocol-level) surveys for special-status plant or wildlife species, or consultation or coordination with the regulatory agencies, County, or City personnel. Deliverables include: • Electronic copy of the draft and final report **B. Cultural Resources Study** **Records Search**. The cultural resources study will begin with a cultural resources records search at the Eastern Information Center (EIC) located on the University of California, Riverside campus. The records search will identify the locations and extent of previous surveys conducted within one mile of the project site and will determine if there are any known cultural resources (i.e., prehistoric or historic archaeological sites or historic-period features) located within or near the project site. In addition, the records search will identify resources listed on or determined eligible for listing on the National Register of Historic Places (NRHP) and/or the California Register of Historical Resources (CRHR) located within or near the project site. A search of the Sacred Lands File will be requested from the Native American Heritage Commission (NAHC). The search will identify any known sensitive or sacred Native American resources located within or near the project site. The Sacred Lands File Search will not constitute consultation in compliance with Assembly Bill 52 (AB 52). It is assumed that the City of Lake Elsinore, as the CEQA Lead Agency, will conduct all AB 52 consultation for the project. **Field Survey**. ECORP will complete a field survey of the project site using pedestrian transect intervals spaced no more than 15 meters apart. For the purposes of this scope and cost, ECORP assumes that the project site will consist of three discontinuous sections that, together, total less than 10 acres in size. The project area will be examined for evidence of cultural resources, including prehistoric and historic-period (i.e., over 50 years of age) archaeological deposits and features. If any resources are encountered, they must be recorded and mapped in detail in accordance with the standards of the California Office of Historic Preservation (OHP). Based on a review of aerial photographs, the project sites are undeveloped. For costing purposes, ECORP assumes that no cultural resources will be identified within the project site. **Technical Report**. A cultural resources technical report will be prepared for the project. The report will document the methods and results of the records search, Sacred Lands File search, and field survey. The report will include a summary of the environmental setting and the prehistoric and historic cultural background of the project site. Copies of correspondence with the NAHC will be provided as an attachment to the report. One electronic copy of the draft report will be submitted to the City. One (1) copy of the final report will also be submitted to the EIC for their files, as required. ECORP will respond to one round of consolidated, non-conflicting comments on the draft report.

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	Note that recording and evaluation of archaeological sites or built environment resources is not included in this task. If any resources are encountered that will require recording and evaluation, a separate scope and cost estimate will be provided. *ECORP was recently notified by several Information Centers of the California Historical Resources Information System of expected delays in processing or scheduling records search requests as a result of the COVID-19 pandemic and the effect it is having on staffing levels and Information Center closures. As a result, the schedule of completion of work under this task may be affected. ECORP will keep the Client apprised of any schedule implications as they become known but will not be held responsible for delays to the project as a result of Information Center closures or delays, or for any other delay caused by factors outside the control of ECORP.* Paleontological Records Search. A paleontological records search and literature review will be conducted with the Los Angeles County Museum of Natural History (LACMNH). The records search will include a review of known fossil localities in the project vicinity and an assessment of the potential for the project site to contain buried paleontological resources based on geologic maps of the region. A summary letter report will be prepared to document the results of the records search. Deliverables include: • Electronic copy of the draft and final cultural resources technical report • Electronic copy of the draft and final paleontological summary letter report It has been assumed that the data required to support and document answers to all other CEQA Initial Study checklist items can be obtained from existing documentation (i.e., City of Lake Elsinore General Plan and associated environmental documentation, floodplain maps, previous environmental documentation in the vicinity of the project site, and other standard environmental references), consultation with City staff, or information being prepared separately by the engineering team and its subcontractors (e.g., geotechnical, hazardous materials, hydrology). ECORP will provide one electronic copy (PDF) of the draft technical studies, delivered by email. After incorporating one round of compiled comments, a final version of the studies will be submitted electronically in PDF form.
OP-2	**Optional Technical Study - Focused Burrowing Owl Surveys**
	If burrowing owl habitat is found to be present on site (including the presence of suitably-sized burrows), then focused burrowing owl surveys will need to be conducted in accordance with Section 6.3.2 of the MSHCP and the MSHCP burrowing owl survey guidelines (County of Riverside 2006). The focused surveys will be conducted according to the guidelines provided in the MSHCP, which requires four focused burrowing owl surveys be conducted between March 1 and August 31. Each of the focused burrowing owl surveys will consist of initially conducting a visual survey of all suitable habitat with special focus on any previously mapped burrows, owl sign and owls, including perch locations, in order to ascertain owl presence. Following the visual survey, the survey for owls and owl sign will then be performed within suitable habitat over the entire project site and the adjacent 150 meters, where accessible.

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	These "pedestrian surveys" will be conducted by walking transects spaced approximately 10 to 30 meters apart in order to achieve 100-percent visual coverage of the ground surface. During the pedestrian surveys, the biologist will record all burrowing owl observations, occupied burrows, and burrows with owl sign (whitewash, pellets, feathers, and bones of prey items) that were not previously identified during the during the focused burrow survey. If live burrowing owls are present, then the biologist will also note the number of individual owls, owl pairs, juveniles, and any behavior, such as courtship and mating. The surveys will be conducted in the morning one hour before sunrise to two hours after sunrise and/or in the early evening two hours before sunset to one hour after sunset during favorable weather conditions (e.g., wind less than 20 miles per hour, temperature less than 90 degrees Fahrenheit). All location data will be described on field data sheets and recorded using a GPS. The results of the focused surveys will be included in a survey results report. The report will describe the survey methodology, survey conditions, and results, including the locations of any burrowing owl observations, occupied burrowing owl burrows, and potential burrows. The report will also include maps depicting the project site, suitable burrowing owl habitat, and the locations of any burrowing owl observations or burrows. Discussion of the survey results in the report will be in accordance with the MSHCP consistency analysis requirements for burrowing owl surveys. A draft version of the report will be submitted electronically for review. After receiving one round of compiled comments, a final version will be prepared and submitted electronically. Deliverables include: • Electronic copy of the draft and final report
OP-3	**Optional Environmental Impact Report (EIR)**
	If the technical studies and IS identify an impact that would remain significant after mitigation (potentially requiring an Environmental Impact Report [EIR]), then ECORP will immediately notify the City/Adams-Streeter to determine if there may be an engineering solution to minimize or avoid the impact. If the impact cannot be reduced to less than significant, an EIR will be required as described in the scope of work below. It is our approach that the majority of the documentation in the EIR will be focused on those issues where more information or analysis was required (e.g. hydrology), and a determination of significance could not be made in the IS. As determined by CEQA, the purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informative document that facilitates a basic understanding of the proposed project, including direct, indirect, and cumulative environmental effects. The EIR also identifies feasible mitigation measures to mitigate significant environmental effects. The City of Lake Elsinore and other agencies will use the EIR to issue permits, agreements, and approvals to implement portions of the project under their respective authorities. A. **Notice of Preparation/Scoping Meeting** **Notice of Preparation:** ECORP will prepare the Notice of Preparation (NOP), soliciting participation in determining the scope of the EIR. The IS will be attached to the NOP. ECORP will distribute thirty (30) copies of the approved IS/NOP package for distribution to the County Clerk, various public agencies whose approval and/or comments are required (Responsible Agencies), agencies with resources affected by the project (Trustee Agencies), and interested parties and groups

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**

	Within the 30-day public review and comment period, Responsible Agencies, Trustee Agencies, and members of the public may provide comments about the EIR contents and the project in general.
	
	Public Scoping Meeting: A public scoping meeting shall be scheduled to help the City further understand community concerns and support for the project. A Public Meeting in an Open House format will be held at the City offices during the 30-day NOP review period. ECORP will plan and facilitate the meeting, provide exhibits, handouts/fact sheets, and refreshments, and provide staff for the sign-in table. At least one of these staff members will be English-Spanish bilingual. We have assumed that the City will schedule (or provide a contact at the City so that ECORP may schedule) the meeting room, and that tables, chairs, etc. will be provided by the City. The ECORP Project Manager and one other technical staff would attend this meeting. We have assumed that City staff and Adams-Streeter will also attend this meeting to answer questions.
	
	B. Administrative Draft EIR
	
	An Administrative Draft EIR will be submitted to the City for review and comment prior to the preparation of the Draft EIR. The EIR will be prepared using technical reports provided by the City and those prepared for the project. The EIR will include the topics for which impacts were identified either as "potentially significant" or "less than significant with mitigation incorporated" in the IS checklist. It is important to carry forward the mitigation required in the IS to the EIR, so that it will be documented in the MMRP. However, it is our approach that the majority of the documentation in the EIR will be focused on those issues where more information or analysis was required, and a determination of significance could not be made in the IS. In addition, the EIR will discuss the extent to which the project promotes growth directly or indirectly.
	
	The EIR will also analyze up to two alternatives: an alternative of less intensive development, and the No Project Alternative. We have assumed that the City/Adams-Streeter would provide any engineering data required for the alternatives development. An *"alternatives considered but rejected"* section will also be included in the EIR. A total of three (3) copies of the Administrative Draft EIR will be provided to the City for review and comment. ECORP is prepared to meet with the City to review the comments. Prior to circulation of the Draft EIR a screencheck copy of the document will be provided to the City for approval.
	
