



# Beaumont Master Drainage Plan Line 2, Stage 1

Professional Engineering Services

Request for Proposal

City of Beaumont

June 1, 2020 at 12:00PM

TECHNICAL PROPOSAL

submitted by

EXP U.S. Services, Inc.

451 East Vanderbilt Way, Suite 375 | San Bernardino, CA 92408, USA

t: 909.239.6249 | exp • com



# Riverside County Flood Control and Water Conservation District 1995 Market Street

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A

Cover Letter



June 1, 2020



## City of Beaumont

**Attn:** Jeff Hart, Public Works Director / City Engineer  
Public Works Department  
550 E. 6th Street  
Beaumont, CA 92223

**re:** Request for Proposal for Professional Engineering Services for Beaumont Master Drainage Plan Line 2, Stage 1

Dear Mr. Hart,

EXP U.S. Services Inc. (EXP) is pleased to submit our proposal to the City of Beaumont (City) to perform environmental, right of way/utility services, drainage report, geotechnical report and final engineering including preparation of plans, specifications and estimate.

EXP has assembled a strong and locally experienced team of professionals **led by our seasoned Project Manager, Portia Gonzalez, PE. Portia has served as a Project Manager on multiple large and small drainage projects.** Her proactive management approach, communication and problem-solving skills and ability to build consensus makes Portia the perfect candidate to lead this project. Portia worked in the Design Section of Riverside County Flood Control and Water Conservation District (RCFC + WCD as an Associate Engineer) and possesses strong technical and leadership skills and has a proven track record of successfully delivering many drainage projects in her 29-year career.

EXP recognizes that the City is seeking the services of a well-qualified consultant to perform the Environmental and Final Design of the Beaumont MDP Line 2, Stage 1 Project. The EXP team consists of experts from various disciplines and is uniquely qualified to develop the most cost-effective design and implementation strategies for the project. Our highly qualified team has the ability to deliver of the project twelve (12) months following the Notice to Proceed. We are prepared to deliver the construction bid package by before August 2021 prior to the start of the rainy season.

## Our Commitment to You

EXP commits that our Project Manager and every member of our team will embrace the following principles throughout the development and delivery of this project:

- 1. Collaborate** | EXP will work closely and collaboratively with the City and all stakeholders in a true team environment, to identify and resolve issues, to communicate effectively, to achieve consensus and to ultimately deliver a successful project to the satisfaction of the City and the stakeholders.
- 2. Deliver Quality Work** | EXP will prepare and strictly implement a rigorous project Quality Plan and procedures to ensure that every deliverable is thoroughly reviewed and checked prior to final submittal for approval.
- 3. COVID-19 Protocol** | EXP has taken the necessary precautions to ensure the safety and well-being of our employees during these unprecedented times. EXP has developed and educated our staff on infection control protocols designed to minimize and eliminate the risk of infection for employees and those who they interact with. We also require that our sub-consultants provide EXP with their company guidelines for dealing with COVID-19 as a part of this proposal preparation.

The EXP team  
commits to  
delivering  
the project  
in 12 months  
following NTP.

EXP

## Technical Expertise

As a multidisciplinary firm, EXP has vast depth of in-house technical expertise that includes drainage design, bridge and structure design, roadway design, civil engineering, traffic engineering and construction management. As the consultant of choice, EXP fully understands that it is responsible for identifying the right solution that will address the various challenges of this project. It is this commitment to excellence that separates EXP from its competitors.

## Depth of Resources

The project will be managed and delivered out of the EXP office located at 451 E. Vanderbilt Way, Suite 375, San Bernardino, CA 92408. Additional staff support will be provided by EXP's offices in Glendale and San Diego.

## Summary of Work by EXP Team Members

Name of Firm	Description of Work	Estimated Work %	Contact Person	Contact Information
EXP U.S. Services, Inc.	Project Management; Roadway, Traffic + Drainage Design	60%	Portia Gonzalez, PE	t: 949.257.5340 e: portia.gonzalez@exp.com
DEA	Topographic Mapping + Survey	8%	Robert Vasquez, PLS	t: 909.781.1064 e: rdv@deainc.com
Epic Land Solutions Inc.	Right-of-Way Data + Utility Coordination	10%	Curtis Bibolet, SR/WA	t: 951.801.5402 e: cbibolet@epicland.com
ICF	Environmental	17%	Monica Corpuz, RPA	t: 805.279.9284 e: monica.corpuz@icf.com
Geocon	Geotechnical Engineering	5%	Lisa Battiato, CEG, APM, LEED APT	t: 951.304.2300 e: battiato@geoconinc.com

## Business Entity

EXP is a private corporation with over 90 offices in North America, including 25+ offices across the United States. In California, EXP has offices in the cities of San Bernardino, San Diego, Glendale and San Francisco.

## Contract Signatories

EXP's signature on this letter attests that all information submitted in this proposal is true and correct. It is also confirmed that the individual signing this letter on behalf of EXP is authorized to bind to the terms of the RFP pursuant to the California Corporation Code Section 313.

EXP's team is fully committed to providing the services outlined in the RFP. We are enthusiastic about being short listed by the City. If you have any questions regarding the RFP, please contact **Portia Gonzalez, PE**, Project Manager at **949.257.5340** or by e-mail at **portia.gonzalez@exp.com**.

Respectfully Submitted,



### Khalil Saba, PE

Vice President, Transportation Sector, Southern California  
t: 909.751.3253 | m: 909.228..2821 | e: khalil.saba@exp.com





B

# Introduction / Information

# Why Us?

## We are Local

- ✓ Local Experience
- ✓ Local Team Member Firms
- ✓ RCFC + WCD Project Experience

## We are Responsive

- ✓ Innovative Solutions
- ✓ Adaptable Plan to Deliver the Project Earlier and Accelerate the Project

## We are Knowledgeable

- ✓ Highly Technical Project Manager
- ✓ Region Storm Drain Experts



## Introduction / Information

### Firm Information

EXP U.S. Services, Inc. will be the Prime consultant for this project. EXP will be providing Project Management, Storm Drain Improvement Plans, Hydrology and Hydraulic Analysis, Roadway, Traffic Coordination and Structures Design.





### Mailing Address

451 East Vanderbilt Way, Suite 375, San Bernardino, CA 92408

### Contact Individual

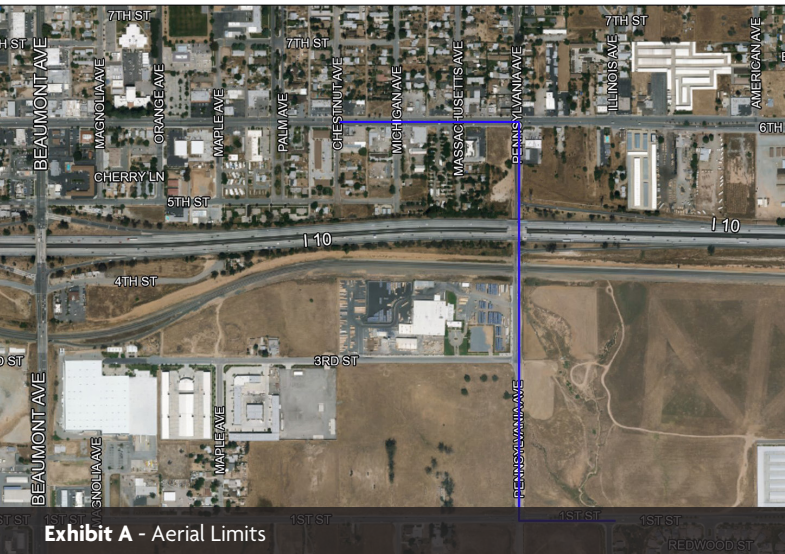
Portia Gonzalez, PE, Project Manager | t: 949.257.5340 | e: portia.gonzalez@exp.com

### Participating Firms + Proposed Sub-consultants

Name of Firm	Role	RCFC + WCD Consultant	Previous EXP Experience
 DAVID EVANS AND ASSOCIATES INC.	Topographic Survey + Mapping	Yes	Yes
	Environmental	Yes	Yes
	Right-of-Way + Utilities	Yes	Yes
	Geotechnical Engineering	Yes	No

## Project Understanding

The design of this major storm drain trunk line is Stage 1 of the Beaumont Master Drainage Plan (MDP) Line 2 in the City of Beaumont. The upstream project limit is at Chestnut Avenue and 6<sup>th</sup> Street and the downstream project limit will tie into an existing culvert at 1<sup>st</sup> Street as shown in **Exhibit A**.



**Exhibit A - Aerial Limits**

The storm drain will be designed to convey the 10-year storm event consistent with the 1983 City of Beaumont Master Drainage Plan. The MDP report indicates that pipe systems and channels are generally designed for the 10- and 100-year storm event. The RFP mentioned that the planned open channel portion of MDP Line 2 – Stage 1 south of UPRR will now be replaced with a storm drain that will tie-in to an existing culvert at 1<sup>st</sup> Street.

The storm drain will have to accommodate several existing and future systems in the Line 2 watershed. These include the future upstream storm drain extension for Line 2, the Pennsylvania Avenue Improvement project and the Caltrans ramp project catchbasins and laterals, the existing Caltrans and UPRR culverts and the planned grade separation project for Pennsylvania Avenue and UPRR. The EXP Team will provide the services described in detail in **Section H – Scope of Services** and deliver a high-quality construction package. Based on our understanding of the project, the services required to complete the PS&E are survey and mapping, environmental compliance, geotechnical, utilities, right-of-way, hydrology and hydraulics, storm drain and roadway plans, structures, traffic control, specifications and engineers estimate.

## Objectives of Scope of Services

To successfully complete the Scope of Services for this project, EXP's goals and objectives are:

- **Efficiency:** In these trying times of COVID-19, where it continues to evolve, and majority of our proposed team members are working remotely, Portia will actively prioritize the safety of her team and maintain high productivity to meet the project schedule. She will ensure that EXP staff and sub-consultants are equipped to complete their work efficiently and safely including all the tools necessary to collaborate, communicate and deliver the work.
- **Expeditious:** The Pennsylvania Ave. Widening project is nearing completion. EXP will deliver the Line 2 – Stage 1 construction package in 12 months in order to not delay the construction of the widening project any further. Our proposed schedule is shown in **Section K**.
- **Excellence:** We will ensure the quality of work meets City standards on all deliverables. Our QA/QC Manager, Ju Kim, will hold every team member to a higher standard of work but also allow room for creativity and innovation.
- **Engage:** Stakeholders can make or break a project. That is why we will effectively manage our relationship with project's stakeholders. We will identify all stakeholders and their roles, listen to their concerns, build on their trust and continue to communicate and allow for transparency. Stakeholders and third party agencies include the RCFC, Caltrans, UPRR, and utility companies.
- **Expertise:** The most experienced and knowledgeable team members were specially selected by our Project Manager, Portia Gonzalez. She has, in the past, collaborated with all the proposed leads who are subject matter experts in their field. As the PM, Portia is regarded a highly technical and an expert in the field of drainage, water resources, and storm water. She has worked in the Design section at RCFC + WCD for five years which gives her in-depth knowledge of all the requirements of the District.
- **Execute:** Our innovative execution plan is deadline driven, using early action plans to jump-start our initial work. This plan, combined with a dedicated lead for each discipline, which enables acceleration of critical elements and targets key issues and cost implications to drive the preliminary alignment decision-making process.



City of  
Beaumont

C

adsled.com

Firm's Approach



“  
As the Project  
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of drainage, water  
resources, and  
stormwater.”

## Firm's Approach

Over the past few weeks, the EXP Team have been brainstorming to identify keys to a successful delivery of the Beaumont MDP Line 2 – Stage 1 - incorporating a common theme throughout: *Get to construction as soon as possible and maintain design and construction compatibility with other on-going projects*. Our unmatched understanding of key issues are the main reasons EXP is best equipped to successfully meet the defined goals to project success.

We have identified below project specific keys to successfully deliver the project in approximately **12 months**.

- ✓ Combine the Pennsylvania Avenue Improvement Project with MDP Line 2 - Stage 1 as one construction package for cost-savings to the City;
- ✓ Review the alignment and hydrology study with the City of Beaumont and RCFC + WCD within the first week after notice to proceed and implement design refinements to avoid unnecessary potential delays;
- ✓ Provide a design that meets the current needs for the City of Beaumont and RCFC + WCD but remain flexible to stay within the construction budget and control scope creep;
- ✓ Provide a design that remain within the right of way to reduce potential project delays due to right of way takes;
- ✓ Develop an effective coordination strategy for RCFC + WCD, utility owners, and business owners to move the project forward without delays;
- ✓ Provide a safe design, efficient work site, and maintain traffic flow during construction; and
- ✓ Maintain a proactive means of tracking schedule and deliverables by keeping the team regularly informed of schedule and deliverable expectations of EXP and their sub-consultants to efficiently allocate resources.