	C. Draft EIR and Notices
	
	After review and comment on the Draft EIR, ECORP will revise the EIR and print sufficient copies for public review. We will also prepare the Notice of Completion (NOC) and Notice of Availability (NOA) to accompany the Draft EIR and for publication in a newspaper of general circulation. We have made the following assumptions regarding document and notice circulation:
	
	• ECORP will print and distribute 31 hard copies and 10 electronic copies of the EIR as follows:
	  ○ Fifteen (15) copies will be sent to the State Clearinghouse
	  ○ Fifteen (15) hard copies and ten (10) electronic copies (PDF and MS WORD formats on compact disc) of the Draft EIR will be provided to the City
	  ○ One (1) hard copy will be provided to the local library

PHASE 1B – CEQA DOCUMENTATION (BY ECORP CONSULTING) - CONTINUED	
TASK	**SUMMARY OF WORK ITEMS**
	• ECORP and the City will develop a list of interested agencies and other interested parties. These agencies/individuals will be mailed a complete copy of the EIR. It is assumed that the list will contain no more than 15 addresses. • The City will provide a list of surrounding property owners. These owners will receive a Notice of Availability, stating that the EIR is available for review at the Community Development Department and at the library. • ECORP will post the NOA with the County Clerk. We have assumed that ECORP will arrange to have the notice published in the newspaper and that the City will pay all fees associated with newspaper publication and with County Clerk filing. **D. Administrative Final EIR/Draft MMRP** ECORP will prepare an Administrative Final EIR, consisting of copies of comment letters received on the Draft EIR, responses to these comments, any errata sheets required based on the comments, and the Draft MMRP. We have assumed that up to 10 comment letters will be received each with an average of four comments, or approximately 40 comments total. Three (3) copies of the Administrative Final EIR and Draft MMRP will be prepared for City review. If necessary, a second round of review and comment on the Administrative Final EIR and Responses to Comments will be scheduled. **E. Final EIR/Final MMRP/Notice of Determination** After City comments on the Administrative Final EIR and Draft MMRP, ECORP will prepare the Final EIR, MMRP, and the Notice of Determination (NOD). We will file the NOD with the County Clerk and mail the Final EIR to the required agencies and individuals. We have assumed printing of ten (10) Final EIRs. We will also prepare ten (10) electronic copies for the City in PDF and MS WORD formats on compact discs. We have assumed that the City will pay all filing fees associated with the County Clerk. **F. Statement of Overriding Considerations/Findings** If necessary, ECORP will prepare a Statement of Overriding Considerations and Findings. One draft copy and one final copy will be submitted to the City.

PHASE 2 - FINAL ENGINEERING	
TASK	**SUMMARY OF WORK ITEMS**
1.	**Meetings, Project Management and Coordination**
	A. Project management and governmental coordination, including with the City's project administrator / project manager and the City's Engineering Department preparing the Downtown Streets Paving Phase II Project. B. Pre-Design meeting to discuss design objectives pertaining to the selected design alternative, as approved by City Council. C. Subsequent collaboration conference calls and coordination in the process of finalizing the project construction documents.
2.	**Final Construction Documents**
	Prepare construction documents for the following items. Plan revisions and submittals is anticipated to include the initial geometric drawing base sheet submittal and subsequent 65%, 95% and 100% (final) plan submittals. The type of plans anticipated for the project includes: A. Grading and Drainage Plans B. Street Improvement Plans C. Erosion Control Plans D. Bid Schedule, Special Provisions and Technical Specifications E. Itemized Cost Estimates F. Storm Water Pollution Prevention Plan (SWPPP) G. Optional – Water Quality Management Plan (not anticipated)
3.	**Design Topographical Survey**
	A. Perform design survey pertaining to the locations of the selected design alternative. Detailed survey of surface features and grades, etc., will be provided to support final engineering design.
4.	**Plats and Legal Descriptions**
	A. Prepare plats and legal descriptions pertaining to the locations of the selected design alternative that identifies the boundaries of improvements within existing right-of-way and property boundaries. Up to five plats and corresponding legal descriptions are assumed for budgetary purposes.

PHASE 3 – BID AND CONSTRUCTION SUPPORT	
TASK	**SUMMARY OF WORK ITEMS**
1.	**Bid and Construction Support**
	A. Attend a pre-bid meeting. B. Respond to Contractor request for plan or other bid-related clarifications. C. Review Request for Information (RFI) during the construction phase and provide written responses for plan and/or other clarifications and/or recommendations.

E. PROJECT SCHEDULE

A comprehensive Critical Path Method (CPM) schedule is provided on the following page in 11" x 17" format that describes the nature and scheduling of proposed tasks based on the following RFP-stipulated milestones for the project:

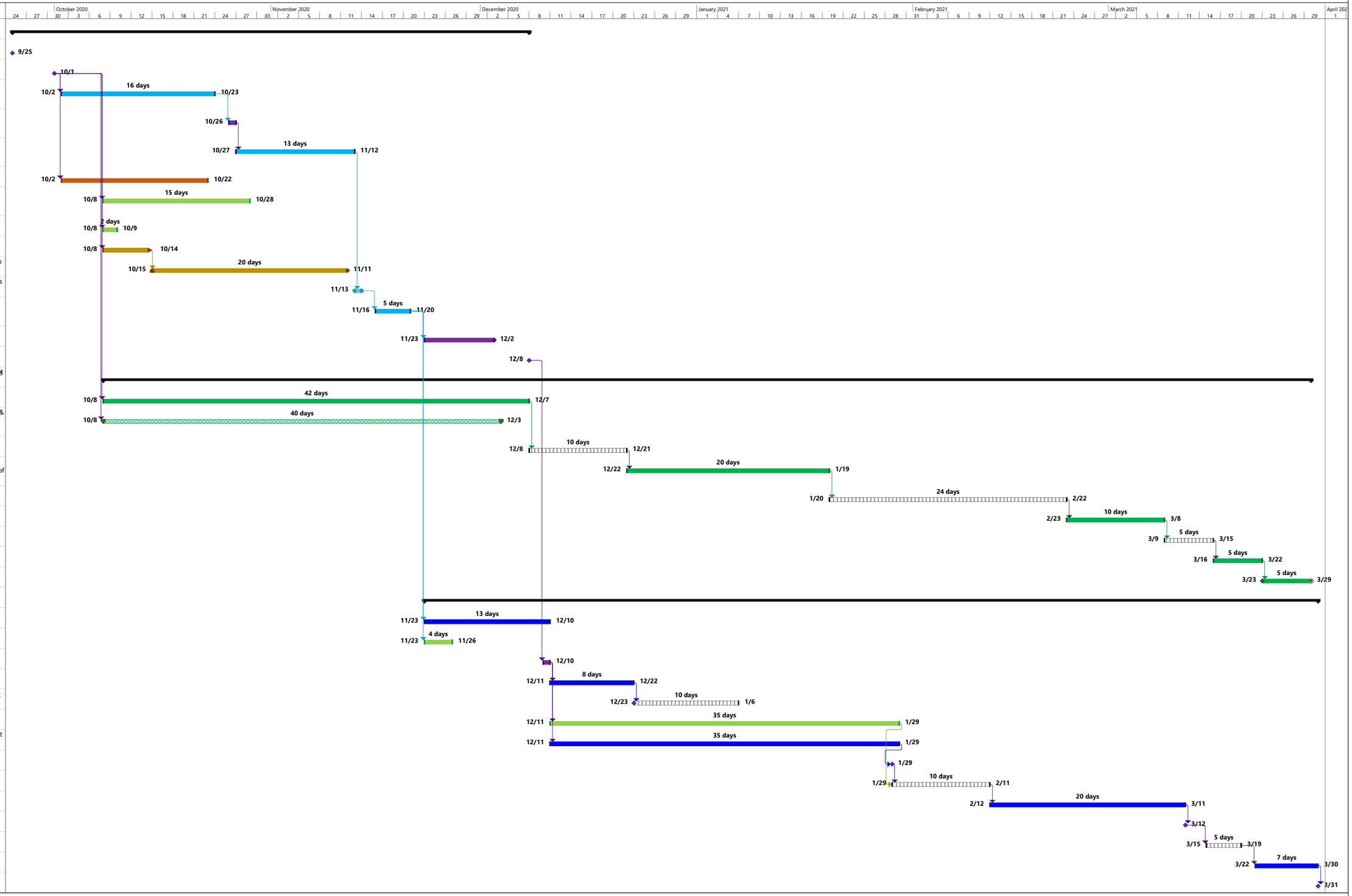
- ♣ Issuance of Notice-to-Proceed — 9/25/2020
- ♣ City Kick-off Meeting — 10/1/2020
- ♣ 65% Level Plan Completion — By January 2021
- ♣ Overall Project Completion — Prior to April 2021

Per the RFP-stipulated milestones, an accelerated schedule for project is required in order for the project to be completed prior to April 2021. Additional streamlining of the schedule was further necessitated in consideration of the approaching holiday season encompassing the Thanksgiving, Christmas and New Year holidays. The project kick-off date and the requirement for the 65% level plans to be completed by January 2021 also dictates the 12/2/2020 City Council meeting date indicated for the approval of the drainage concept alternative. Per the City's calendar, the second City Council meeting on 12/22/2020 has been cancelled. The CPM schedule as is currently shown suggests that no advancement or postponement can be made to the 12/2/2020 City Council meeting date without compromising the RFP-stipulated milestones.

The anticipated CEQA process (IS/MND) for the project is of particular concern as it would generally require the entire six months of project duration to complete, in consideration of the non-working days associated with the holiday season. Because of the limited timeline prescribed for the project, the CEQA process must be initiated close to the beginning of the project to allow sufficient time to perform the Technical Studies (and subsequent processes) which includes the Biological Resources Assessment and Cultural Resources Study. Based on the current CPM schedule, the study areas required for the Technical Studies should be identified by 10/8/2020 to ensure completion of the CEQA process prior to April 2020. Further, our environmental team subconsultant (ECORP Consulting) was recently notified by several Information Centers of the California Historical Resources Information System of expected delays in processing or scheduling records search requests as a result of the COVID-19 pandemic and the effect it is having on staffing levels and Information Center closures. This could be another factor that could potentially affect the overall CEQA schedule that is not within the team's control. In order to adhere to the CEQA schedule to the best of our team's ability, considerable initial efforts were made by the team to identify potential drainage concepts and locations based on currently available information. These initial concepts as summarized in this Proposal can be further vetted with City staff at project initiation in the attempt to determine the required CEQA study areas as quickly as possible in order to get the Technical Studies initiated.