### Project Management

As Project Manager, Portia will employ her local knowledge and extensive experience in drainage and water quality projects. As the consultants for the project, EXP understands that it has the ultimate responsibility and obligation to proactively coordinate with the City to identify risk and develop practical solutions. Additionally, to expedite reviews and the overall delivery of the project, we will take full responsibility for each deliverable and ensure that the work of the EXP team is done right the first time. We will not make incomplete or substandard technical submittals, and we will make sure that all comments are adequately addressed.

We will propose solutions to the issues that may arise and keep the lines of communication open with the City staff. To accomplish this, Portia will prepare a Project Management Plan (PMP) as a tool to be used in managing the project and the EXP team. The plan will include the project scope, schedule, communication plan, project control processes, invoicing procedures, deliverable matrix, and organization. The PMP will be distributed to the project team for their use as well as to the City for review and approval as it will be the road map for executing the project.

## Quality

The management at EXP and the sub-consultants recognize that there is a direct correlation between quality and the successful delivery of a project on schedule. For the City's MDP Line 2 - Stage 1, the City will review our deliverables. We know based on our experience that submitting low quality deliverables to any city triggers additional and multiple rounds of reviews and could potentially jeopardize the schedule. Therefore, one of our very first tasks will be the preparation of a tailored Quality Management Plan (QMP) that demonstrates our commitment to the City to facilitate an effective and efficient process for the development, review, and approval of all project contract documents. The QMP will promote uniformity in our Quality Review Process and emphasize the standards under which our team is expected to execute throughout the duration of the project.

As Project Manager, Portia will work closely with Ju Kim, the Quality Assurance and Quality Control (QA/QC) Lead, who will be responsible for implementing and maintaining the QMP which will outline quality and document control requirements and define the timing and procedures for technical peer reviews, draft plan and document checks, and technical editing of written documentation.

As the prime consultant, EXP will require the same standard of care and quality review procedures from the sub-consultants.

## Communication Plan

EXP recognizes that the role and participation of our sub-consultants, the City, and stakeholders will be critical to the success of MDP Line 2 – Stage 1. Our Project Manager, Portia Gonzalez, will maintain regular communications with the Team to ensure they have all necessary information and all obligations are being met. The regular technical meetings will include sub-consultant leads and the City to share ideas and discuss issues, keeping everyone fully aware and engaged in the project. Regular management meetings will include sub-consultant leads to discuss budget, scope and schedule, keeping them fully aware and engaged in the contract.

In this way, all team partners are aware of their individual roles, as well as the overall team performance as it relates to each individually and collectively.

## Budget Management

Based on our past experience, we strongly believe that the process of controlling budgets starts in the early phases of the project and specifically when the scope of services is defined. The process then continues with close monitoring of progress, and with superior management skills to address any issues in the project development process that could impact cost. To us cost is not an afterthought but an integral part of the project development process. Also based on our experience in delivering projects, we believe that building consensus early and on an ongoing basis is key to managing project budgets and schedules. Consensus enables us to proceed with support from all stakeholders and reduces/eliminates the need for us to do costly rework.

## Ability to Meet Schedule

EXP prepared a project schedule to complete the tasks listed in the Scope of Services section to support the MDP Line 2 - Stage 1. We are confident that we will meet the milestones provided in our proposed schedule shown on **Section K - Additional Information**.

## Utilities Research is key to early conflict detection

The goal of Epic's Right of Way Utility Support is to determine who has prior rights and identify difficult potential moves and time frames. Epic will start early utility identification and the coordination, communication and continued involvement with the design engineers and utility companies immediately upon receiving Notice to Proceed. Epic's utility coordinator will approach all utility companies early in the coordination process to clarify changes the project is proposing to change to the existing right of way. This will be important in assessing any utility impacts and indirect impacts to properties during the temporary or permanent relocation conditions. Meeting early with the utility companies will allow the team to be able to possible avoid a costly relocation, discuss potential conflicts and potential utility relocation. This will allow the early determination of liability and which utilities will be moved to a proposed new utility easement. Through years of utility experience, Epic has developed utility working procedures that assist with difficulty relocations. Epic engages, coordinates, and follows through. Utilities within the project area include: ATT – Transmission; ATT – Distribution; Beaumont – Cherry

Valley Water District; City of Beaumont; Frontier; MCI (Verizon Business); Southern California Gas – Distribution; Southern California Gas – Transmission; Southern California Edison – Distribution; Southern California Edison – Telecommunication; Southern California Edison – Transmission and Spectrum.

## **Regulatory Compliance + Environmental Clearance** can be completed in 9 months.

Our main goal is to reduce costs by expediting the environmental process and approval of the CEQA environmental document. Based on the proposed improvements, the Project's CEQA document is expected to be a CEQA Categorical Exemption, 15303, Class 3: New Construction or Conversion of Small Structures, subsection (d), Water main, sewage, electrical, gas, and other utility extensions, including street improvements, of reasonable length to serve such construction, which includes small flood control facilities. Upon receipt of the notice to proceed, the team will work closely to ensure that a comprehensive direct impact area is developed, including water quality best management practice (BMP) locations, potential utility relocations, and staging areas, as appropriate. Establishing the direct impact area up front will ensure that all areas that are required by the project are covered within the environmental analyses so that no rework or revisions are needed later in the project development process. This approach keeps the project on track and reduces the potential for schedule delays, which could occur if these items are not comprehensively addressed up front. One of the biggest biological challenges for the project is focused survey scheduling for biological resources. Focused surveys must be carefully planned within the project schedule with survey windows anticipated for March 15 through August 31 for burrowing owl and spring for narrow endemic plants. ICF will work closely with the team to work the survey schedule into the overall project delivery schedule.

The proposed project occurs within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) area and must comply with the various MSHCP requirements and policies. Following NTP, ICF will conduct a literature and database review and site reconnaissance to evaluate the potential suitability of the project for special-status species within the regulatory context of the MSHCP. Based on initial review, the project is not within a Criteria Area (i.e., a Criteria Cell), Public Quasi-Public lands (PQP), or

amphibian, mammal, or Criteria Area Species survey area. It is within a narrow endemic plant survey area and burrowing owl survey area. As part of the literature and database review, we will research aquatic resources and determine potential agency jurisdiction. The assessment will confirm the applicable MSHCP policies and potential jurisdictional aquatic resources.

Based on the information obtained in a literature and database search, biological habitat assessments, and applicable focused surveys (burrowing owl and narrow endemic plants) will be completed. ICF will use preliminary design to complete an impact analysis for impacts on regulated biological resources. The methods and results will be included in a Biological Technical Memorandum to support the CEQA analysis. Knowing the specific environmental issues for the project will result in expedited delivery. It is anticipated that the Draft CEQA process, including preparation of the technical memoranda and filing of the Notice of Exemption (NOE), would be completed within 9 months from issuance of NTP. ICF's previous and current work within the general area of the Project avails our team knowledge of existing biological resources. To the greatest extent feasible, the EXP team will utilize previously prepared environmental studies within the vicinity of the area to reduce cost and expedite the preparation of the studies.

## **Geotechnical Investigation** will set the stage for constructability of the project.

The proposed storm drain alignment is within the roadway where drilling can be done by closing off a portion of the roadway and directing traffic around the drilling operations. No road closures or flag persons to control traffic appear to be necessary. One of the borings will be performed within Caltrans right of way near I-10 Freeway on Pennsylvania Avenue. This will require a Caltrans encroachment permit for the boring. Boring locations will be planned so no borings are located within UPRR property. It is assumed all other borings can be performed under the City of Beaumont encroachment permit.

Based on our experience in the Beaumont/Banning area, it is expected to encounter some surficial fill soils overlying younger and older alluvium. San Timteo formation may be encountered along the southern portion of the alignment. The San Timeteo formation is a terrestrial sandstone which typically consists of layers of silty sandstone, gravelly sandstone, and cobble conglomerate layers with

occasional thin silt/clay layers. It could pose a trench stability challenge if the beds dip into the trench. It usually does not pose an excavation problem. It is expected that groundwater is more than 50 feet deep along the alignment. However, if groundwater is encountered, Geocon can provide a pump test to provide data to the contractor for a dewatering plan during construction. Geocon will excavate ten geotechnical to depths of 35 to 55 feet, or 15 feet below invert elevation, whichever is deeper. Traffic control will be employed during field work. Each boring will be capped with cold patch asphalt. The City will be notified in the event groundwater is encountered and arrange for environmental laboratory testing and pump testing. The geotechnical laboratory testing is expected to include direct shear, maximum density/optimum moisture, in-situ moisture and density, corrosion screening, and R-value. The geotechnical report will include geotechnical information for project design and shoring design; corrosion screening test results, and conclusions and recommendations for design and construction of the storm drain.

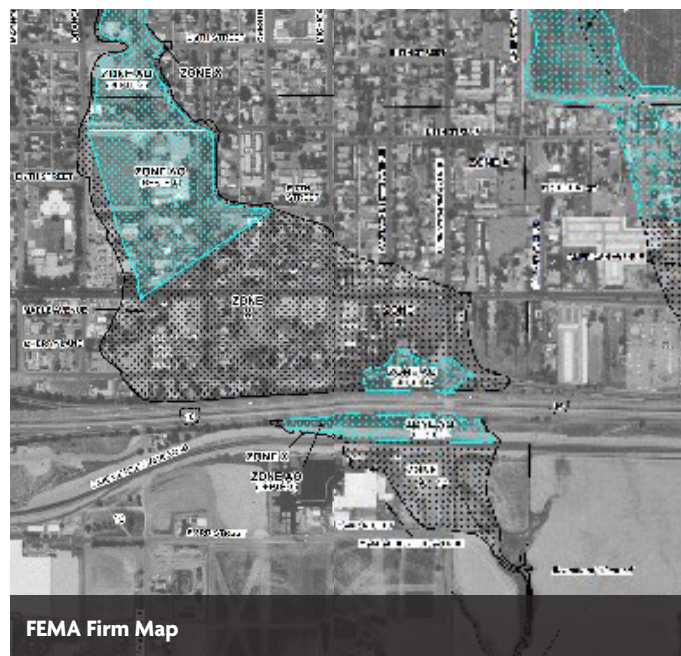
**Hydrology + Hydraulic Analysis** require experienced drainage engineers that have worked with RCFC + WCD.

EXP will perform the hydrology and hydraulic analysis to ensure all the flows are accurately captured within the Line 2 – Stage 1 watershed. The of basis of design, as indicated in the RFP, is the 1983 Beaumont MPD hydrology study. We reviewed the study in detail and have concluded that an update is in order. For example, the MDP hydrology study indicated that the open channel segment of Line 2 – Segment 1 will be designed for the 100-year storm event while storm drains will be a 10-year storm event. In addition, the updated hydrology would incorporate other projects such as the extension of 2nd Street to Pennsylvania Avenue, the UPRR grade separation and any other land use changes in the watershed. We will update the hydrology study parameters in the Rational Method equation to include the precipitation data in NOAA Atlas 14. Presence of more rain gages in streams now provide accurate precipitation data than it was in 1983.

**We reviewed the study in detail and have concluded that an update to the MDP Line 2 - Stage 1 hydrology is in order.**

**FEMA Firm Map**

The project is within flood hazard areas designated as Zone AO and Zone X. Zone AO are shallow flooding areas of less than 3' and Zone X are outside of the 100-year floodplain as shown below. This project would not alter the floodplain and therefore will not seek a CLOMR from FEMA. The source of flooding is the Beaumont Channel and depressed areas between I-10 and UPRR.

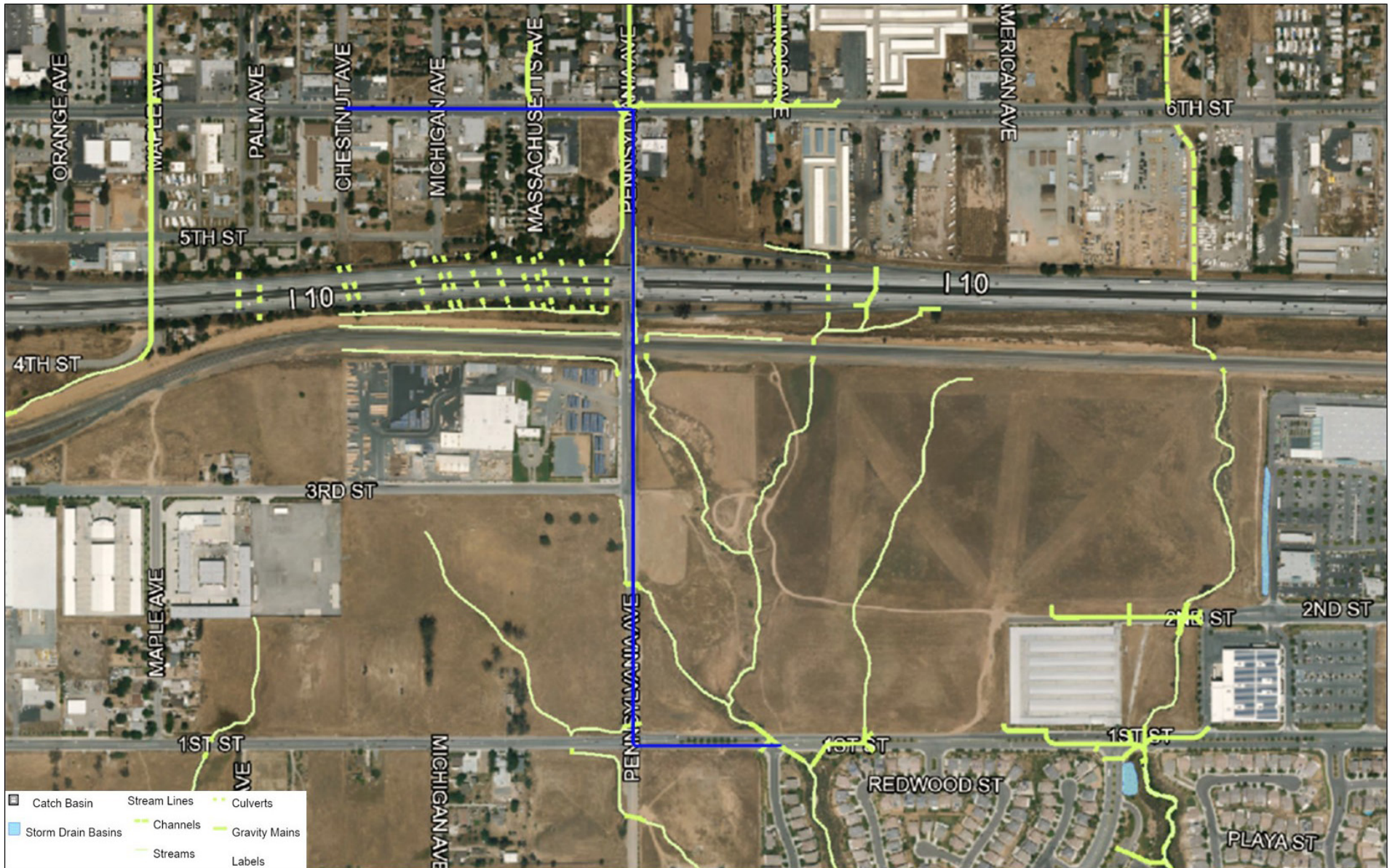


The preliminary layout of Line 2 – Stage 1 and hydraulic information is shown on **Exhibit B**. We recommend the upstream project limit occur north of Pennsylvania Avenue at Chestnut Avenue. This would allow a large flow from Chestnut Avenue to be captured and also avoid disruption of traffic at the intersection when Line 2 is extended upstream. The downstream end at 1<sup>st</sup> Street is planned to tie into an existing culvert for the Potrero Channel as shown in **Exhibit B**. After setting the project limits of the project and the MDP hydrology study is approved, peak flows will be calculated to determine the level of protection for the following criteria shown in **Table 1** below.

**Table 1 | RCFC Protection Criteria**

DURATION	DESCRIPTION
10-YEAR	Water Surface to the top of the curb
100-YEAR	Water Surface to the R/W
100-YEAR	Minimum 1' Freeboard to Dwelling Pad

# Exhibit B | Preliminary Layout of Line 2 - Stage 1



New catch basins will be located to meet the above protection criteria. Each catch basin will be sized and spaced to maximum efficiency. Catchbasins will be located at low points and will be preferred over grated inlets as these tend to get clogged often.

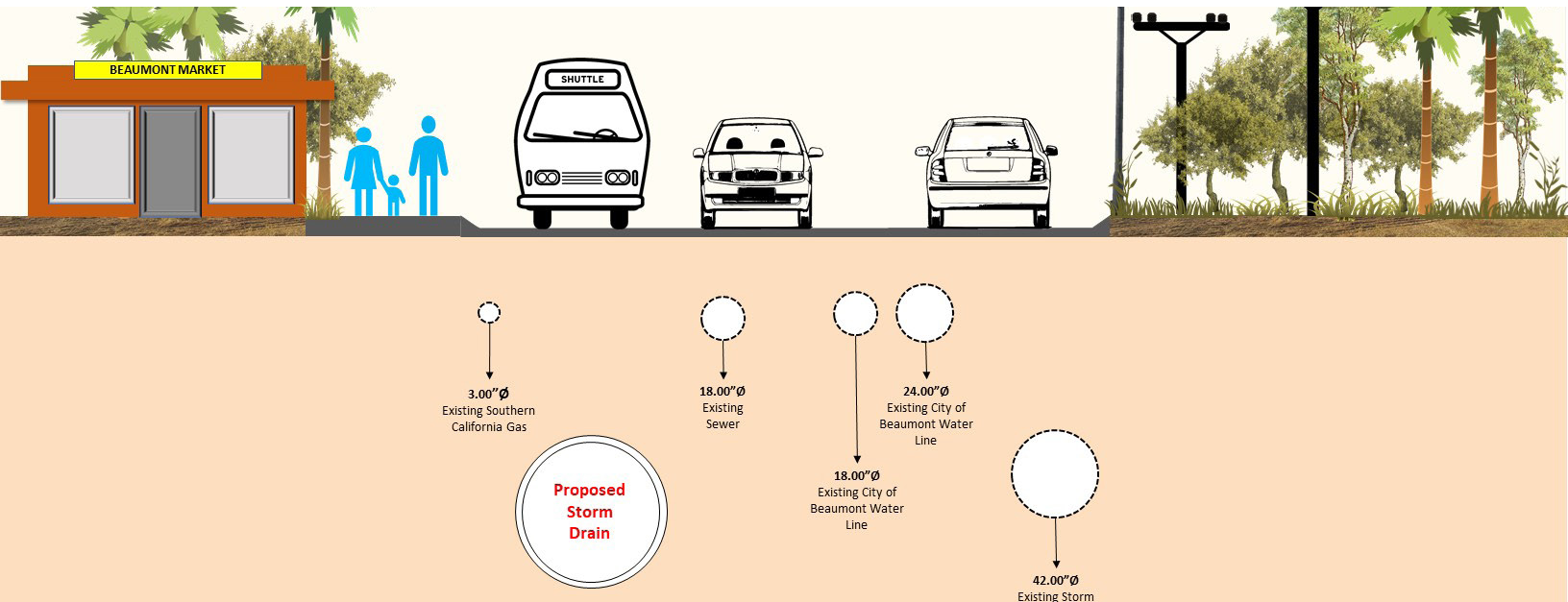
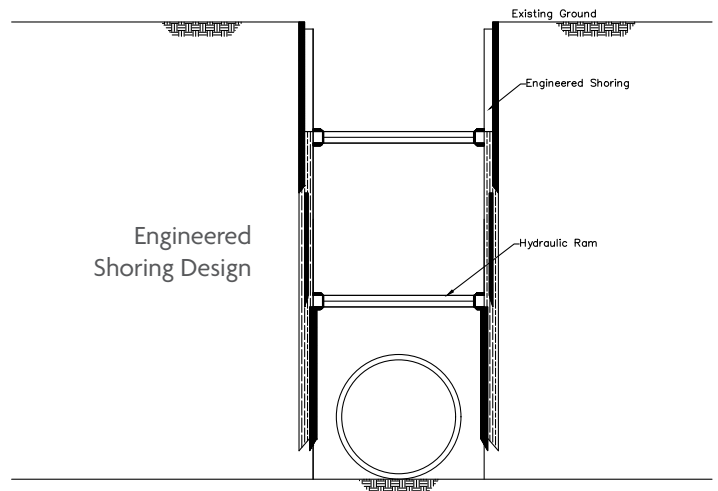
Due to the differences in times of concentration and storm durations, it is anticipated that peak flows from adjacent areas will not add to MDP Line 2's peak flows. The most conservative method to address this is to analyze peak to peak flows at junction points. This is especially true for discharges within Caltrans right of way, where systems are designed for a 25-year storm event. There are several culvert extensions being proposed in the Pennsylvania Avenue widening. A cost saving can be realized if these culverts discharge to the new Line 2 storm drain. Flows would continue to historical pattern at the 1st Street culvert.

### Storm Drain Design is our expertise

The storm drain alignment and profile require consideration of several factors during design. These include RCFC + WCD design criteria, physical and right-of-way constraints, construction cost, operations and maintenance. A well thought-out design comes from experienced managers and engineers that knows what works and can navigate around design traps and pitfalls. The EXP Team have listed several specific design factors that will be employed on this project:

- Set the storm drain profile to minimize trench excavation depths;
- Maximize catchbasin efficiencies;

- Promote self-cleaning velocities and avoid steep to flat slope transitions that would create sedimentation inside the pipe;
- Locate manholes at junction structures;
- Locate laterals connections at the storm drain centroid;
- Consider the constructability of all systems
- Coordinate with other on-going projects and ensure compatibility with future;
- Incorporate safety in the design such a safety ledges in Manholes and require project specific shoring design;
- Calculate and Specify allowable Pipe D-Loads to avoid cost overruns; and
- Consider future Operations and Maintenance such accessibility and safety of workers.



## Alignment Alternatives

The EXP Team evaluated other alignment alternatives for Line 2 – Stage 1. However, these alignments were deemed too costly because they required tunneling under I-10 and UPRR tracks, as well as several right of way acquisitions. We feel the alignment under Pennsylvania Avenue is the most feasible that can meet project goals. A SWPP will be prepared to address water quality during construction.

## Storm Water Quality permanent treatment BMPs will not be required.

In accordance with the City's MS4 Permit, a Project-Specific Water Quality Management Plan (WQMP) is not required because the project will not create new impervious areas. However, the contractor will be required to implement construction BMPs to comply with the Construction General Permit. The BMPs expected for storm drain work can include inlet protections, construction entrances, stock pile management, street sweeping, and concrete wash-out facilities. A SWPP will be prepared to address water quality during construction.

## Structure Design + safety is our goal

The proposed drainage system may require the structural design of unique modified junction structures, specialized manholes, and non-standard headwalls and wingwalls. At the preliminary design stages, structural input will advise on the feasibility of these unique structures and assess constructability under all anticipated construction stages and develop preliminary cost estimates for the evaluation of possible alternate solutions. After a preferred alignment is selected, structural design will advance to refine dimensions of primary structural members including sizing of primary reinforcement bars for reinforced concrete structures. As the structural design progresses the constructability during all phases of construction will continue to be assessed and the cost estimate will be updated. Final design will further develop and complete all structural details for the unique structures.

## Traffic Control is a service to the motorist + community

EXP will provide the required Traffic Control Plans to minimize disruption to the existing road users. The plans will comply with the MUTCD and set the

construction staging to properly close lanes and divert traffic. EXP will evaluate traffic conditions such as Level of Service, delay and queue concerns in the existing network and during the construction to identify deficiencies and implement mitigations to reduce congestion. At least one lane on each direction will be maintained to allow traffic to flow.

The ramp terminals at the intersection of I-10 Hwy and Pennsylvania Avenue will be maintained to avoid any interruption to/from I-10 Hwy. It is important that existing pedestrian and cycling facilities within the study area be maintained during construction, or adequate detours and protection provided.

It is important to ensure pedestrians and cyclists reroute safely and properly at intersections with clear signage and pavement markings. Any section which might be confusing to the users requires additional message signs and warning marks. Access to local commercial and residential properties will be maintained during the construction. Where it is necessary to close access to accommodate construction work, closure would only be permitted when the business is closed, or during night time hours.

For any lane closures that are necessary during construction, identify measures that will minimize obstructions to traffic flow and avoid significant traffic delays, as well as avoid disruption to business and obstructions to pedestrian access.