THE "AVENUES" DRAINAGE AREA STUDY AND DRAINAGE IMPROVEMENTS DESIGN, PROJECT NO. Z10000

ID	Task Name
1	**PHASE 1A - PRELIM. ENGINEERING**
2	Notice to Proceed (NTP)
3	Kick-off and Initial Collaboration Meeting
4	MPD Review/Drainage Study/Drainage Alternatives & Estimates - Initial Draft
5	Collaboration Meeting to Review Alternatives with City Staff
6	MPD Review/Drainage Study/Drainage Alternatives & Estimates - Final
7	Utility Notification, Information Request and Coordination
8	Initial Research, Base Mapping of Property and Right-of-Way Verification
9	Initial Field Survey Verifications
10	Geotechnical Field Drilling & Testing
11	Geotechnical Lab Testing, Analysis & Report
12	Submittal of Drainage Alternatives and Estimates
13	City Review, Collaboration on Alternatives, Materials for CC Report, etc.
14	CC Report Preparation (By City Staff)
15	City Council Approval
16	**PHASE 1B - CEQA DOCUMENTATION**
17	Administrative Draft IS/MND and Project Description
18	Biological Resources Assessment & Cultural Resources Study
19	City Review
20	Prepare and Distribute Draft IS/MND, Notice of Intent/Notice of Completion
21	Public / Agency Review
22	Administrative Final IS/MND & MMRP
23	City Review
24	Final IS/MND & MMRP
25	Notice of Determination (NOD)
26	**PHASE 2 - FINAL ENGINEERING**
27	Initiate Geometric Drawing Base Sheets
28	Design Topographical Survey
29	Pre-Design Meeting
30	Finalize Geometric Drawing Base Sheets
31	1st Submittal - Geometic Drawing Base Sheets
32	Preparation of Legals and Plats
33	Preparation of 65% Plans and Cost Estimates
34	2nd Submittal - 65% Plans and Estimates
35	City Review of 2nd Submittal 65% Plans and Estimates
36	Preparation of 95% Plans, Estimates and Specs.
37	3rd Submittal - 95% PS&E
38	City Review of 3rd Submittal 95% PS&E
39	Preparation of Final PS&E
40	Final PS&E Submittal for CC Approval and Bid Advertisement



F. NON-COLLUSION AFFIDAVIT FORM (RFP ATTACHMENT 3)

NON-COLLUSION AFFIDAVIT FORM

Must be executed by proposer and submitted with the proposal

I, Randal L. Streeter (name) hereby declare as follows:

I am President (Title) of Adams-Streeter Civil Engineers, Inc. (Company)

the party making the foregoing proposal, that the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the proposer has not directly or indirectly induced or solicited any other proposer to put in a false or sham proposal, and has not directly or indirectly colluded, conspired, connived, or agreed with any proposer or anyone else to put in a sham proposal, or that anyone shall refrain from proposing; that the proposer has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price of the proposer or any other proposer, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other proposer, or to secure any advantage against the public body awarding the agreement of anyone interested in the proposed agreement; that tall statements contained in the proposal are true; and, further, that the proposer has not, directly r indirectly, submitted his or her proposal price or any breakdown thereof, or the contents thereof, or divulged information or data relative hereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, proposal depository, or to any member or agent thereof to effectuate a collusive or sham proposal.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Proposer Signature: 

Proposer Name: Randal L. Streeter

Proposer Title: President

Company Name: Adams Streeter Civil Engineers, Inc.

Address: 16755 Von Karman Avenue, Suite 150, Irvine, CA 92606

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RFP- The Avenues
Drainage Area Study and Drainage Improvement Design
City of Lake Elsinore

G. FORM OF AGREEMENT

ASCE concurs with the terms of the RFP and Professional Services Agreement (PSA) with certain exceptions to the indemnification clauses as it applies to the California Civil Code Section 2782.8, as shown below. Modifications to the clauses shown are provided as suggestions for the City's consideration as we understand that the City does not ordinarily allow modifications to the standard agreement when contracting for services from outside firms. ASCE also understands that any language modifications and/or waivers to certain exceptions, if allowed, will be subject to the City Attorney's determination and approval.

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15. Indemnity. In accordance with Civil Code 2782.8, Consultant shall indemnify, ~~defend~~, and hold harmless the City and its officials, officers, employees, agents, and volunteers from and against ~~any and all~~ losses, liability, claims, suits, actions, damages, and causes of action arising out of any personal injury, bodily injury, loss of life, or damage to property, or any violation of any federal, state, or municipal law or ordinance, to the extent caused by and only in direct proportion to Consultant's negligence, ~~in whole or in part, by the willful~~ misconduct or negligent acts or omissions of Consultant or its employees, subcontractors, or agents, by acts for which they could be held strictly liable, or by the quality or character of their work. The foregoing obligation of Consultant shall not apply when (1) the injury, loss of life, damage to property, or violation of law arises from the sole negligence or willful misconduct of the City or its officers, employees, agents, or volunteers and (2) the actions of Consultant or its employees, subcontractor, or agents have contributed in no part to the injury, loss of life, damage to property, or violation of law~~. It is understood that the duty of Consultant to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code~~. Acceptance by City of insurance certificates and endorsements required under this Agreement does not relieve Consultant from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall apply to any damages or claims for damages whether or not such insurance policies shall have been determined to apply, but only in direct proportion to Consultant's negligence. By execution of this Agreement, Consultant acknowledges and agrees to the provisions of this Section and that it is a material element of consideration.

APPENDIX

Randal L. Streeter, PE

Title
President / Principal-In-Charge

Experience
43 Years

Education
Bachelor of Science in Civil Engineering, University of California, Long Beach (1971)

Registration
Registered Civil Engineer, California
R.C.E. 25083 (1975)
Registered Civil Engineer, Arizona
R.C.E. 25846 (1992)

Experience Summary: Mr. Streeter is President and Principal-in-Charge of Adams Streeter Civil Engineers. His over 43 years of experience covers all aspects of civil engineering design including land planning, due diligence, governmental processing and engineering design encompassing site grading, roadway, sewer, water and storm drain improvements. Mr. Streeter has managed numerous projects ranging from City/County public works improvements to land development projects that encompasses roadways, utility infrastructure, parks and recreational facilities, low-income housing, master planned residential communities and subdivisions, office and industrial parks, schools, and commercial/retail shopping centers. He is also a member of the American Society of Civil Engineers (ASCE), the Consulting Engineers and Land Surveyors of California (CELSOC) and the Orange County Chapter of the Building Industry Association (BIA). His background includes, but is not limited to the following:

- **Public Works Improvements:** Public facilities including streets, parkways, parking lots, retaining walls, underground utilities (storm drain, sewer, water), public parks and recreational facilities, trails, and other facilities.
- **Community and Housing Development:** Master-planned communities, single-family residential, high-density residential (apartments and condominiums), infill redevelopments, university campus housing and recreational facilities involving due diligence, entitlements, plotting and layout studies, cost analysis, dry and wet utility relocations, site grading and earthwork, underground infrastructure design (storm drain, sewer, water), community parks and recreational facilities.
- **Commercial and Industrial Development:** Mixed-use business centers, offices, libraries, retail and shopping centers, hotels, restaurants, warehouses, aerospace complex and other facilities involving plotting, layout studies and traffic circulation, cost analysis, dry and wet utility relocations, surface and underground infrastructure improvements, site grading and earthwork.

HIGHLIGHTED PROJECTS

UNIVERSITY HILLS COMMUNITY CENTER
IRVINE CAMPUS HOUSING AUTHORITY (ICHA)

The University Hills Community Center located within the campus of the University of California, Irvine is one of many recreational amenities developed by the Irvine Campus Housing Authority for faculty and residents to enjoy. This facility includes ICHA's offices, rooms for events and activities, a social center, media room, fireplace, a courtyard with outdoor seating, open turf areas, and a facility parking lot. Design of the facility were performed in coordination with Leason Pomeroy, one of Orange County's leading architects to realize ICHA's vision in serving the University Hills community. Final engineering plans encompass site layout, grading, street, parking lot, and utility infrastructure improvements (sewer, water and storm drain). Construction staking for building foundations, site grading, hardscape, roadway, underground utilities, and architectural features were also performed in support of project construction.

CORONA DEL MAR PLAZA AND RETAIL CENTER
THE IRVINE COMPANY

The Corona del Mar Plaza is located off Pacific Coast Highway and MacArthur Boulevard in the seaside community of Corona del Mar. Mediterranean architecture sets the scene for stores and restaurants such as Tommy Bahama's Island Grille, Bristol Farms, Gulfstream, Whole Foods, Sprinkles Cupcakes, Chico's, and others. Preliminary engineering and entitlement documents including off-site master-plan drainage studies for the project was initially prepared, and followed by final engineering plans to support site grading and the construction of streets, parking lots, and utility infrastructure (sewer, water and storm drain). Public improvements include the widening of MacArthur Boulevard and extensive improvements to an off-site regional storm drain system to accommodate drainage from the Corona del Mar Plaza, Fashion Island and Newport Center developments.

Title
Director of Municipal Services & Senior Project Manager

Years of Experience
32

Education
Bachelor of Science in Civil Engineering, Oklahoma State University Stillwater, Oklahoma

Registration
Registered Civil Engineer, California R.C.E. 60131
Qualified SWPPP Developer / Practitioner (QSD/QSP) Certificate No. 20862

Experience Summary: A seasoned professional with extensive and rounded experience in the civil engineering profession and construction industry, encompassing practice in both private and public sectors. Mr. Tan possess practical and hands-on knowledge in programming, management and administration of municipal Capital Improvement Programs and Projects, and adapt in civil engineering design, project management and construction management. A demonstrated leader in managing projects and directing of staff and design teams for successful and timely completion of projects. His broad background includes, but is not limited to:

- **Public Works and Utilities Engineering:** Planning, administration, engineering design and management of projects related to new and existing public and private facilities involving the improvement of arterial/local streets and parkways, open space, parks, trails and recreational facilities, residential/commercial/industrial facilities, storm drainage and water quality facilities, sanitary sewer, and domestic and recycle water facilities.
- **Municipal Engineering:** Planning, administration and management of City Capital Improvement Programs (CIPs) necessary for the implementation and funding of Public Works and Community Services related projects requiring programs administration, programming, infrastructure assessments, funding determination, project management, grant administration, public process (council, commissions, outreach and workshops), engineering design, project and contract administration, construction bid administration, construction management and inspection.
- **Development Engineering:** Residential, commercial, industrial and other site development projects involving due diligence, entitlements, planning, layout studies, cost analysis and technical design involving traffic, transportation, storm drainage, sanitary sewer, domestic and recycled water, site grading and earthwork, hydrology and hydraulic analysis, water quality determination, site inspections and certification, utility relocations and plan checking.
- **Transportation and Traffic Engineering:** Transportation facilities for public and private entities related to interstate, highway, corridor, interchange and intersection improvements, signalization and ramp metering, traffic signing, striping and channelization improvements, stage construction and traffic control, traffic studies, capacity and progression analysis.

HIGHLIGHTED PROJECTS

VERDUGO STREET BEAUTIFICATION PROJECT | CITY OF SAN JUAN CAPISTRANO

The Verdugo Street Beautification Project provides an inviting street corridor that creates a sense of arrival for visitors arriving by train, as well as those parking and walking to restaurants, the movie theatre and shops downtown. The project site is located in the heart of the City's Historic Town Center by the San Juan Capistrano Metrolink train depot and east of the historic Los Rios district. The City's vision for this popular downtown destination was realized through a reduced width streetscape and widened sidewalks for a pedestrian focused experience that allows for sidewalk dining and temporary street closures during special events. Streetscape enhancements include rolled curbs, decorative sidewalk pavers, crosswalk pavers with color band accents, street bulb-outs, street trees, planter pots, planters, bollards, enhanced street lights, bistro lighting, and street furniture. Enhancements at the plaza area by the Metrolink train depot includes a shade structure, seating, planters, plaza clock, and various Metrolink safety improvements with provisions for a future digital information display board.

PHILLIP S. PAXTON EQUESTRIAN CENTER | CITY OF YORBA LINDA

Phillip Paxton Equestrian Center resides within an existing flood facility (Yorba Linda Reservoir) owned by the Orange County Flood Control District (OCFCD) through an existing Rights Lease Agreement with the City of Yorba Linda. An initial site evaluation was performed to determine the feasibility of proposed facility improvements which include a site topographic survey, preliminary grading study, and an alignment / turning movement study to convert an existing pedestrian ramp / walkway connecting the lower and upper parking lot areas into a vehicular ramp for equestrian trailers. Final construction plans, special provisions and cost estimates were provided as part of the bid documents to facilitate the construction of the vehicular ramp, equestrian arena expansion, driveway widening including retaining walls, drainage modifications, and conversion of a ramped dirt trail leading to the equestrian arena into a ramped paved roadway in conjunction with hardscape, landscape and irrigation modification plans by the project landscape architect.

Mohammad M. Abadi, PE

Title
Senior Project Manager

Experience
35 Years

Education
Bachelor of Science in Civil Engineering, University of California, Irvine

Registration
Registered Civil Engineer, California R.C.E. 42615

Experience Summary: A seasoned civil engineering professional with extensive project management and engineering design experience that ensures a thorough analysis of project parameters, design options and ramifications. Mr. Abadi has been providing outstanding service to public agencies and private entities for over thirty-five years. Throughout his tenure at Adams Street since 1988, Mr. Abadi has designed and supervised a wide variety of projects in the SoCal region ranging from public works to private development projects, and has specific expertise in the area of drainage, hydrology, hydraulics and water quality in support of the various engineering design projects. His background includes, but is not limited to the following:

- **Public Works and Utilities Engineering:** Management and design of projects related to public facilities such as streets, parking lots, retaining walls, storm drainage and water quality, sanitary sewer, domestic and recycle water facilities, public parks, trails, recreational and other facilities.
- **Community and Housing Development:** Planning, management and design of master planned communities, single family residential, high-density residential (apartments and condominiums), infill redevelopments, university campus housing and recreational facilities involving due diligence, entitlements, plotting and layout studies, cost analysis, dry and wet utility relocations, underground infrastructure design (storm drainage, sanitary sewer, domestic, recycled and fire water), design of parks and recreational facilities, site grading and earthwork, site inspections and certifications.
- **Commercial and Industrial Development:** Site development (new and infills) and design of mixed-use business centers, offices, libraries, retail and shopping centers, hotels, restaurants, warehouses, aerospace complex and other related facilities involving plotting, layout studies and traffic circulation, cost analysis, dry and wet utility relocations, surface and underground infrastructure improvements, site grading and earthwork, inspections and certifications.

HIGHLIGHTED PROJECTS

GLASSELL CAMPUS LID RETROFIT PROJECT | ORANGE COUNTY PUBLIC WORKS

A Proposition 84 grant funded project that showcases the transformation of an existing 9.4-acre industrial/commercial site into a state-of-the-art MS4 compliant stormwater capture, treatment, outreach and research center located on Glassell Street and Bristol Lane in the City of Orange. The project restored the pre-development hydrologic conditions by constructing various LID BMPs such as porous asphalt, porous concrete, porous pavers, bio-remediation swales and planters, media filter, modular wetlands, above-ground cistern and subterranean water storage structures. The project also required extensive re-construction of the existing parking lots and the County's paved maintenance yard facility. The project received two achievement awards, one from the American Public Works Association (APWA) and the other from the American Society of Civil Engineers (ASCE).

THE BOEING COMPANY | HUNTINGTON BEACH, LONG BEACH AND SEAL BEACH FACILITIES

A multitude of on-call projects since the 1990's to the present for the Boeing Company involving facilities primarily at the Huntington Beach and Long Beach locations, but including the Seal Beach facility ranging from the redevelopment of the industrial subdivision encompassing over 307 acres of improvements for the McDonnell Center Business Park to more recent projects to support the re-purposing and sale of existing properties and facilities. Projects include site planning, design of new parking lots, reconfiguration and rehabilitation of parking lot, site grading, property development and redevelopment, street improvements, utility infrastructure improvements (sanitary sewer, sewer pump station, domestic water, storm drainage), hydrology and hydraulic analysis, survey/mapping (topographic surveys, construction staking, ALTA surveys, boundary surveys, parcel maps, and easements).

Title
Director of Surveying

Experience
31 Years

Education
Bachelor of Arts in Psychology, California State University, Long Beach
GPS Certificate Program, University of California, Riverside

Registration
Professional Land Surveyor, California PLS 7732

EXPERIENCE SUMMARY:

A highly experienced survey manager and field surveyor with extensive experience in performing a wide variety of surveys including for, but not limited to topographic surveys, ALTA surveys, boundary surveys, aerial surveys, GPS surveys, construction surveys and volume computation surveys. Mr. Burney is responsible for daily survey crew operations that includes work scheduling, field crew calculations, management of equipment and material purchases. He is also responsible for managing survey contracts, budgets, providing job cost estimations, acts as a liaison between the surveying and engineering departments to ensure proper coordination of projects, and assist the mapping department with map exhibits, revisions and technical support. Mr. Burney possess a strong knowledge and competency in Autodesk's Civil 3D and Land Development Desktop software programs, including for integrated Leica and Trimble instrumentation with AutoCAD to yield higher survey productivity, and performing coordinate geometry (COGO), digital terrain modelling (DTM), and earthwork calculations. His background includes, but is not limited to the following:

- **Public Works Facilities:** Aerial targets, ground controls, site topographic / design surveys, boundary surveys, construction staking and verifications, right-of-way surveys, ties and monumentation, base mapping and other related work to support engineering design and construction of public facilities and infrastructure improvements, including for streets, sewer, water, storm drainage, buildings and structures, parks, open space, trails, dry utilities, etc.
- **Land Property Development:** Land development related surveys for residential, commercial, industrial and in-fill projects that commonly includes aerial targets, ground control, boundary survey, subdivision survey, ALTA survey, site topographic / design surveys, construction staking (mass grading, rough grading pads, precise grading, streets, storm drain, sewer, water, etc.), grading certifications, monumentation, and grading earthwork quantity verifications.

HIGHLIGHTED PROJECTS

LAMBERT RANCH, ORCHARD HILLS DEVELOPMENT FOR THE NEW HOME COMPANY

The Lambert Ranch 50-acre master planned development in the Portola springs area of Irvine boasts 169 classic architecture single family residential homes with abundant gardens, parks and landscaping through the incorporation of meaningful *Feng Shui* principals. Lambert Ranch extends through three distinct but connected neighborhoods that is thematically derive from the historical origins of the ranch; "The Field", "The Grove" and "The Hill". The northern portion of the project named "The Hill" features single loaded streets with manufactured slopes between terraced building pads. This portion of the project is substantially elevated above the rest of the project and has unobstructed views of the ocean. The site features a community recreation center with the amenities of a swimming pool, wading pool, spa, and fountain. Integrated within the open space areas are three pocket parks with landscape amenities, tot-lot with playground equipment and restroom facilities.

SKYRIDGE DEVELOPMENT AND EL TORO ROAD WIDENING FOR CALATLANTIC HOMES

SKYRIDGE is a 28-acre, 84-lot residential development project nestled in a hillside setting along the northerly boundaries of the City of Mission Viejo. This hillside development offers a large number of view lots with Saddleback Mountain as an idyllic backdrop, which was made possible by addressing sites topographical and geological unique characteristics, and through efficient grading operations. The SKYRIDGE development was also performed in conjunction with the widening of the El Toro Road arterial from Glen Ranch Road to beyond Cielo Entrada as part of off-site roadway improvements that includes pavement grinding and overlay, curb & gutter and sidewalk construction, reconfiguration of pavement delineation, and miscellaneous parkway improvements.

Title
Mapping Director

Experience
37 Years

Education
Rancho Santiago College
County of Orange, California.