## Coordination with Other Projects is EXP's commitment to the City

### Pennsylvania Avenue Improvement Project

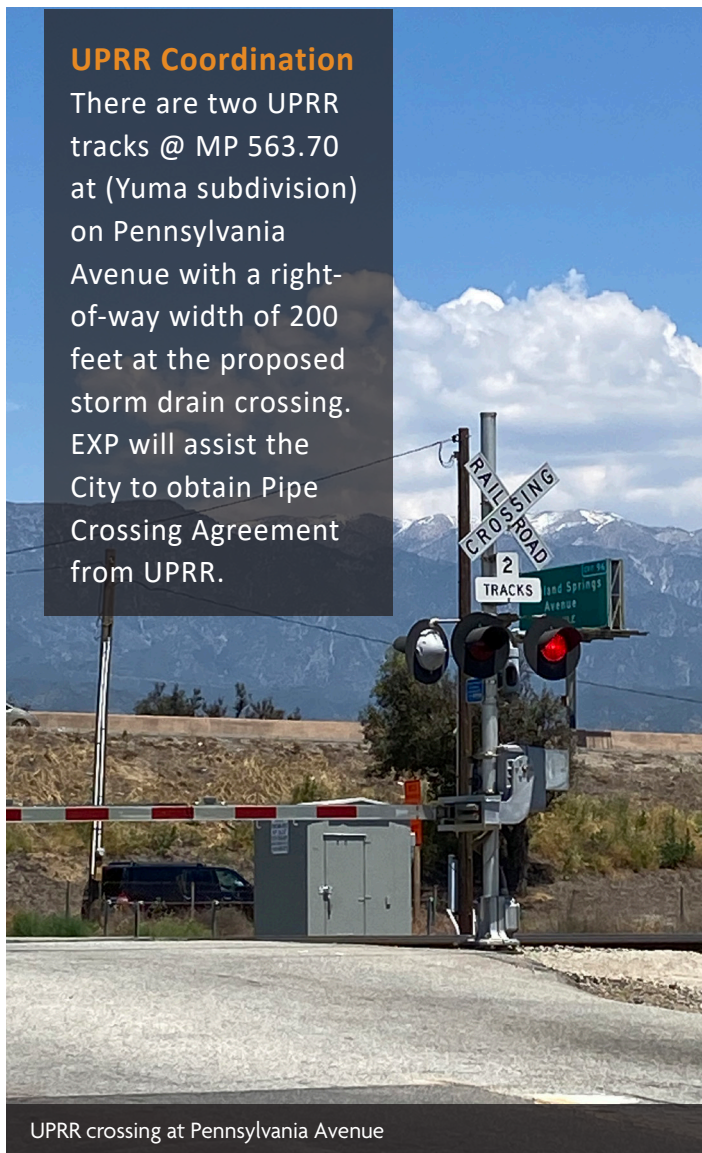
Plans to improve Pennsylvania Avenue between 1<sup>st</sup> Street and 6<sup>th</sup> Street is anticipated to be completed towards the end of 2020. As mentioned earlier, we recommend the City combine the Line 2 – Stage 1 construction with the Pennsylvania Avenue construction. We are confident that an approved PS&E for Line 2 – Stage 1 will be ready in July 2021.

*The cost savings in combining the construction packages can be upwards of \$1M that includes reconstructing drainage facilities, pavement, traffic control and staging, and construction management.*

Another added benefit is less disruption to traffic for work in the same areas.



**Pennsylvania Road Improvement Staging + Control Plans** - We reviewed the Pennsylvania Avenue Road Improvement Staging and Traffic Control Plans and found that the proposed construction sequencing and lane closures would complement the storm drain installation. The roadway project will provide the extra space to accommodate at least one lane of traffic in each direction. The road project proposes to close the UPRR crossing. This is a good opportunity to install the pipe tunneling underneath the tracks.



**UPRR Coordination**

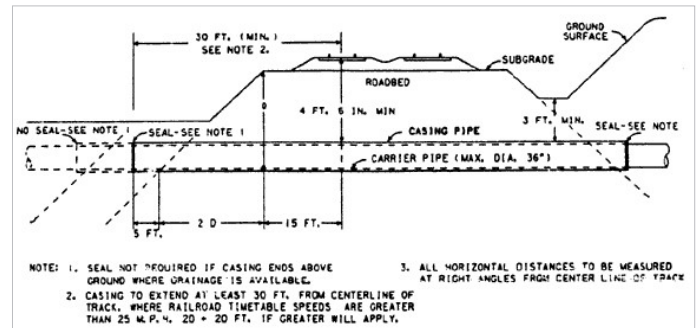
There are two UPRR tracks @ MP 563.70 at (Yuma subdivision) on Pennsylvania Avenue with a right-of-way width of 200 feet at the proposed storm drain crossing. EXP will assist the City to obtain Pipe Crossing Agreement from UPRR.

**UPRR/Pennsylvania Avenue Grade Separation Project**

The RFP indicated there will be a future grade separation at UPRR and Pennsylvania Avenue. The current 30% plans show Pennsylvania Avenue going under UPRR. At this time, plans to advance the project, though inevitable, is uncertain due to funding source.

EXP will work with the City to ensure the storm drain profile can accommodate the future Pennsylvania Avenue profile. The storm drain will be located and protected so the future UPRR bridge foundation can be constructed without damaging of the storm drain. There needs to be a balance between risk and cost to make this crossing design efficient. The risk is precluding the future grade separation construction and the additional cost is to install the pipe much lower than necessary to ensure viability of the grade separation project.

It may be necessary to provide a pipe casing across the entire UPRR right of way width for the storm drain as shown in **Figure 1**. Since the storm drain will be fairly deep under the tracks and potential leakage may not be detrimental to the track stability and future bridge, EXP would try to obtain a design deviation from UPRR railroad engineer to eliminate the pipe casing requirement. Either way, approval from UPRR's engineering department will be processed through a pipe crossing agreement.



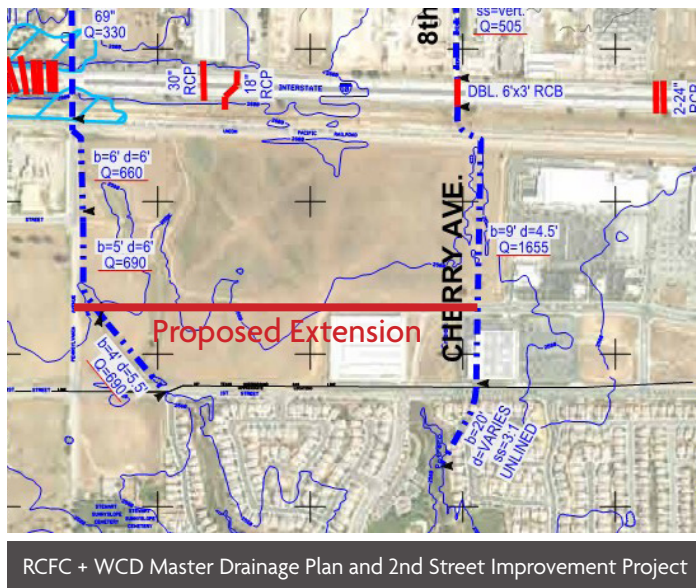
**Figure 1** - Typical railroad casing for pipes

Another consideration is the reduction of flows from the natural watercourses as it crosses the future 2<sup>nd</sup> alignment. We will coordinate with their design team to ensure their drainage facilities are sized appropriately.

**2<sup>nd</sup> Street Improvement Project**

The City will soon begin design of the 2nd Street Extension from it's current terminus to Pennsylvania Avenue. It is expected there will be

some flows from this project that will discharge to Line 1.



### Caltrans I-10 Ramp Modification Project

Coordination with the Caltrans I-10 Project design team will be necessary to ensure laterals accommodate for freeway drainage. Construction of Line 2 – Stage 1 under the I-10 Freeway and will require an encroachment permit (EP) from Caltrans District 8. EXP has extensive experience in obtaining Caltrans Encroachment Permits and will work closely with District 8 Encroachment Permit Office throughout the application process. In our experience, an initial EP for the temporary fieldwork relating to geotech, survey, and other field studies would be necessary, and a final EP for the permanent design improvements prior to construction. To facilitate Design Services, EXP will quickly identify the fieldwork within Caltrans jurisdiction at the onset of the project and submit the initial EP application in accordance with California Streets and Highway Code and Caltrans Encroachment Permit Manual. At the completion of Final Design within Caltrans jurisdiction, EXP will submit and obtain the final EP to construct the improvements and apply for any extensions as necessary.

### Schedule is designed to expedite the project

The project schedule has been developed taking into account the various tasks identified in the RFP for Line 2 – Stage 1. A detailed Microsoft Project schedule showing various activities, durations and critical path for the project is shown in **Section K**. Our team prepared the following draft project schedule based on our understanding of the project and the City's

goals and objectives. A key part of our approach is to utilize historical knowledge by team members to fast track the schedule, especially focused on the Environmental Clearance, Riverside County Flood Control District approval and utility permits which are on the critical path. We are confident that we will meet the dates set out in our schedule.

### Constructability staff will be involved for the duration of the project

Based on our experience in construction of large diameter storm drains, the following constructability issues must be considered:

- The traffic control plans need to consider a work area that accommodates the trench width, pipe laydown areas and construction equipments.
- Areas next to the bridge foundation need to ensure that the soil will not be disturbed during installation and removal of shoring, as well as excavation and backfill.
- Maximum depth of excavation exceeding 30ft can be time consuming with Trench shield method - address open trench dangers and road traffic safety protection.
- The proposed storm drain installation under UPRR require a trenchless construction method to avoid disturbance to the rail service. Microtunneling with launch pit and receiving pit would be disruptive to all stakeholders.

### Specifications

Technical Specifications will be prepared as Special Provisions in conformance with the City and RCFC + WCD. EXP will provide copies of required permits and reference standard plans/materials to be inserted into the City's contract bid documents. The City of Beaumont "boilerplate" contract document will be edited to include all required text. Every contract item of work must be fully specified including a measurement (if "Green Book" requirements do not fully describe the required work or comply with RCFC + WCD and City standards.

### Estimates

EXP will provide source of information and justification of bid item unit prices prior to final plan approval. We will provide a construction quantity take-of list broken down by sheet and an updated cost estimate for each plan check submittal and a final engineer's estimate of the project cost. The quantity calculations will be clear as to where the specific items are located, i.e. reference to station/offset or other method.

## Table 2 | Key Challenges + Solutions

Please refer to **Exhibit C** for the locations of each of the challenges listed in the table below.

	CHALLENGE	SOLUTION	BENEFIT	PREVIOUS EXPERIENCE BY TEAM
1	The 1983 MDP Hydrology will have to be re-evaluated. Flows larger than previously expected could pose feasibility issues.	Coordinate with RCFC as soon as possible. Update the 1983 MPD Hydrology Study and provide a preliminary hydraulic analysis.	Preliminary hydrology and pipe sizing will allow the early design decisions.	Portia Gonzalez, Shubhee Saxena and Parakh Jaiswal
2	Traffic Control and Construction Staging requirement may cause travel delays and safety issues to motorist and pedestrians.	Combine the Line 2 - Stage 1 Project with the Pennsylvania Avenue Project Traffic Control and staging to avoid multiple construction delays. The roadway widening would allow extra room to shift traffic for safety.	More space for trench and work area in cost savings on traffic control.	Portia Gonzalez and Ben Hashemloo
3	Numerous future projects drainage needs will have to be accommodated but may pose constraints on storm drain design.	Planned storm, drains culverts, and catchbasins will have to be analyzed as part of the Line 2 - Stage 1 project. Locate and connect culverts and laterals to Line 2, wherever feasible.	Cost savings to add connect to Line 2 and less long term maintenance cost.	Portia Gonzalez, Gabriel Rodriguez, Syed Raza and Ju Kim
4	There are numerous existing utilities that may conflict with the proposed alignment.	Identify pothole utilities in question. Coordinate with utility owners as soon as possible to gain consensus on location and proposed design. Avoid major utilities, if possible. Monitor utility relocation by utility owners to avoid project delays.	Accurate utility locations will reduce risk of striking during construction. Utility conflicts can be resolved during design and avoid costly relocation cost	Curtis Bibolet and Robert Vasquez
5	Type of construction means and methods across the UPRR railroad tracks will have to be approved by UPRR	Jack and Bore or Tunneling have different requirements. Coordinate with UPRR early in design and obtain concurrence. Add UPRR stipulations in Special Provisions	Establish accurate engineers estimate for type of construction	Sampath Golla and Ju Kim
6	Shoring and Groundwater issues will need to be identified to avoid construction cost overrun.	The geotechnical engineer will conduct soil boring investigations that will provide soil stability and groundwater information. Special Provisions will require the Contractor to provide engineered shoring design and dewatering mitigation measures.	Establish accurate engineers estimate for shoring requirement and groundwater mitigation.	Lisa Battiato, Portia Gonzalez and Ju Kim

## Exhibit C | Key Issues Map



D

# Firm Profile



5

offices in California

90+

offices in North America

3500+

professionals worldwide

#44

Top 500 Design Firms  
ENR California, 2019

200+

award-winning projects

## Firm Profile

### Who We Are

With a mission to understand, innovate, partner and deliver, EXP provides engineering, architecture, design and consulting services to the world's built and natural environments. Our heritage dates back to 1906, when the earliest of EXP's predecessor companies started its engineering infrastructure practice. Today, over 3,500 creative EXP professionals across North America provide the passion and experience needed to deliver successful projects around the world. We are a private corporation with 90+ offices across North America, including 25 offices in the United States. In California, we have offices in Glendale, San Diego, and San Francisco.

We have worked with numerous local agencies and municipalities to provide multidisciplinary services for public works projects in urban environments. We bring a full range of services from planning and feasibility through design and construction management, as well as overall program management. **Ranked #44 in the Top 500 Design Firms by Engineering News-Record (ENR) California in 2019.** EXP is consistently recognized by our clients for the quality of our services. We are client focused with the capabilities and depth of resources of a large multidisciplinary practice.

### Organization Structure

EXP is a privately-owned North American corporation. Our corporate leadership team is comprised of a Board of Directors and an Executive Team, with leaders from across the various regions and sectors. For further details, please see **Section K - Additional Information** to see our Corporate Organizational Chart.

Delivering exponential possibilities for our clients,  
our employees and our communities.

## Areas of Expertise

With diverse experience in the planning, design and construction of highways, expressways, tollways, local roads and streets, we bring innovative solutions for every type of roadway. We have designed modern highways to bring new paths of travel, reconstructed and rehabilitated roadways to facilitate more efficient movement and solved the challenges of complex urban interchanges. Combining modern technology and innovative design we deliver customized solutions for toll roads and bring expertise in Intelligent Transportation Systems (ITS) to make our roadways smarter.

As a multidisciplinary transportation practice, we bring added expertise such as bridge design, roadway lighting, traffic signals, streetscaping and stormwater management. From feasibility studies and environmental assessments to design and construction administration, we provide a complete solution to meet our clients' transportation needs.

## Firm Qualifications

The EXP team was formed to provide the City of Beaumont with the personnel and project experience it needs to successfully address all services identified in the RFP. In addition to technical and managerial expertise, we provide a highly qualified team with the following:

- ✓ Scalable approach to work plans encompassing both small-and large-scale projects;
- ✓ Team with the right skill sets that gives the City of Beaumont the people it needs, when it needs them;
- ✓ Team with past and current experience with federal, state and local approval and permitting agencies;
- ✓ Thorough understanding of the anticipated and required efforts from project inception to completion; and
- ✓ Experience with small and disadvantaged business enterprise firms to conduct services similar to those being advertised.

Across the EXP team, our proposed key personnel bring decades of experience working with local agencies and municipalities in Southern California to deliver similar programs and contracts. These key personnel bring current and previous experience:

- ✓ Managing multidisciplinary teams;
- ✓ Working with various municipalities in Southern California to deliver municipal improvement programs;
- ✓ Developing innovative solutions across all disciplines;
- ✓ Mitigating impacts to keep projects on schedule;
- ✓ Coordinating with federal, state and local agencies and stakeholders; and
- ✓ Working with agencies to obtain funding and grant.

## Conflict of Interest

EXP provides the highest level of integrity by maintaining a cordial relationship with its clients. EXP has no conflict of interest with respect to any of its active or dormant clients in the subject area and has no potential conflict of interest in submitting a proposal of this nature.

EXP attests in this proposal, confirmation that EXP does not and will not have any conflict of interest (actual or potential) in submitting its proposal or, if selected, with the contractual obligation of EXP as consultant under the Agreement.

The EXP Team's advantage is having the institutional knowledge from working on RCFC + WCD Projects, which means an **expedited schedule and cost-savings to the City.**



E

Resumes

BEAUMONT  
CIVIC CENTER

550





## Portia Gonzalez, PE., QSD/QSP

Proposed Role: Project Manager



### SPECIALTY EXPERIENCE

- hydrology
- hydraulics
- pavement drainage design
- flood control facilities
- stormwater permitting

### SCOPE TECHNICAL AREA EXPERTISE

- pavement hydraulics
- hydrology
- hydraulics
- stormwater permitting

**29+**  
years of  
experience

### Professional Registrations

- P.E. – CA (C52302)
- P.E. – AZ (C31475)
- Qualified SWPPP Developer (QSD 52302)
- Construction General Permit Qualified SWPPP Practitioner (QSP)

### Education + Training

- M.S., Civil Engineering, Water Resources, California State University, 2010
- B.S., Civil Engineering, California State University, 1991

### Affiliations + Memberships

- Member, Hydrology and Hydraulics Executive Community, American Society of Civil Engineers (ASCE) Orange County

Portia Gonzalez brings more than 29 years of experience. She has served as project manager for various drainage and transportation projects in California, Arizona and Nevada.

Her expertise includes project management, drainage design, hydrologic and hydraulic modeling, storm water management, 2D modeling, river modeling, floodplain delineation studies, storm drain master planning, detention basin design, bridge scour, roadway drainage and design, water resource planning, sediment transport and water distribution. She brings working knowledge of software such as AES, WSPG, HEC-HMS, HEC-6, HEC-RAS, Flow-Master, Storm CAD, CulvertMaster, InRoads Storm and ArcGIS.

### Project Experience

#### \*Moreno Line K-1, Moreno Valley, CA

Line K-1 is located along Ironwood Avenue and consists of a pipeline constructed upstream of the SR-60/ Moreno Beach Drive interchange which will divert flow away from the interchange and convey it to the Nason Basin located in the northeast quadrant of the Nason Street interchange. At the upstream end of the pipeline, a diversion structure is proposed, comprising two large catch basins that intercept and convey flow to a 1482' long 90" RCP transitioning to a 90' long 7' x 7' RCB designated as the K-1 Line by the Riverside County Flood Control and Water Conservation District. Line K-1 will outlet to a natural drainage flow path designated as Line K by the County. At the confluence of Line K and Line K-1, a rip rap pad will be constructed to avoid potential downstream erosion of the natural drainage flow path. The conveyance system designated as Line K ultimately conveys the flow to the downstream Nason Basin for detention of peak storm flows. Line K under Ironwood Avenue consists of a 72" CMP which will be modified as part of this project.

Portia managed the drainage team that delivered the PS&E for this Moreno Line K-1.

*\*Work performed at previous firm.*

## **Portia Gonzalez, PE., QSD/QSP – Continued**

Proposed Role: Project Manager

### **Bundy Canyon Roadway Improvement Project – Line F, Wildomar, CA**

The City plans to widen Bundy Canyon Road from I-15 to Sunset Avenue. The widening consists of widening the roadway from two to four lanes, adding traffic signals, soundwalls, bike path and pedestrian path. As part of the roadway widening, the project includes improvements to Sedco Line F – a Riverside County Flood Control District Master Plan Facility. Sedco Line F. Portia was the lead drainage engineer that provided the alignment alternatives for Line F, hydrology and hydraulic analysis for both the project on-site and off-site drainage and the Water Quality Management Plan.

### **Caltrans 12A1756 SR-1 Project: EA 0P5900 & 0P6800: Traffic Signal Upgrades and Pavement Rehabilitation, Newport Beach, Huntington Beach, Seal Beach, CA**

The traffic signal and pavement rehabilitation project is located on State Route (SR) 1 between Newport Beach and Seal Beach. This project would improve 20 intersections for 25 miles of roadway and rehab the pavement between Warner Ave. and County Line. Portia was the lead engineer responsible for the hydrology and hydraulics analysis, drainage report, NPDES compliance, and plan preparation. Tasks include coordinating with roadway and signal designers to ensure drainage needs are implemented.

### **Peach Avenue Improvement, Hesperia, CA**

The City of Hesperia proposes to realign Peach Avenue between Centennial Street and Hinton Street on Peach Avenue where it crosses the Antelope Valley Wash. The project consists of realigning and raising the roadway profile over the Antelope Valley Wash with reinforced concrete boxes (RCBs) culvert, with new asphalt concrete pavement. Portia was responsible for the hydraulic alternative analysis and design of new RCBs. Design include channel realignment, grading and structural details for the RCBs to accommodate the new roadway.

### **Diaz Road Improvements, Temecula, CA**

The project proposes to improve Diaz Road to a major arterial road between Cherry Street and Rancho California Road. Design elements includes roadway widening and extension, raised median, landscaping, curb and gutter, sidewalk and trail realignment, drainage facilities, and treatment BMPs. Portia is responsible for the drainage analysis to comply with the City's and Riverside County Flood Control District design criteria, WQMP and PS&E.

### **City of Chino, Hills Storm Drain Master Plan, Chino Hills, CA**

The City's Storm Drain Master Plan establishes an approach to creating a prioritized Capital Improvement Projects to mitigate the impacts of stormwater runoff in the City. This document identifies the steps taken to inventory and analyze the existing storm drain system, analyzes capacity restrictions within the storm drain networks and provides recommendations. Portia was the Project Manager for a team of drainage engineers and GIS specialist that analyzed the existing drainage deficiencies throughout the City and provided a range of drainage concepts for the construction of future facilities required to serve the City at buildout of the General Plan and establishes criteria for selecting and prioritizing projects. AES Software was used to for the hydrology and hydraulic computation. Output data was extracted using a project specific programming. This data was then incorporated into the City's GIS storm drain data base.

*\*Work performed at previous firm.*

## **Portia Gonzalez, PE., QSD/QSP – Continued**

Proposed Role: Project Manager

### **I-40 Regrade Median Cross Slope Barstow, CA**

The I-40 Regrade Project is to re-grade the existing median cross slope within the clear recovery zone (CRZ) to 10:1 or flatter to reduce the severity and the number of run-off-the road accidents in the median on Interstate 40 from 1.4 miles east of Fort Cady Road (PM R25.0) to Crucero Road (PM R50.0) near Barstow, in San Bernardino County. This project is multi-phased that covers both PA/ED and PS&E phase.

Portia is responsible for the drainage analysis and design of over 25 culverts that would be extended to accommodate the proposed fill in the median. Other tasks include Caltrans coordination and stormwater coordination.

### **\*Clinton Keith Road/Murrieta Creek, RCFCD, Murrieta, CA**

Portia was the lead drainage Engineer responsible for the hydraulic analysis and structural design of the Clinton Keith Road bridge over Murrieta Creek. The project was designed for the Riverside County Transportation Department in response to the flood damaged bridge. The project was coordinated with Caltrans Structures HQ and the City of Murrieta.

### **\*Lake Elsinore Outlet Channel, RCFCD, Lake Elsinore, CA**

Portia was the lead drainage Engineer responsible for the structural design of Highway 74 three- span, slab bridge supported by concrete columns over crossing the outlet channel. Design of this structure conformed to Caltrans standards and guidelines and was approved by Caltrans Department of Structures. Also, included in this project are design of cantilever retaining walls, 36 inch irrigation line relocation, water line and sewer line relocations, utility coordination, guardrail, street drainage and traffic control. Collaboration with the US Army Corps of Engineers was required for this project.

Portia will be the main point of contact authorized to negotiate the contract on behalf of EXP.

*\*Work performed at previous firm.*

**Ju Kim, PE, QSD**

Proposed Role: QA/QC Constructability

**SPECIALTY EXPERIENCE**

- constructability review
- construction QA/QC
- construction support
- shop drawing review
- submittal review
- RFI's review and response
- field inspections

**SCOPE TECHNICAL AREA EXPERTISE**

- traffic control
- SWPPP/BMP
- construction administration
- "as-built" documentation
- NOPC + claims mitigation
- contract change order

**30+**  
years of  
experience

**Professional Registrations**

- P.E. – CA (Civil, C54269)
- Qualified SWPPP Developer (QSD)

**Education + Training**

- BS, Civil Engineering, University of California Davis

**Affiliations + Memberships**

- ASCE Orange County - Membership Chair 2000-2018
  - CMAA Southern CA
    - CCM Committee Member 2019-present
  - WTS Orange County
    - Treasurer 2018-present
    - Mentoring Committee 2016-present
- Select Project Awards

Ju brings 30 years of professional experience in transportation engineering and project management, including 21 years as a California Department of Transportation (Caltrans) senior bridge engineer, and his position as Division Manager of Construction for Orange county Public Works (OCPW) managing county's construction projects for OCPW. His diverse structure experience includes cast-in-place (CIP) box girder bridges, T-girder bridges, precast I girder bridges and steel I-girder bridges. He also has an in-depth knowledge of mechanically stabilized earth (MSE) walls, various types of retaining walls, soil nail walls, tie back walls, pump plants, maintenance stations, stone columns, soil mixing, bridge retrofit, open channels, cofferdam construction, roadway rehabilitation, drainage and sewer. Areas of specialty are: Constructability review, Construction support, Shop drawing review, Submittal reviewer's review and response, Construction QC/QA, Field Inspections. In addition, technical areas of expertise are: Traffic Control, SWPPP/BMP, Construction Administration, "as-built" documentation, NOPC and Claim, Contract Change Order.