Experience Summary: Ms. Martinez has been a mapping professional working in the civil engineering field for over thirty-seven years. She has broad mapping experience encompassing projects in various Southern California counties including Orange, Los Angeles, San Bernardino, Riverside, San Diego and Ventura and excels in performing records and title research, boundary analysis, title report due-diligence, and preparing lot line adjustments, easement exhibits, legal descriptions, Record of Surveys, A.L.T.A. surveys, final parcel maps and tract maps. She also has excellent skills in coordinating and processing mapping related documents with local counties, cities, state agencies, utility companies and title companies. Ms. Martinez continually keeps current with the mapping industry and attends seminars through Consulting Engineers & Land Surveyors of California (CELSOC) for Subdivision Map Act updates. She is currently serving as the firm's Mapping Director and works closely with the surveyors and engineers in performing various mapping analysis and preparing mapping and legal documents. Her background includes, but is not limited to the following:

- **Public Works Improvements:** Title and records research, boundary analysis, base mapping, right-of-way & easements verification and exhibits, legal descriptions, base mapping, lot line adjustments, ALTA maps and other related work to support engineering design for construction of public facilities and infrastructure improvements.

- **Land Property Development:** Title and records research, entitlements, boundary and property analysis, subdivision mapping, right-of-way / easements verification and exhibits, legal descriptions, base mapping, lot line adjustments, street and property monumentation, ALTA. maps, parcel maps, tract maps, final maps and other related work to support residential, commercial and industrial related developments.

HIGHLIGHTED PROJECTS

TRI-POINTE HOMES AT ESENCIA, PLANNING AREA 2.2 | TRI-POINTE HOMES / RANCHO MISSION VIEJO COMPANY

Adams Streeter assisted the Rancho Mission Viejo Company in providing engineering design for sanitary sewer, domestic water and storm drain improvements for this 72-lot hillside single family residential development located at the MR24 site within Planning Area 2.2. Adams Streeter was involved in the design and construction of five (5) tracts within this planning area that consisted of a total of fifteen (15) separate tracts. New infrastructure includes streets, domestic water, reclaimed water, sanitary sewer, storm drain facilities, rough and precise grading. Sewer and water plans were designed in accordance with Santa Margarita Water District (SMWD) standards and specifications. This project was designed and approved in early 2018. Project construction commenced in late 2018 and was completed recently, in late 2019.

FACULTY HOUSING AT UNIVERSITY HILLS, PLANNING AREA 11-1 | IRVINE CAMPUS HOUSING AUTHORITY

Adams Streeter assisted the Irvine Campus Housing Authority (ICHA) in providing engineering design for sanitary sewer and water improvements for Phase 1 of 5 phases of the faculty housing at University Hills Planning Area 11-1, a residential development situated in Irvine at the northwest corner of Bonita Canyon Drive and Shady Canyon Drive. The Irvine Campus Housing Authority essentially functions as their own "municipality" which builds and maintains their own infrastructure. This particular phase connected two other neighborhoods of multi-family residential phases; one to the south and one to the west. The northerly phases continued to be single family residential. In addition to water improvement plans, Adams Streeter also provided the design for a recycled water system for irrigation and the water system connection to the community pool for this 50-lot neighborhood. This project was designed and approved in late 2017. Construction commenced in early 2018 and was completed the same year

KARLOS MARKOUIZOS, RCE, PRINCIPAL ENGINEER

Mr. Markouizos has over 30 years of engineering and management experience on numerous public works, residential and commercial projects in Southern California. His has worked with the County of Orange, County of Riverside, and other local county and city agencies and utility companies. He has considerable experience with field exploration and monitoring, field and laboratory soil testing, grading and earthwork, slope stability analysis, design of shallow and deep foundations, liquefaction and settlement analysis, structural pavement design, and flood control and utility improvements.

Prior projects include the development of hillside and flatland sites up to 4,000 acres; infrastructure projects have included main arterials/state highways, vehicular bridges and pedestrian bridges; and drainage projects have included large buried and above ground tanks, channel improvements, basin construction, and cistern construction. Some special design aspects of projects by Mr. Markouizos have included design support of temporary and permanent shoring for large excavations, retaining walls, bridges and parking structures. Representative projects on which Mr. Markouizos has worked include:

Summerly Recycled Waterline, Lake Elsinore: Field exploration, soil testing, design and construction services for a 30-inch waterline for the Elsinore Valley Municipal Water District. The new line extended over 5,000 linear feet and included a crossing under the San Jacinto River which required 35- to 50-foot deep jack and bore pits. Excavations and dewatering during construction showed very permeable soil conditions.

City of Corona/Corporate Yard Infiltration Ponds: City on-call improvement project consisting of geotechnical exploration and infiltration study within an existing 3.4-acre infiltration pond. NMG provided geotechnical review and field percolation testing to evaluate soil layers below the basin. Percolation testing was performed at depths between 5 and 20 feet to assist in design of basin reconfiguration and grading to achieve increased infiltration performance.

Veterans Park Storm Water Diversion and Infiltration, Redondo Beach: Field exploration including borings and in-situ percolation testing for proposed storm drain improvements and a network of subterranean infiltration galleries. The exploration involved city encroachment permitting and exploration and testing within an active/existing public park. Percolation testing was governed by County of Los Angeles Guidelines. The project included a feasibility study and development of a design infiltration rates.

Tustin Legacy, City of Tustin, California

Geotechnical investigation, review of grading and improvement plans, including design for replacement of an earthen channel with a concrete box structure along Barranca Parkway (Von Karman Ave to Redhill Ave). Geotechnical services include evaluation of roughly two million cubic yards of import material, observation of demolition of pre-existing utilities, evaluation of soft alluvial deposits, shallow groundwater conditions, design of embankment surcharge and settlement monitoring. street and utility construction.

Education

California State University, Long Beach, Long Beach, California
B.S. Civil Engineering
Carnegie-Mellon University, Pittsburgh, Pennsylvania
Graduate Study Civil Engineering

Registrations

Civil Engineer – California
License # RCE 50312

Professional Affiliations

American Society of Civil Engineers ASCE
California Geotechnical Engineers' Association
International Society of Soil Mechanics and Foundation Engineering
Epsilon, National Honor Society

Thomas Holm, AICP

Senior Environmental Planner/Project Manager

Mr. Holm offers over 38 years of diverse group management and environmental planning experience on a variety of environmental, natural resource and regulatory compliance projects. He has been actively involved in broad-based NEPA and CEQA-related projects throughout Southern and Central California including transportation corridors and highways, water resources projects, major public works and infrastructure, and master-planned communities.

Education

M.A., Urban and Regional Planning, University of California, Los Angeles
B.A., Political Science, University of California, Irvine

Registrations, Certifications, Permits and Affiliations

- American Institute of Certified Planners (AICP)
- Board Member, Natural History Foundation of Orange County
- Former Planning and Transportation Commissioner, City of Mission Viejo

Professional Experience

The Preserve Master Plan Program, Chino. Mr. Holm served as project director for City of Chino Master Plan program for 5,400 acres formerly in the Chino Valley Dairy Preserve and San Bernardino Agricultural Preserve.

Prado Basin Constructed Wetlands EA –Orange County Water District. Project Manager. Mr. Holm prepared IS/EA leading to MND/FONSI for 43-acre system of natural channels diverting and treating Santa Ana River flows to remove nitrates in conformance with basin water quality and habitat enhancement objectives.

As Needed Environmental Services – South Coast Water District. Orange County. Project Director. Mr. Holm supervised as-needed environmental consulting services projects including CEQA documentation, surveys and permitting for the District. CEQA projects included San Juan Creek Property Facilities Master Plan Program EIR and Groundwater Recovery Facility.

On Call Environmental Services –Los Angeles Department of Water and Power. Project Director. Mr. Holm coordinated technical studies and an Initial Study/Environmental Assessment (IS/EA) for LADWP's proposed facility improvements at its Van Norman Complex (VNC) in the north San Fernando Valley.

Laguna Canyon to PCH Storm Drain Alternatives EIR – City of Laguna Beach. Project Manager. Mr. Holm prepared programmatic EIR evaluating three alternative alignments for construction of a triple 9'x9' RCB storm drain under City streets through downtown Laguna Beach to the Pacific Ocean.

Urban Runoff Management Plan, Orange County. Resources Planner. Performed resources inventory, baseline studies and preliminary environmental assessment to support conceptual design and location of creek protection and enhancement features for Aliso Creek and Wood Canyon drainages.

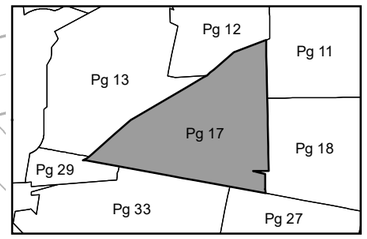
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

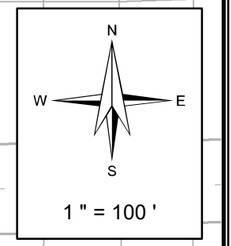
POR. W 1/2, SEC. 8, T.6S., R.4W.

TRA 005-017
005-043

373-17

17-18





Legend
- Lot Lines
- Right-Of-Way
- Old Lot Lines
- Reference R.O.W
- Other Easements
- Lease Area
- Subdivision Tic Mark

Date	Old Number	New Number
4/1/1979	176-918,18	19
7/1/1979	174-11	25,ST
12/1/1980	172-15	27,ST
4/1/1981	173-3	12
4/1/1981	173-4	13
4/1/1981	173-5	14
12/1/1982	176-5,6	20
1/1/1984	171-4	7,8
9/1/1985	176-12	176-21,22
1/1/1986	176-11,21	23
1/1/1986	176-23	24,25
2/1/1986	172-12	28,ST
9/1/1986	15,16	176-27
3/1/1990	1,ST	171-9
4/2/2012	173-8,9	15
12/28/2017	172-23	29,30
12/28/2017	172-24	31,32
12/28/2017	172-29,31	33
12/28/2017	172-30,32	34

Map Reference
MB 11/21 COUNTRY CLUB HEIGHTS UNIT 2

ASSESSOR'S MAP BK373 PG.17
Riverside County, Calif.

arrodrig

Feb 2018

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

SEC. 8 T.6S, R.4W

CITY OF LAKE ELSINORE

TRA 005-017
005-043

373-18

17-19

BLK 1 181

BLK 1 183

BLK 2 184

ACACIA ST.

LAKE ST.

PARK WAY

LAKESHORE DR.

AVENUE 1

AVENUE 2

AVENUE 3

CCH1

CCH6

EHI

AT & T SF RR

SBE 804-33-33 H PAR 25

MRO

3.00 AC ML

POR LOT 5

TRA 005-043

TRA 005-017

N

W E

S

1 " = 100 '

Legend

- Lot Lines
- Right-Of-Way
- Old Lot Lines
- Reference R.O.W
- Other Easements
- Lease Area
- Subdivision Tic Mark

Date	Old Number	New Number
1/1/1974	185-27	185-40,ST
6/1/1975	181-8,9	181-13
7/1/1976	182-5,6	182-30
8/1/1976	182-2,3	185-41
1/1/1977	181-1	1-7,ST
1/1/1977	181-2	14,ST
1/1/1977	181-3	15,ST
1/1/1977	181-4	16,ST
10/1/1977	185-17-19	43-45,ST
11/1/1977	184-07	19,ST
1/1/1979	183-8	18,ST
1/1/1979	183-9	19,ST
1/1/1979	183-11	20,ST
1/1/1979	183-12	21,ST
4/1/1979	185-39	46
2/1/1980	185-43,45	47
3/1/1980	182-11,12	31
4/1/1980	185-31,32	48
8/1/1980	182-2	33,ST
8/1/1980	182-1	32,ST
1/1/1981	184-12	20,ST
10/1/1981	181-5	18,ST
10/1/1981	181-6	19,ST
4/1/1984	185-14,15	49
4/1/1985	182-7,8	34
1/1/1986	185-11,13	51
1/1/1986	185-4,5	50
1/1/1986	51	52,53
6/1/1988	182-3,4	182-5
9/1/1989	182-35	36,ST
3/1/1990	182-36	37,ST
9/1/1990	182-34	38,39
3/1/1991	182-30	40,41
12/1/1993	184-13	21,ST
4/1/1998	373-48	55,56
11/2/2007	185-8-10	185-57
3/26/2009	184-11	22,ST
9/9/2010	185-6,7	58

Pg 11 | Pg 17 | Pg 18 | Pg 19 | Pg 20 | Pg 27 | Pg 26

Map Reference

MB 12/62	ELSINORE HEIGHTS TR UNIT NO 1
MB 11/18	COUNTRY CLUB HEIGHTS UNIT NO 1
MB 12/68	COUNTRY CLUB HEIGHTS UNIT NO 6
MB 6/296	SD ELSINORE RESUB. BLK D

Data
RS 77/78

ASSESSOR'S MAP BK373 PG. 18
Riverside County, Calif.

jasantos

Jan 2016

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

SEC.8 T.6S.,R.4W
CITY OF LAKE ELSINORE

373-20

T.R.A. 005-043 17-21
005-017

1/4 COR

1" ANGLE = 100'

19

18

PARK WY

PEPPER DR

AVENUE 6

DR

LOT A

LOT B

LOT C

LOT D

LOT E

DAWES

IRWIN

ST

RAILROAD AVE

NORTH BOUNDARY

206

207

201

202

205

TRA 005-043
TRA 005-017

1.06 AC ML

1.44 AC ML

SBE 804-33-33H PAR 27 MRO

SBE 804-33-33H POR PAR 26 MRO AT 8 SFRR

SBE 804-33-33H POR PAR 26 MRO

RO. LA LAGUNA

(DRIVEWAY EASEMENT)

N89-26-43E

N00-42-30W

363
13

25

23

26

DATA: RS 83/9, LLA 90-4

DATE	OLD NUMBER	NEW NUMBER
08/77	201-17	20,21
DATE	OLD NUMBER	NEW NUMBER
10/77	201-14	22,ST
04/79	205-1	2
04/80	204-1,2	204-3
01/84	203-1	2-14
01/84	204-3	4-12
06/84	2-14	203-15
06/84	4-12	204-13
08/85	201-16,20	23
12/85	205-2	3,4
04/86	AddAsmnt	205-5
DATE	OLD NUMBER	NEW NUMBER
09/90	203-15	16,17
09/90	205-3	6,7
09/90	204-13	205-9
09/90	203-16	205-10
09/90	203-17	205-11
07/03	205-10	14-29
07/03	205-9	30-46
04/04	205-11,14-46	47
04/04	205-47	48-56,206-1-6
04/04	205-47	207-1-14

MB 14/28 PEPPER GROVE TRACT
MB 16/46 BRADY TRACT
MB 346/77-79 AMENDED PEPPER GROVE TRACT

Apr 2004

ASSESSOR'S MAP BK373 PG.20
Riverside County, Calif.

CIR

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCEL MAY NOT COMPLY WITH LOCAL LOT-SPLIT OR BUILDING SITE ORDINANCES.

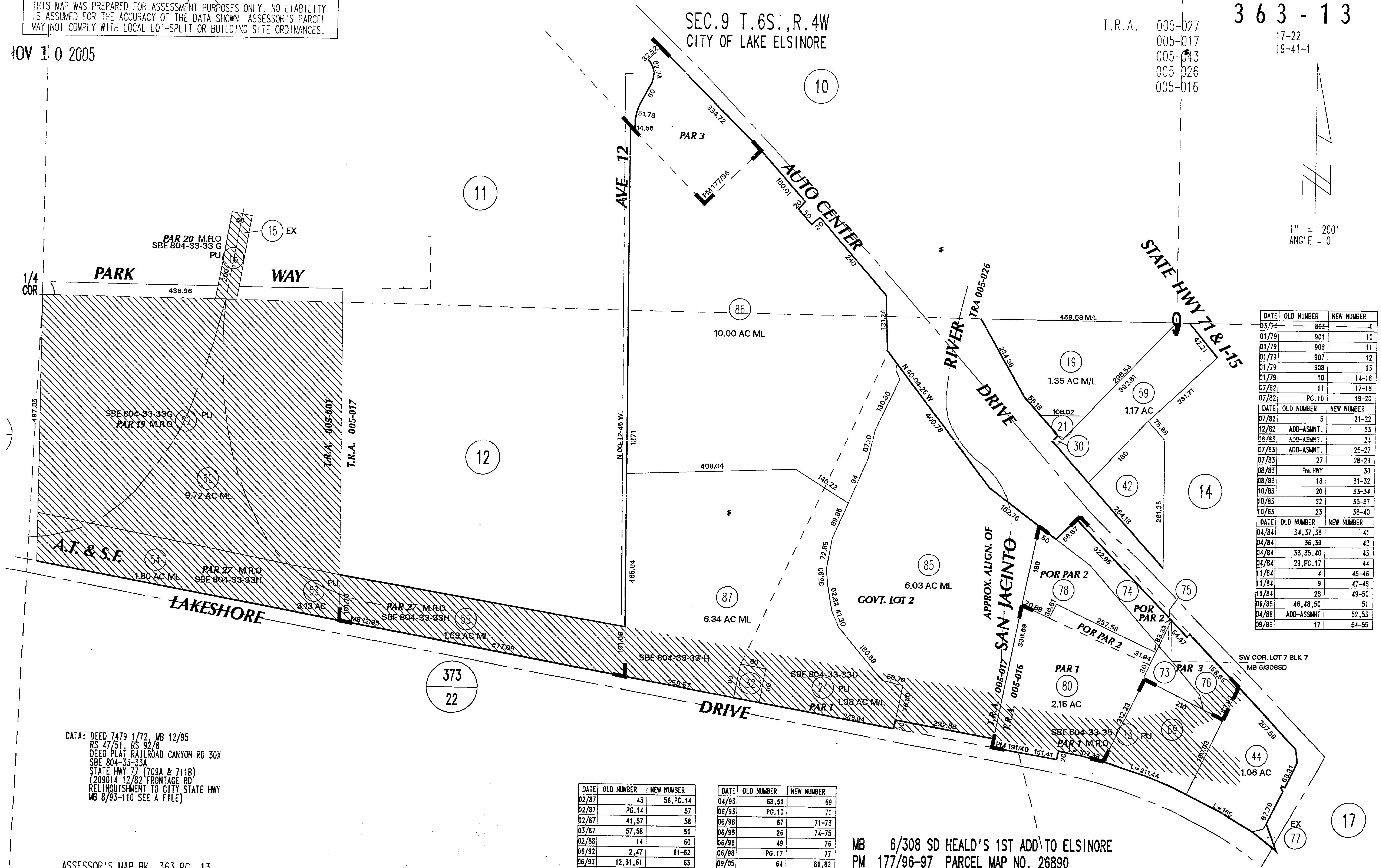
NOV 10 2005

SEC.9 T.6S.,R.4W
CITY OF LAKE ELSINORE

T.R.A. 005-027
005-017
005-043
005-026
005-016

363 - 13

17-22
19-41-1



DATE	OLD NUMBER	NEW NUMBER
~~03/74~~	~~803~~	~~9~~
01/79	901	10
01/79	906	11
01/79	907	12
01/79	908	13
01/79	10	14-16
07/82	11	17-18
07/82	PG.10	19-20
DATE	OLD NUMBER	NEW NUMBER
07/82	5	21-22
12/82	ADD-ASMNT.	23
06/83	ADD-ASMNT.	24
07/83	ADD-ASMNT.	25-27
07/83	27	28-29
08/83	Fm.HWY	30
08/83	18	31-32
10/83	20	33-34
10/83	22	35-37
10/63	23	38-40
DATE	OLD NUMBER	NEW NUMBER
04/84	34,37,38	41
04/84	36,39	42
04/84	33,35.40	43
04/84	29,PG.17	44
11/84	4	45-46
11/84	9	47-48
11/84	28	49-50
01/85	46,48,50	51
04/86	ADD-ASSMNT	52,53
09/86	17	54-55

DATA: DEED 7479 1/72, MB 12/95
RS 47/51, RS 92/8
DEED PLAT RAILROAD CANYON RD 30X
SBE 804-33-33A
STATE HWY 77 (709A & 711B)
(209014 12/82 FRONTAGE RD)
RELINQUISHMENT TO CITY STATE HWY
MB 8/93-110 SEE A FILE)

DATE	OLD NUMBER	NEW NUMBER
02/87	43	56,PG.14
02/87	PG.14	57
02/87	41,57	58
03/87	57,58	59
02/88	14	60
06/92	2,47	61-62
06/92	12,31,61	63
06/92	63	64-65
02/93	45,62	66
02/93	66	67-68

DATE	OLD NUMBER	NEW NUMBER
04/93	68,51	69
06/93	PG.10	70
06/98	67	71-73
06/98	26	74-75
06/98	49	76
06/98	PG.17	77
09/05	64	81,82
09/05	65	83-85
09/05	25,70,81,83	86
09/05	82,84	87

MB 6/308 SD HEALD'S 1ST ADD TO ELSINORE
PM 177/96-97 PARCEL MAP NO. 26890
PM 191/49-50 PARCEL MAP NO. 28712

ASSESSOR'S MAP BK. 363 PG. 13
Riverside County, Calif.