Some of his career highlights are the I-105 Century Freeway, reconstruction of the Santa Monica Freeway after the Northridge Earthquake, reconstruction of the Cypress Freeway (San Francisco), I-5 widening (OCTA-Caltrans), San Francisco Bay Bridge Retrofit, Coronado Bridge Retrofit, I-5/805 Interchange, SR-57/60 Interchange, I-5 Gateway (OCTA-Caltrans), 57 Freeway widening (OCTA-Caltrans), San Gabriel Trench Project (SGVCOG) and OC405 Design Build (OCTA).

**Project Experience****Riverside County Transportation Commission (RCTC), State Route 60 Truck Climbing Lane Project, San Bernardino, CA**

The Riverside County Transportation Commission (RCTC), in cooperation with Caltrans, proposes to construct an eastbound truck-climbing lane and westbound truck-descending lane—along with inside and outside standard shoulders in both directions—on State Route 60 (SR-60) in a portion of unincorporated Riverside County between Gilman Springs Road at Post Mile (PM) 22.10 and 1.369 miles west of Jack Rabbit Trail at PM 26.61. The eastbound existing two lanes of SR-60 will begin the

*\*Work performed at previous firm.*

## Ju Kim, PE, QSD – *Continued*

### Proposed Role: QA/QC Constructability

transition to the truck-climbing lane at the end of the EB entrance ramp from Gilman Springs Road—and the three lanes will taper back to two lanes between post mile 26.3 and 26.61 (1.369 miles west of the Jack Rabbit Trail intersection). The westbound existing two lanes will begin the transition to the truck-descending lane at post mile 26.5—and the three lanes will taper back to two lanes between post mile 22.5 and 22.1. On EB SR-60, the existing shoulder conditions will begin to taper to the improved 12-foot outside shoulder at the end of the EB entrance ramp from Gilman Springs Road; and will taper back to existing shoulder conditions between post mile 26.5 and 26.61. On WB SR-60, the existing shoulder conditions will begin to taper to the improved 12-foot outside shoulder at post mile 26.51; will taper back to existing shoulder conditions between post mile 22.5 and 22.1.

### **\*Orange County Transportation Authority (OCTCA), I-405 Improvement Project, Orange County, CA**

This project adds one general purpose lane in each direction to a 12-mile segment between Euclid Street and the I-605, and one 14-mile tolled Express Lane in each direction between SR-73 and SR-22 east of the I-405. The new Express Lanes and existing high-occupancy vehicle (HOV) lane will be managed jointly as a tolled Express Facility with two lanes in each direction; two general purpose lanes on a 12-mile segment; two 14-mile tolled Express lanes. Mr. Kim as the Structure Manager was responsible for all the structures on this project. Structure includes bridges, retaining wall, box culverts, sound walls, open channels, stage construction of overcrossing and undercrossing. He was also responsible for staff supervision, maintaining accurate and adequate field construction records, reviewing contract change orders, review and responds requests for information (RFI), reviewing and approving shop drawings and submittals, performing structure inspection, hinge construction, falsework, cast-in-drilled-hole (CIDH) piles, retaining walls, bridge deck construction, performing bridge four-scale, bridge widening, shoring and surveying.

### **\*Caltrans District 7 East and West, District 7 North and District 12; On-Call Contract, CA**

Ju served as the Construction Manager and was responsible for providing staff augmentation, preparing and submitting monthly invoice, performing and maintaining monthly expenditure and providing projected man-hour. Performing task order projection and estimate.

### **\*San Gabriel Valley Council of Governments (SGVCOG), Alameda Corridor East Construction Project (ACE), San Gabriel Trench Grade Separation Project, San Gabriel, CA**

Ju served as the Lead Bridge Engineer/Structures Representative responsible for responsible for supervision of the structures inspection staff, review of submittals and RFI's, preparing project reports and photographs; preparing quantity calculations and assisting with preparation of the Contractor's progress payment; and assisting with resolving construction issues. The project constructs a 1.4-mile long concrete railroad trench, four new grade separations over the lowered UPRR railroad track, and new permanent railroad bridges constructed at the Alhambra and Rubio Washes. The project includes utility relocations to include relocation of fiber optic infrastructure along the UPRR right-of-way, storm drain, sanitary sewer improvement and numerous other utility relocations to include water, gas, electrical and communications, construction of a 2+ mile-long shoofly track, retaining walls, a secant pile wall trench, roadway improvements, traffic signals and street lighting, and landscaping. The project is located adjacent to the San Gabriel Mission and other sensitive historical buildings requiring extensive noise and vibration, archeological, paleontological and Native American Monitoring. The project included Caltrans Standard Specifications and Caltrans is providing oversight and a permit for roadway improvements near the I-10/San Gabriel Boulevard on- and off- ramps. The contract requires coordination with three cities, Caltrans, UPRR, LACDPW, LACSD, US Army Corps of Engineers and numerous utility companies and agencies.

*\*Work performed at previous firm.*

## Ju Kim, PE, QSD – *Continued*

Proposed Role: QA/QC Constructability

### **\*Orange County Public Works (OCPW) Construction Contract, Orange County, CA**

Ju served as Division Manager/Construction Manager, responsible managing the county-wide construction program and delivering OCPW's infrastructure projects. He managed a combined team of county and consultant staff of 45 professionals, assigned projects, trained staff and provided monthly cross-trainings. He also conducted bimonthly workload meetings, reviewed and approved all construction contract change orders, monthly progress payments and performed constructability reviews. The county wide projects included: pump stations, flood channels, street improvements, bridges.

### **\*Caltrans SR-57 Widening from East Katella Avenue to East Lambert Road, Orange County, CA, USA**

Ju served as Senior Area Bridge Engineer and was responsible for managing three SR-57 contracts, performing structure inspection, training structure representatives, field engineers as well as providing weekly technical structure training for all staff. Performed independent review of each project records to ensure that the projects adhere to Caltrans requirements. He performed constructability reviews for upcoming projects and provided training to Caltrans and consultant staff using the required manuals in the following areas: hinge construction, falsework, CIDH, retaining walls, bridge deck construction, four-scale bridge widening, shoring and surveying. The project included widened bridges; jacking and a bridge demonstration, constructed soil nail and sound walls and provided architectural features on the retaining walls.

### **\*Caltrans and OCTA, I-5 Freeway Widening, Buena Park, CA**

Ju was the Senior Bridge Engineer/Structure Representative responsible for managing and supervising 10 bridge engineers and reviewing submittals, requests for information (RFIs) and shop drawings. He was also responsible for maintaining accurate project documentation and the project budget. The project included reconstruction of the I-5 from six to 12 lanes of freeway, including construction of six new bridges, 29 retaining walls and one pump plant. It also replaced four CIP/posttension box girder bridges, widened one T-girder bridge, built cast-in-steel-shell (CISS) and CIDH piles, waterproofed and jacked the superstructure, retaining walls and architectural features. The project was completed on-time and within budget.

### **\*Caltrans, SR-57/SR-60 Interchange, Diamond Bar and City of Walnut, CA**

Ju served as Senior Bridge Engineer/Structure Representative and was responsible for supervising eight engineers and overseeing the construction and design of lanes and box girder and span bridges. This project constructed 2.4 miles of direct-connect high occupancy vehicle (HOV) lanes (one lane in both direction) from the SR-57 to the SR-60 using 11-foot diameter, 100-foot-long CIDH (wet hole) piles with the slurry displacement method, two CIP/post-tension box girder bridges and 29 spans bridges. The project also used soil cements, soil nail walls, retaining walls, MSE walls and sound walls and installed wick drains.

### **\*Caltrans, I-5/805 Interchange, San Diego, CA**

Ju served as the Senior Bridge Engineer/Structure Representative and was responsible for supervising 16 engineers, maintaining accurate and adequate field construction records, reviewing contract change orders and RFI responses and reviewing and approving shop drawings and submittals. He is also responsible for performing a four-scale layout, training staff in the CISS/CIDH slurry displacement method and making lost deck grade. This project constructed an HOV connector, containing 13-foot diameter CISS/CIDH piles using slurry displacement, a CIP/post tension box girder bridge, a pre-tension I girder widening, soil cement, stone columns, soil nail walls, retaining walls, geo-synthetic reinforced (PGR) walls and sound walls.

*\*Work performed at previous firm.*

## Syed Raza, PE

Proposed Role: Agency Coordination



### SPECIALTY EXPERIENCE

- interchange design
- intersection design
- street design
- safety design
- traffic design
- traffic handling
- construction staging

### SCOPE TECHNICAL AREA EXPERTISE

- program management
- project management
- highway design
- signing and marking design
- agency coordination
- quality assurance and quality control

# 38+

years of  
experience

### Professional Registrations

- P.E. – CA (C53579)

### Education + Training

- M.Sc., Civil Engineering, Texas A&M University, College Station, Texas, 1991
- B.S., Civil Engineering, NED Engineering University, Karachi

### Affiliations + Memberships

- Member, Professional Engineer: CA

Syed has over 38 years of executive, management and technical experience in the areas of transportation/traffic engineering and program/project management. During his career, he has led many multi-functional teams and successfully delivered many high-profile, state of the art, complex transportation projects. Syed was responsible for program management, technical oversight and review of all capital projects at Caltrans District 8 and oversaw the delivery of over 300 in-house and locally funded projects valued at over \$15 billion.

Syed's proactive program management approach, communication and problem-solving skills, ability to build consensus and strong leadership skills helped District 8 successfully deliver its portfolio of projects on time and within budget. Syed was also instrumental in assisting RTPAs, counties and cities deliver their projects on the State Highway System.

### Project Experience

#### **New State Route 60 (SR-60) /Potrero Boulevard Interchange, City of Beaumont, CA**

The SR-60/Potrero Boulevard Interchange Project proposes a new interchange on SR-60 in the City of Beaumont (between Jack Rabbit Trail and the Interstate 10/SR-60 Junction). The \$14M first phase of the project was completed in 2019 and includes a new 6-lane Potrero Boulevard overcrossing (3-lanes in each direction) with a temporary connection to Western Knolls Avenue. Led Caltrans team to assist the City get timely approval for the project and proceed to construction. Phase 2 will follow and includes westbound and eastbound diagonal and loop entry ramps (2 lanes plus HOV lane); extended ramp acceleration/deceleration lanes; realignment of Western Knolls Avenue; and removal of Western Knolls Avenue connections to SR-60. The City is the lead agency for the project with Caltrans providing oversight.

#### **\*Modify Interstate 10 (I-60) /Pennsylvania Avenue Interchange, City of Beaumont, CA**

This \$3 million project proposes to construct a new westbound loop on-ramp and realign the existing westbound diagonal

*\*Work performed at previous firm.*

## Syed Raza, P.E. – *Continued*

### Proposed Role: Agency Coordination

off-ramp to a spread diamond configuration at the interchange. The project is being processed by Caltrans as a Streamlined Oversight Project. Provided leadership and assisted the City in expedited processing of the project through Caltrans. Project currently in the Project Approval and Environmental Document phase.

#### **\*Caltrans District 8 Capital Program, San Bernardino + Riverside Counties, CA**

Served as the Deputy District Director for Program Project Management overseeing Capital Improvement Program from. The CIP Program funded over 750 positions in the Division of Construction, Design, Environmental, Right of Way and Project Management with a budget of over \$100 million in personal services and operating expense. Was responsible for securing funding for major and minor capital improvement projects from the State Highway Operation Protection Program (SHOPP) and State Transportation Improvement Program. Worked closely with RTPAs to secure state, local and federal funds and help deliver their capital improvement projects.

#### **\*State Route 60 (SR-60) Truck Climbing and Descending Lane, Riverside County, CA**

This 4.5-mile long \$140 million project developed by Caltrans in collaboration with RCTC will add truck climbing and descending lane on SR-60 in the “Badlands” area of Riverside County. The project limits are from Gilman Springs Road to 1.4 miles west of Jack Rabbit Trail through unincorporated Riverside County between Moreno Valley and Beaumont. The project lies within mountainous terrain with a curving alignment and steep grades. The project is designed to improve safety and efficiency and reduce traffic congestion for commuters, goods movement, and travelers to desert resorts. The project also includes adding two wildlife crossings and adding a wildlife fencing through the project limits. The project will also improve the sight distance by flattening the horizontal and vertical curves of the roadway. The project is currently in construction scheduled to be completed by late 2021.