Oct 2005

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NE 1/4 SEC. 8 T.6S, R.4W

CITY OF LAKE ELSINORE

TRA 005-043

373-11

17-19

S89-51-30W

FLAGSTAFF

CHANNING WAY

RD

DR

COUNTRY CLUB BLVD

FLAGSTAFF

CRESENT

MILL ST

HIGH ST

AVENUE 1

AVENUE 2

AVENUE 3

N01-18W

E.H.T. 1

C.C.H. 1

C.C.H. 4

C.C.H.1

#036542 1/90

N

W E

S

1 " = 100 '

Legend

- Lot Lines
- Right-Of-Way
- Old Lot Lines
- Reference R.O.W
- Other Easements
- Lease Area
- Subdivision Tic Mark

Pg 10 | Pg 12 | Bk 373 Pg 11 | Pg 09 | Pg 17 | Pg 18 | Pg 19

Map Reference

MB 12/62 ELSINORE HEIGHTS TRACT UNIT NO.1
MB 12/30 COUNTRY CLUB HEIGHTS UNIT NO.4
MB 11/18 COUNTRY CLUB HEIGHTS UNIT NO.1

Data

RS 83/29
LLA 02-13

Date	Old Number	New Number
7/1/1974	112-34,44	45
11/1/1977	117-06	07,ST
11/1/1977	114-25	28,ST
1/1/1979	112-41	46,ST
7/1/1979	114-18	29,ST
2/1/1981	114-19	30,ST
6/1/1988	115-03,04	14,15,ST
6/1/1988	114-23,24	31,32,ST
6/1/1989	114-01	33,ST
1/1/1990	113-04,03	13,14,ST
3/1/1990	27,ST	114-34
3/1/1990	33,ST	114-35
12/1/1993	117-05	08,ST
8/1/1997	115-06	16,ST
1/1/2004	114-26,34	36
10/1/2004	117-04	09,ST
10/1/2004	117-08	10,11
10/1/2004	117-09,11	12
8/1/2005	114-36	37,T
3/1/2009	114-20	38,ST
3/1/2009	114-21	39,ST
11/7/2019	114-29,30	40

ASSESSOR'S MAP BK373 PG. 11
Riverside County, Calif.

Mamta Sahi

Dec 2019

17-20

373-09

T.R.A. 005-043

POR. N.E. 1/4 SEC. 8 T. 6 S. R. 4 W

1" = 100'

ASSESSOR'S MAP BK. 373 PG. 09
RIVERSIDE COUNTY, CALIF.
R.G.

M. B. 12/88 Elsinore Heights Tr. Unit No. 2

DATE	OLD NO	NEW NO
10/81	093-16	55-T. S
12/83	093-14	56, ST
1/05	094-5,6	7
3/09	093-17	57, ST.

FEE PROPOSAL

Project Name:

PROFESSIONAL ENGINEERING SERVICES FOR THE "AVENUES" DRAINAGE AREA STUDY AND DRAINAGE IMPROVEMENTS DESIGN PROJECT NO. Z10000

Prepared for:

CITY OF LAKE ELSINORE
Attn: Carlos Norvani
Land Development Engineer
Engineering Department
130 S. Main Street
Lake Elsinore, California 92530

August 27, 2020

Prepared by:

Adams-Streeter Civil Engineers

ADAMS STREETER
Civil Engineers

16755 Von Karman Ave. Suite 150, Irvine, CA 92606 | 949.474.2330 | adams-streeter.com

THE "AVENUES" DRAINAGE AREA STUDY & DRAINAGE IMPROVEMENTS DESIGN
PROJECT HOURLY AND FEE BREAKDOWN SUMMARY

ITEM DESCRIPTION	Project Director	Project Manager	Project Engineer	2-Man Survey	Survey Office	Sub-Consultant or 3rd Party Vendor	TOTAL FEE
	Hourly Rate ($/Hr.)						
	170	150	135	250	150		
Phase 1A - Preliminary Engineering							**$70,140**
1. Meetings, Project Management and Coordination							
a. Project Management and Governmental Coordination	8	16					$3,760
b. Kick off & City Meeting (2 total)	6	6					$1,920
c. City Council Meeting (1 total)	4						$680
2. Information Research							
a. Research/Review City Record Drawings & Atlas Maps		4	12				$2,220
b. Utility Notification, Information Request & Coordination		12					$1,800
3. Mapping and Initial Field Survey Verifications							
a. Mapping Research for Underlying Record Maps and Analysis of Site Constraints		2			16		$2,700
b. Title Search / Title Report (Budget for Title Company)					3	$3,000	$3,450
c. Initial Topographic Survey and Field Verifications		2		16	4		$4,900
d. Base Map Development		2	16		4		$3,060
4. Drainage Study							
a. Field Review / Assessment of Site Conditions	4	4					$1,280
b. Geotechnical Review for Suitability of Alternatives		4					$600
c. Master Drainage Plan Review	3	3					$960
d. Development of Drainage Alternative (Incl. Supporting Hydrology, Routing and Street Flow Calculations)	4	60					$9,680
e. Concept Level Cost Estimates for Drainage Alternatives	2	6					$1,240
f. Drainage Study Report	4	20					$3,680
5. Geotechnical Exploration, Analysis and Reporting (By NMG Geotechnical)						$28,210	$28,210
a. Backgroud Review, Project Initiation and Permitting						*($4,068)*	
b. Subsurface Exploration and Percolation Testing						*($10,343)*	
c. Laboratory Testing						*($3,159)*	
d. Geotechnical Analysis						*($5,108)*	
e. Geotechnical Report						*($4,092)*	
f. Project Management, Coordination and Meetings						*($1,440)*	
Phase 1B - CEQA Documentation							**$39,389**
1. CEQA Initial Study/Mitigated Negative Declaration							
a. Administrative Draft IS/MND						$15,787	$15,787
b. Prepare and Distribte Draft IS/MND / NOI / NOC						$4,708	$4,708
c. Administrative and Final IS/MND and MMRP						$6,255	$6,255
2. Technical Studies							
a. Biological Resources Assessment						$6,534	$6,534
b. Cultural Resources Study						$6,105	$6,105
Phase 2 - Final Engineering							**$56,050**
1. Meetings, Project Management and Coordination							
a. Project Management and Governmental Coordination	8	16					$3,760
b. Pre-Design Meeting (1 total)	3	3					$960
c. Staff Collaboration Meetings (2 Assumed)	6	6					$1,920
2. Final Construction Documents							
a. Grading and Drainage Plans	2	16	80				$13,540
b. Street Improvement Plans	2	16	60				$10,840
c. Erosion Control Plans		2	8				$1,380
d. Bid Schedule, Special Provisions and Technical Specifications	4	20					$3,680
e. Itemized Cost Estimates	2	4	6				$1,750
f. Storm Water Pollution Prevention Plan (SWPPP)	2	8	24				$4,780
3. Design Topographical Survey							
a. Undeveloped Sites (5 Locations Assumed)				8			$2,000
b. Street Cultures & Sections (Park Way & Pepper St.)				12	4		$3,600
4. Plats and Legal Descriptions							
a. Drainage Alternative Sites (5 Locations Assumed)	2	2			48		$7,840
Phase 3 - Bid and Construction Support							**$3,940**
1. Bid and Construction Support	2	24					$3,940
GRAND TOTAL	**68**	**258**	**206**	**36**	**79**	**$70,599**	**$169,519**

OPTIONAL ITEMS - HOURLY AND FEE BREAKDOWN SUMMARY

ITEM DESCRIPTION	Project Director	Project Manager	Project Engineer	2-Man Survey	Survey Office	Sub-Consultant or 3rd Party Vendor	TOTAL FEE
	Hourly Rate ($/Hr.)						
	170	150	135	250	150		
OP-1 Additional Geotechnical Borings and Percolation Testing (Five Additional)						$11,355	$11,355
OP-2 Focused Burrowing Owl Surveys						$8,851	$8,851
OP-3 Focused Environmental Impact Report						$52,757	$52,757
a. Notice of Preparation / Scoping Meeting							
b. Administrative Draft EIR							
c. Draft EIR and Notices							
d. Administravie Final EIR/Draft MMRP							
e. Final EIR/Final MMRP/Notice of Determination							
f. Statement of Overriding Considerations/Findings							
2. g Water Quality Management Plan (WQMP)	1	6	30				$5,120