#### **\*Interstate 10 Pavement Rehabilitation, Riverside County, CA**

This 20-mile long \$220 million pavement rehabilitation project will reconstruct two outside lanes of I-10 from SR-60 to SR-111 through the City of Beaumont and unincorporated community of Cabazon in Riverside County. The scope of work for the project includes reconstructing the two outside lanes with long life pavement. Random slab replacement is proposed for the inside two lanes. A temporary cross-over detour is proposed to maintain four lanes of traffic in each direction during construction. This project was identified in Caltrans’ annual Pavement Condition Survey as it exhibited distress cracking, rutting, and bleeding. The pavement condition is poor due to continuous traffic and high percentage truck traffic. The project addresses the current and future deficiencies of the existing pavement. This project is currently construction which is scheduled to be completed in 2022.

#### **\*Caltrans District 8 Capital Program, \$1.3 billion Riverside County Transportation Commission’s (RCTC) State Route 91 (SR-91) Corridor Improvement Project**

Served as the Project Director for the largest project in District 8’s history, RCTC \$1.3 billion SR-91 Corridor Improvement Project. The project scope of work included adding two express lanes and one general purpose lane in each direction of SR-91 for 12 miles. In addition, the project included adding a direct express lane to express lane connector in the median of I-15 and SR-91, interchange reconfiguration, collector-distributor road, railroad bridges, soundwalls, landscape and hardscape improvements. Coordinated with RCTC on all facets of the project including securing state and federal funds, approval of preliminary design elements and

*\*Work performed at previous firm.*



## Syed Raza, P.E. – *Continued*

### Proposed Role: Agency Coordination

environmental document for the project. Developed Caltrans organizational structure for the project to comply with the intent of California Assembly Bill 2098. Coordinated with FHWA to secure all the necessary approvals for major project deliverables and processing of TIFIA federal loan application. Assisted with the approval and procurement of the design-build contractor for the project from Federal Highway Administration.

#### **\*State Route 60 (SR-60) Pavement Rehabilitation, San Bernardino and Riverside County, CA**

This 18-mile long \$150 million pavement rehabilitation project will reconstruct the two outside lanes of SR-60 from the City of Chino in San Bernardino County to the City of Riverside in Riverside County. The scope of work for the project includes total reconstruction of the two-outside lanes with long life Jointed Portland Cement Pavement, random slab replacement, shoulder rehabilitation, on & off ramp rehabilitation, upgrade of pedestrian facilities and ADA curb ramps to current standards. The project addresses broken slabs and distress cracking, rutting, and bleeding. The ride quality is very poor due to high percentage of truck traffic. The project addresses the current and future deficiencies of the existing pavement. Innovative traffic management strategies have been implemented for the project that allows all lanes to be open during construction by constructing cross over detours, shifting traffic to the outside shoulder and doing work behind concrete barriers. The project is currently in construction and scheduled to be completed in 2022.

#### **\*Caltrans District 8 Division of Design, Riverside County, CA**

Served as the Design Lead for over seven years for multiple in-house transportation projects. Prepared horizontal and vertical alignment & typical cross-sections for complex transportation projects. This included \$300 million design sequencing project on I-215 to add HOV lanes and new freeway to freeway connectors, \$26 million SR-60 inside widening project.

*\*Work performed at previous firm.*

## Gabriel Rodriguez, PE

Proposed Role: Roadway Lead



### SPECIALTY EXPERIENCE

- roadway improvements
- storm drain improvements

### SCOPE TECHNICAL AREA EXPERTISE

- roadway/storm drain design
- quality control reviews
- constructability reviews
- specification writing
- cost estimating

**22+**  
years of  
experience

### Professional Registrations

- P.E. – CA (69948)

### Education + Training

- B.S., Civil Engineering, California Polytechnic State University at Pomona, 2001

### Affiliations + Memberships

- Member, Professional Engineer: CA

Gabriel Rodriguez has more than 22 years of civil engineering experience in the management, design, and construction of transportation and public infrastructure projects. His project experience includes bike and pedestrian trails, street improvements, drainage facilities, infrastructure, utilities, and grade separations. He has executed projects from preliminary engineering and alternative analysis through final design and construction management.

### Project Experience

#### \*Jamboree Road Widening, for City of Irvine, Irvine, CA

Gabriel served as project manager for the Jamboree Road Widening project and was responsible for leading the project design team which included roadway, traffic, utility coordination, landscape, survey, environmental, and geotechnical. The project, located in the city of Irvine, proposed to expand Jamboree Road from an 8-lane arterial to a 10-lane arterial with a Class II bike lane for approximately 1.5 miles between Barranca Parkway and the north side of I-405. The design and environmental effort included preliminary engineering, alternative analysis, environmental report, project study, and final plans, specifications and estimates.

#### \*Ranchero Road Corridor Improvements, for City of Hesperia, Hesperia, CA

Gabriel served as project manager for the Ranchero Road Corridor Improvement project for the City of Hesperia. Once constructed, the proposed improvements will provide capacity for future growth on the east side of the City as well improved access to a new interchange at Interstate 15. The project included the design of approximately five miles of road improvements, two major multi-barrel culvert crossing extensions as well as the approval of a Construction and Maintenance agreement for an at-grade UPRR crossing. Gabriel led the design team that worked with the City of Hesperia, County of San Bernardino, the local water purveyor, and UPRR to facilitate approval of the final plans, specifications and estimate (PS&E).

*\*Work performed at previous firm.*

## Gabriel Rodriguez, PE – *Continued*

Proposed Role: Roadway Lead

### **\*Avenue 52 & Grapefruit Grade Separation, for City of Coachella, Coachella, CA, USA**

Gabriel served as project manager for the Avenue 52 and Grapefruit Boulevard Grade Separation project in the City of Coachella. The project provided a grade separation at Avenue 52 and the Union Pacific Railroad (UPRR) line which will provide better access between the west and east sides of the City as well as more efficient mobility for emergency vehicles. Funding for this project included \$10 million of TCIF funding which was required to be allocated by the end of 2013. Gabriel led the coordination effort with Caltrans Local Assistance and Riverside County Transportation Commission (RCTC) to gain California Transportation Commission (CTC) and E-76 approval. Gabriel also led the design team which finalized the plans, specifications and estimate and secured agreements with UPRR, Coachella Valley Water District, Imperial Irrigation District, and Verizon/MCI. Construction completion is scheduled for November 2015.

### **\*Rancho Vista Grade Separation, Palmdale, CA**

Gabriel served as project manager in the early stage of the Rancho Vista Grade Separation project and was responsible for leading the project design team which included roadway, structures, traffic, survey, and geotechnical. The project, located in the City of Palmdale, will provide an overhead grade separation structure on Rancho Vista Boulevard which will span Sierra Highway as well as existing and future UPRR, Metro, and California High Speed Rail mainline tracks. The project proposes to construct a new eight-lane grade separation structure to improve safety and traffic movement at the rail road crossing as well as 4.5 miles of local roadway improvements to provide connectivity and access to existing parcels adjacent to the project.

### **\*Bryant Street Storm Drain and Street Improvements, for Riverside County, Wildomar, CA**

On behalf of Riverside County EDA, Gabriel served as project manager and was responsible for the oversight of the storm drain and street improvement design as well as the construction management efforts. The project included 4,400–feet of 30-inch storm drain pipe and 1,100–feet of street improvements. Gabriel assisted the EDA with the bid process and managed the construction management contract as well as facilitated construction meetings and provided quality control of construction management documentation.

### **\*Butterfield Stage Road and Murrieta Hot Springs Extension, for City of Temecula, Temecula, CA**

Gabriel served as project engineer on the extension of Butterfield Stage Road and Murrieta Hot Springs Road. The project located adjacent to wine Country in the City of Temecula provided a growing residential area with direct access to Rancho California Road and ultimately Interstate 15. The project includes 3 miles of roadway improvements, 2 miles of new storm drain and roadway culvert infrastructure and 2 precast bridges for the channel crossings for Long Valley Wash and Santa Gertrudis Creek. Gabriel was responsible for leading the design of the street and storm drain improvements as well as performing the hydrology and hydraulic analysis for the project. Due to the location of the project, several governing agencies required plan approval including the City of Temecula, Riverside County Transportation, and Riverside County Flood Control.

*\*Work performed at previous firm.*

**Ben Hashemloo, PE., PTOE**

Proposed Role: Traffic Control

**SPECIALTY EXPERIENCE**

- traffic impact study
- traffic network simulation
- active transportation analysis
- construction traffic management
- traffic safety + collision analysis
- traffic signal operation + optimization
- transportation planning + demand forecasting

**SCOPE TECHNICAL AREA EXPERTISE**

- project management
- data review and field investigation
- construction staging
- traffic operation analysis
- multi-use trail study

**15+**  
years of  
experience

**Professional Registrations**

- P.E. – NV (Civil, 026949)
- P.Eng. – ON
- PTOE – ON
- MTO – RAQS

**Education + Training**

- Master of Applied Science, Transportation Engineering, University of Waterloo, 2008
- Master of Applied Science, Highway Engineering, Sharif University, Tehran, Iran, 1998
- Bachelor of Civil Engineering, K.N.T University, Tehran, Iran, 1992

**Affiliations + Memberships**

- Member, Professional Engineer, CA
- Member, Professional Engineers, Ontario
- Member, Professional Traffic Operations Engineer, Professional Certificate Board

Ben is a Professional Engineer with more than 15 years of experience in transportation engineering. He served as project manager and lead engineer for traffic and transportation projects in California and Canada. His specialties include active transportation analysis, traffic network simulation and modeling, traffic impact studies, traffic signal operation, construction traffic management and project management. He possesses working knowledge of software such as Synchro, SimTraffic, HCS, VISSIM, Aimsun, Manifold, TransCAD, AutoCAD.

Ben's working experience also includes traffic demand forecasts, Environmental Assessments (EA), traffic safety, and construction staging.

**Project Experience****Seal Beach Engineering On-Call Services, Seal Beach, CA**

Traffic + Transportation Engineer. EXP is providing engineering services that include plans, technical specifications and estimates, bid support, construction management, survey, geotechnical, community outreach, public/private development plans, processing required permits and agreements, hydrology and hydraulic analysis, water and sewers studies, National Pollutant Discharge Elimination System (NPDES), Water Quality Management Plan (WQMP), Storm Water Pollution Prevention Plans (SWPPP), Grant Writing and Coastal Commissioning coordination. EXP recently developed plans, technical specifications and estimates for the Annual Paving Program and was instrumental in providing the IFB package on schedule for the City's procurement of a contractor.

**Range Road Sidewalk Pedestrian Signal Improvement, City of Pittsburg, CA**

Project Manager to revise pedestrian traffic signal and controller at the intersection of Range Road and W Leland Road in the City of Pittsburg. The CADD drawing was provided to include new changes. A specification and cost estimate were prepared for bid support.

**Fruitvale and Allendale Intersection Improvement, City of Saratoga, CA**

Project Manager to study existing and proposed design layout for the

*\*Work performed at previous firm.*

## **Ben Hashemloo, PE., PTOE – Continued**

### **Proposed Role: Traffic Control**

intersection of Fruitvale Avenue and Allendale Avenue to provide traffic signal design, control stripping and signing plans, and prepare specifications and cost estimates. The presence of a middle school adjacent to the intersection has raised safety concerns for students crossing the intersection. The intersection geometry was improved and signal plans, pavement marking and striping, and signing were updated.

### **SBCTA I-215 Bi-County Landscaping PA&ED and PA&E, San Bernardino County, CA**

Traffic lead to analyze traffic condition and prepare traffic management plans during landscape construction. This 5-mile long corridor is located from the San Bernardino County and Riverside County line to Orange Show Road in the City of San Bernardino and will provide a themed landscape transition along the I-215. The transportation management plan will include proposed lane/shoulder closure and is required to protect the safety of road users and construction crew. Signing, striping and detour plans will be provided as required.

### **Sir John A. Macdonald Parkway Traffic Signals Preliminary Design, City of Ottawa, ON, Canada**

Preliminary design of two new traffic signals on National Capital Commission parkway. One accommodated a relocated parking facility and the other a major new at grade pedestrian crossing and cyclist cross-ride. The access to the parking lot was a two-stage stop-control intersection with an insufficient turning gap and potential safety concern. A signal was at the intersection. The at grade pedestrian crossing included two lanes for pedestrians and two lanes for cyclists. A Ped signal was proposed at this location as well.

### **Burnhamthorpe Watermain Project, Region of Peel, ON, Canada**

Lead engineer to examine the construction impacts on the existing transportation network and key intersections within the study area. The Synchro model was developed to perform analysis based on the construction plan and deficiencies were identified. Remedial actions were developed and provided to the Region. transportation management plans and traffic control plans were prepared for each contract separately. Synchro software was used to evaluate existing traffic condition and estimate horizon year LOS, queue and delay to identify deficiencies and recommend solutions to address congestions and unacceptable delays.