GEOTECHNICAL DESIGN SERVICES
DETAILED COST BREAKDOWN

Work Category	*Staff Level*	*Hours/Qty*	*Unit/Rate*	*Cost*
TASK 1 - Background Review and Project Initiation				
Background Review and Site Reconnaissance	Project	10	$146	$ 1,460
	Principal/Associate	8	$180	$ 1,440
Encroachment Permit (Assume "No Fee")				$ -
Water Service Permit For Infiltration Testing (Assume "No Fee")				$ -
Staff Time for Permit Acquisition	Project	8	$146	$ 1,168
			Subtotal:	**$ 4,068**
TASK 2 - Subsurface Exploration and Percolation Testing				
Review/Mark Boring Locations	Project	6	$146	$ 876
USA Notification and Field Review	Project	6	$146	$ 876
Hollow-Stem Borings (4 borings, 10-50 feet deep, PW)	Rig Rental	9	$385	$ 3,465
Percolation Testing Materials, Support Vehicle, Mob/Demob				$ 1,650
Logging and Sampling	Project	12	$146	$ 1,752
Percolation Testing, 2 locations	Senior Staff	10	$114	$ 1,140
	Project	4	$146	$ 584
			Subtotal:	**$ 10,343**
TASK 3 - Laboratory Testing				
	Moisture/Density	20	$28	$ 560
	Grain Size	3	$104	$ 312
	Atterberg limits	3	$160	$ 480
	Hydrometer	3	$124	$ 372
	Direct Shear	3	$200	$ 600
	Consolidation	3	$205	$ 615
	Maximum Density	1	$220	$ 220
			Subtotal:	**$ 3,159**
TASK 4 - Geotechnical Analysis				
Data Compilation/Boring Logs/Geotechnical Map	Project	8	$146	$ 1,168
Laboratory Test Data	Senior Staff	4	$114	$ 456
Plan Review	Project	4	$146	$ 584
Infiltration Analysis, Design Calculation	Project	4	$146	$ 584
Liquefaction Assessment	Project	4	$146	$ 584
Excavation/Shoring	Project	2	$146	$ 292
Principal Review	Principal/Associate	8	$180	$ 1,440
			Subtotal:	**$ 5,108**
TASK 5 - Geotechnical Report				
	Project	12	$146	$ 1,752
	Principal/Associate	10	$180	$ 1,800
	Tech Illustrator	4	$96	$ 384
	Word Processor	2	$78	$ 156
			Subtotal:	**$ 4,092**
TASK 6 - Project Management, Coordination, and Meetings				
	Principal/Associate	8	$180	$ 1,440
			Subtotal:	**$ 1,440**
			TOTAL:	**$ 28,210**
Optional Items:				
Additional Geotechnical Borings and Percolation Testing (5 Additional)				
Hollow-Stem Borings (5 borings, 10-50 feet deep, PW)	Rig Rental	7	$385	$ 2,695
Percolation Testing Materials, Support Vehicle				$ 900
Logging and Sampling	Project	9	$146	$ 1,314
Percolation Testing, 4 locations	Senior Staff	10	$114	$ 1,140
	Project	8	$146	$ 1,168
Laboratory Testing	Moisture/Density	24	$28	$ 672
	Grain Size	2	$104	$ 208
	Atterberg limits	2	$160	$ 320
	Hydrometer	2	$124	$ 248
	Direct Shear	2	$200	$ 400
	Consolidation	2	$205	$ 410
	Maximum Density	1	$220	$ 220
	Corrosivity	1	$200	$ 200
Data Compilation/Boring Logs/Geotechnical Map	Project	6	$146	$ 876
Infiltration Analysis, Design Calculation	Project	4	$146	$ 584
			Subtotal:	**$ 11,355**

CEQA Bidding Assumptions (ECORP Consulting)

- ECORP Consulting, Inc., assumes that, by receipt of notice to proceed, full access to the property will be provided by the Client/City.

- ECORP Consulting, Inc., shall not be held responsible for work delays or cancellations caused by strikes, accidents, acts of God, delays imposed by the Client/City, or other delays beyond the control of ECORP Consulting, Inc.

- Schedule estimates are based on our best judgment of the requirements known at the time of the proposal and can be influenced favorably or adversely by the Client needs and other circumstances, including agency or other delays due to the COVID-19 pandemic.

- It is assumed that ECORP Consulting, Inc., can use and rely on the data and information contained in the project related documents provided by the Client/City. ECORP Consulting, Inc., will not perform a technical review of these documents, and will not be responsible for the content or accuracy of these studies.

- ECORP has assumed one round of comments/revisions for each deliverable. We have also assumed that the project description will not change. Changes to the project description may affect cost and schedule.

- Additional hard or electronic copies can be provided on a time-and-materials basis.

- Change orders will be issued and signed by the Client and ECORP Consulting, Inc., before starting additional work not provided for in the original proposal. If the Client's authorized representative is not available for a signature, the additional out-of-scope work will not commence until the change order is signed.

- This cost is valid for a period of 90 days from the date of this the proposal. Beyond 90 days, ECORP Consulting, Inc., reserves the right to reevaluate the cost.

- Expert Witness Testimony, including Depositions, is billed on a time-and-materials basis at time and a half.

- Attendance at meetings not listed in the scope of work are not included in the costs.

- AB 52 Tribal Cultural Resources Consultation will be conducted by the City.

ADAMS STREETER CIVIL ENGINEERS
2020 PROFESSIONAL FEE SCHEDULE

CIVIL ENGINEERING SERVICES

Principal	$185.00/hour
Project Director	$170.00/hour
Project Manager	$150.00/hour
Project Engineer	$135.00/hour
CADD Designer / Technician	$100.00/hour
Clerical / Word Processing	$55.00/hour

SURVEYING AND MAPPING SERVICES

2-Man Survey Crew (Field) *	$250.00/hour
1-Man Survey Crew (Field) *	$215.00/hour
Survey Office / Mapper	$150.00/hour

** Prevailing Wage Rates.*

REIMBURSABLE EXPENSES

All out of pocket expenses, such as filing and plan check fees, permit fees, delivery service, reproduction printing, and other project expenses will be extra and invoiced at our direct cost.

SUB-CONSULTANTS

Expenses for sub-consultants employed by Adams Streeter will be marked up by 10%.

MILEAGE

Mileage will be invoiced at the IRS standard mileage rate for 2020.

NMG Geotechnical, Inc.

2019 PROFESSIONAL FEE SCHEDULE

HOURLY RATES BY STAFF CATEGORY

Principal and Associate Engineer/Geologist	$180
Project Engineer/Geologist	$146
Senior Staff Engineer/Geologist	$114
Supervisory Technician	$114
Staff Engineer/Geologist	$104
Senior Project Technician	$104
Project Technician	$ 96
Staff Technician	$ 86
Special Inspector	$ 86
CAD Drafter/Technical Illustrator	$ 96
Word Processor	$ 78
Technical Assistant	$ 66
Prevailing Wage (Soil Technician/Special Inspection Services)	$118

LABORATORY TESTING

Moisture Content – ASTM D2166	$ 19
Moisture Content & Density	$ 28
Atterberg Limits – ASTM D4318	$160
Particle-Size Sieve Analysis – ASTM D422	$104
Finer than No. 200 Sieve – ASTM D1140	$ 72
Hydrometer Analysis – ASTM D422	$124
Maximum Dry Density – ASTM D1557	$220
Maximum Dry Density with Oversize Particle – ASTM D1557	$250
Caltrans 216 Maximum Density	$200
Sand Equivalent – ASTM D2419	$ 93
Soluble Sulfate Content	$ 65
Expansion Index – ASTM D4829	$166
Consolidation – ASTM D2435	$205
- For time-rate, add $38/increment	
- For remolded, add $54/specimen	
- For reload, add $105/cycle	
Hydroconsolidation/Collapse – ASTM D5333	$130
Undisturbed Direct Shear – ASTM D3080	$200
Undisturbed Direct Shear – Slow – ASTM D3080	$290
Remolded Direct Shear – ASTM D3080	$250
Remolded Direct Shear – Slow – ASTM D3080	$380
Residual Direct Shear – ASTM D3080	$580
R-Value – CT301/ASTM D2844	$250
Asphalt Maximum Density – CT308	$250
Concrete, Mortar or Grout Compression (per cylinder/cube/prism)	$ 28
CMU Grouted Prisms	
- Compression Test ≤8" x 8" x 16"	$ 195
- Compression Test >8" x 8" x 16"	$ 270
Gunite/Shotcrete Panel Coring & Testing	$109

NOTES

1. *No additional charges for field vehicle usage, nuclear gauge, or overtime work (except for prevailing wage and double time).*
2. *Heavy equipment (i.e. drill rig, backhoe, CPT) charges will be invoiced at cost.*
3. *Delivery and outside reproduction charges will be invoiced at cost.*
4. *Outside laboratory test charges will be invoiced at cost.*

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ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ECORP Consulting, Inc.
Schedule of Hourly Fees

Position	Hourly Rate
Program Manager	$200.00
QA/QC Manager	$195.00
Principal Environmental Analyst (CEQA/NEPA)	$200.00
Senior Environmental Analyst (CEQA/NEPA)	$185.00
Staff Environmental Analyst (CEQA/NEPA)	$125.00
Associate Environmental Analyst (CEQA/NEPA)	$110.00
Assistant Environmental Analyst (CEQA/NEPA)	$90.00
Principal Biologist	$200.00
Senior Biologist	$160.00
Staff Biologist	$125.00
Associate Biologist	$100.00
Assistant Biologist	$90.00
Biological Technician	$85.00
Principal Botanist/Habitat Restoration	$155.00
Senior Botanist/Habitat Restoration	$140.00
Assistant Botanist/Habitat Restoration	$100.00
Principal Paleontologist	$160.00
Cultural Resources Principal Investigator	$185.00
Senior Cultural Specialist/Historian/Lab/Field Director	$145.00
Cultural Resources Crew Chief	$115.00
Cultural Resources Field Technician	$90.00
Principal GIS/CADD/Graphics Specialist	$160.00
Senior GIS/CADD Specialist	$145.00
GIS/CADD Technician	$100.00
Graphics Specialist	$145.00
Senior Project Accountant/Contracts	$170.00
Associate Project Accountant/Contracts	$105.00
Production Coordinator/Proof Reader	$100.00
Associate Word Processor	$95.00
Clerical	$95.00

Expense Reimbursement/Other:

1. Reproduction, equipment and other direct expenses are reimbursed at cost plus a 14-percent administrative handling charge (excluding mileage and per diem).
2. Subcontractor expenses are reimbursed at cost plus a 12-percent administrative handling charge.
3. Mileage is reimbursed at the current IRS rate.
4. Rental vehicles will be charged at the current standard daily rate, typically $100 per day.
5. Per Diem, depending upon geography, may be charged if overnight stays are required.
6. Expert Witness Testimony, including Depositions, is billed at time and a half.
7. Hourly rates will escalate at a rate of 3% per annum.