### **West Brampton Watermain Project, City of Brampton, ON, Canada**

Lead modeler to review and examine the impacts of watermain construction on the existing transportation network in the study area. Synchro analysis package was utilized to evaluate proposed construction plan and to identify deficiencies. Construction transportation management plans and traffic control plans were prepared for each contract separately along the study corridor. Ben was responsible to coordinate with inspectors and project team to address concerns and revise analysis.

### **\*Toronto Transit Commission – Finch Ave. Light Rail Transit, Operational Performance Reviews, Toronto, ON, Canada**

Conducted a detailed analysis of a transit corridor with LRT lane. Traffic volume and capacity information was reviewed for the existing and after the LRT lane implementation network. Microsimulation platform was used to model LRT system and its effects on the existing traffic network. Identified potential for operational improvements and developed countermeasures for potential implementation to address queuing and deficiencies and prepared engineering reports.

*\*Work performed at previous firm.*

**Byron Danley, SE, PE**

Proposed Role: Structural Lead

**SPECIALTY EXPERIENCE**

- structural analysis
- structural design
- structural inspection + rating
- foundation analysis

**SCOPE TECHNICAL AREA EXPERTISE**

- structural analysis
- structural design
- foundation analysis
- drainage improvements
- construction feasibility
- cost estimating

**35+**  
years of  
experience

**Professional Registrations**

- P.E. – CA (No. 6310), IL, FL, MI, MO, Guam
- Structural Engineer: IL

**Education + Training**

- M.S. Structural Engineering, University of Illinois, 1985
- B.S. Structural Engineering, University of Illinois, 1982

**Affiliations + Memberships**

- Member, Professional Engineer: IL, CA, FL, MI, MO, Guam
- IRTBA, Chicago Transit & Freight Rail Committee, Member, 2016

Byron Danley has more than 35 years of experience. He has served as lead structural engineer for various transportation and drainage improvement projects in Illinois, Wisconsin, Michigan and Florida. His expertise includes structural analysis, structural design, structural inspections, structural ratings and construction engineering and inspection. He has hands on experience preparing designs as well as managing large teams of structural engineers and multi-disciplined engineering teams as project manager for major transportation and drainage improvement projects. He has provided these services to state and local Departments of Transportation, Toll Authorities, Drainage Districts, Departments of Water Resources, Forest Preserve Districts, and Water Management Districts.

**Project Experience****Yorkville Dam, Illinois Department of Water Resources**

Project Manager for design of major reconfiguration of Yorkville dam on the Fox River in Yorkville Illinois. Design eliminated major safety hazard creating a drowning hazard on the downstream side of the dam. Design also included first-in-its-kind canoe bypass with rapids challenge and fish ladder to permit upstream migration for spawning.

**US45/US30 Roadway and Drainage Improvements, Illinois Department of Transportation**

Department Manager for multidisciplined team for design of major intersection and roadway improvements for two SRAs. Project included 1,500 feet of triple-box culvert with specialty designed junction chamber within the footprint of the intersection.

**Elgin-O'Hare Expressway, Illinois Tollway, 2019**

Quality control and structural review for new bridge structures for new Toll facility spanning major detention structure owned and operated by Metropolitan Water Reclamation District in Elk Grove Village, Illinois,

*\*Work performed at previous firm.*

**Byron Danley, SE, PE – Continued**

Proposed Role: Structural Lead

**Devil's Creek Bridge, Southwest Florida Water Management District, FL**

Design and detailing for replacement bridge structure crossing Devil's Creek in the Green Swamp Wildlife Management Area.

**IDOT, Illinois 104 over the Illinois River, Meredosia, IL, USA**

Project Principal for Phase I study and Phase II design engineering for the replacement of the existing IL-104 Bridge over the Illinois River. The proposed improvements include the construction of a new 2,130-foot-long bridge, new roadway approaches on new alignments, and the reconstruction/resurfacing of existing IL-104 from IL-99 to US-67. The new bridge includes a 590-foot tied-arch span and nine plate girder approach spans. This project received the IDOT Award for Exceptional Consulting Engineering Service (Rural Highway category), 2015.

**IDOT, US 20 over McLean Boulevard Interchange, Elgin, IL**

Project Principal for Phase II design engineering services for complete reconstruction of 1.33 miles of US 20, 0.6 mile of McLean Boulevard and replacing the existing diamond interchange with an at-grade Single Point Urban Interchange (SPUI). The unique feature of the project is new long-span bridge spanning above the at-grade SPUI.

**Illinois Tollway, I-355 Extension over the Des Plaines River Valley, Lemont, IL, USA**

EXP was commissioned by the Illinois State Toll Highway Authority to investigate all possible bridge options for the proposed I-355 South Extension crossing of the Des Plaines River Valley. The study phase concluded in the selection of concrete-girder and steel-girder alternates for the 6,600-ft. long twin structures 100 feet above the valley floor.

*\*Work performed at previous firm.*

**Sandra Homola, PE, CFM, LEED AP**

Proposed Role: Drainage Design

**SPECIALTY EXPERIENCE**

- hydrology
- hydraulics
- transportation drainage design
- storm sewer design
- stormwater control facilities
- water quality facilities
- floodplain management

**SCOPE TECHNICAL AREA EXPERTISE**

- storm sewer + culvert design
- hydrology
- hydraulics
- stormwater permitting
- erosion control
- SWPP preparation

**19+**  
years of  
experience

**Professional Registrations**

- P.E. – IL (No. 062-058329)
- Certified Floodplain Manager: IL
- LEED Accredited Professional

**Education + Training**

- B.S., Chemical Engineering, University of Michigan, Ann Arbor, MI, 1999

**Affiliations + Memberships**

- American Council of Engineering Companies Illinois (ACEC-IL), Illinois Department of Natural Resources Committee, 2014-present
- American Society of Civil Engineers (ASCE)
- Director, IL Section ASCE
- Environmental and Water Resources Institute (EWRI), National Member
- Environmental and Water Resources Institute (EWRI), Board Member for Chicago Chapter, 2009- 2014
- Illinois Association for Floodplain and Stormwater Management (IAFSM)
- Women in Transportation Seminar (WTS)

Sandra Homola brings more than 19 years of experience as a Water Resource Engineer. Her experience includes the preparation of complex hydrologic and hydraulic analyses (including use of HEC-RAS, HEC-HMS, TR-20, HEC-1, HEC-2, PondPack, XP SWMM, XP STORM, TR-55, HydroFlow, Geopak Drainage, and GIS) associated with watershed studies, site development floodplain analysis and stormwater management, drainage assessments and improvements, ecological restoration, design of best management practices for water quality, and sustainable site design. Sandra also has a strong understanding of federal, state, and local stormwater and floodplain permitting.

**Project Experience****IDOT, IL 104 over Illinois River, Meredosia, IL, USA**

Lead Project Drainage Engineer for the replacement of the existing IL 104 Bridge over the Illinois River. EXP provided Phase I study and Phase II design engineering services for a new \$75M, 2,125-foot-long bridge spanning the Illinois River and approximately two miles of new roadway to connect IL Route 104 to the new bridge. EXP completed detailed drainage design for the proposed roadway improvement. Working in close coordination with town officials, EXP integrated the revised river crossing within the downtown street grid, which required the design and construction of a pump station to discharge flood waters to the river. In addition, the pump station was combined with an underground retention chamber for peak flow periods. EXP also prepared two (2) Hydraulic Reports for the proposed IL 104 crossings over McGee Creek and the Illinois River and a Pump Station Hydraulic Report for a new pump station. Analysis of the Creek and River Crossings included complex hydraulic modeling using HEC-RAS and detailed scour analyses of the new bridges. All Hydraulic Reports were approved by IDOT and Phase II design is complete, with the bridge currently under construction.

**IDOT, US Route 67 Expressway Bypass, Beardstown, IL, USA**

Drainage QA/QC for Phase II design engineering services for a four-lane Expressway Bypass, which will include 6 miles of roadway construction, new full-access diamond interchanges at Illinois Route 125 and at Illinois Route 100/103, and a new four-lane bridge over the Illinois River and



## **Sandra Homola, PE, CFM, LEED AP – Continued**

### **Proposed Role: Drainage Design**

Curry Lake. Detailed hydraulic and scour analyses were completed for the Illinois River crossing. The proposed profile will be elevated approximately 20' to 30' above the existing grade to construct the expressway three-feet above the 50-year flood level in non-levee protected areas and one-foot above the 100-year flood level in levee protected areas.

### **Village of Franklin Park, Franklin Avenue Improvements, Franklin Park, IL, USA**

Lead Drainage Engineer for EXP's team performing preliminary and design engineering services for improvements to Franklin Avenue from Mannheim Road to Runge Street. The existing roadway is two lanes. It is envisioned that the typical section would be improved to five lanes (two-way, 2-lane traffic with a bi-directional turn lane/median) with potential improvements to six intersections (two of which are signalized) and three at-grade railroad crossings.

### **Illinois Tollway, Elgin O'Hare Western Access, Jane Addams Memorial Tollway System Interchange, Cook + DuPage Counties, IL, USA**

Project Drainage Lead for Phase II design of improvements to the Elgin-O'Hare Western Access (EOWA)/I-90 System Interchange. Improvements will consist of construction of new lanes for the Elgin O'Hare Western Access between I-294 and I-90, and system interchange construction at I-90. The project limits are from north of Touhy Avenue to I-90 and include the Western Access Ramp over I-90 and the Western Access Bridge over the MWRD Touhy Avenue Basins and Higgins Creek. Drainage work included the preparation of drainage plans, details and specifications; design of a suspended storm sewer system to carry water of the bridge; design of stormwater detention and water quality facilities; design and consideration of both temporary and permanent compensatory storage needs for construction activities and bridge piers to be placed within the MWRD basins; analyses of both steady and unsteady flow hydraulic models of Higgins Creek; and preparation of a hydraulic report.

### **Illinois Tollway, Tri-State Tollway (I-294) Master Plan + Advanced Engineering from 95th Street to Cermak Road, Cook + DuPage Counties, IL**

Drainage Lead. As part of a team with TranSystems, EXP performed master planning and advance engineering studies for a 12-mile portion of the Central Tri-State Tollway (I-294) for the eventual reconstruction and capacity improvement to this more than 50-year-old facility. Sandra led EXP's drainage team. EXP was the drainage lead for the project and managed the preparation of Pre-Concept and Concept Drainage Reports including existing drainage plans, analysis of the floodplains for both Flagg Creek and Salt Creek, analysis of 3 bridge crossings and 21 major culvert crossings, analysis of existing stormwater outlets as well as storage facilities and control structures, and proposed drainage plans including redesign of the Tollway's stormwater system, plans to address local stormwater and flooding issues, and design of detention basins, compensatory storage volumes, as well as BMPs for stormwater quality. The project included coordination with MWRD.

### **Illinois Tollway Elgin-O'Hare Western Access, Advance Drainage Contract, Bensenville, IL**

Project Drainage Engineer for design of drainage systems for both the EOWA main line and Frontage Road. Improvements to be constructed as part of the Advance Drainage Contract will be performed along Thorndale Avenue (just south of the eastbound lanes) between IL 83 and the Willow Creek South Tributary in DuPage County. The project consists of the advance construction of two separate storm sewer systems, one will serve the future Elgin O'Hare mainline and the other will serve the future South Frontage Road. EXP's work included the design of the storm sewer systems, a stormwater detention facility with a water quality component, site BMPs, and soil erosion and sediment control plans. The Frontage Road storm sewer will outlet at the Willow Creek South Tributary, requiring fill within the floodway of Willow Creek and minor wetland impacts. EXP provided coordination and permitting for stormwater and floodway and wetland impacts through DuPage County Stormwater Management, the Illinois Department of Natural Resources – Office of Water Resources, and the US Army Corps of Engineers.

## Sampath Goolla, P.E, LEED, AP

Proposed Role: UPRR Coordination



### SPECIALTY EXPERIENCE

- railroad project management
- railroad operations
- FRA/FTA
- experience working with freight/commuter rail

### SCOPE TECHNICAL AREA EXPERTISE

- city coordination
- UPRR
- CPUC GO88
- third-party agreements

**17+**  
years of  
experience

### Professional Registrations

- P.E.– CA (I73885)

### Education + Training

- Master of Engineering, Civil Engineering, Lamar University - Beaumont, 2003
- Bachelor of Engineering, Civil Engineering, Osmania University, 2002

### Affiliations + Memberships

- Member, Professional Engineer: CA
- Member, American Society of Civil Engineers (ASCE), 2006-2008

Sampath Goolla brings more than 17 years of expertise in the design and Project management of infrastructure projects. Project experience includes the planning, design, and management of large transportation projects in Transit systems and Highway Projects. Sampath has experience in design-build and design-bid-build delivery methods, Construction management, Program management, Strong Transit experience with various Agencies, FTA/FRA process, EIR/EIS, Transportation regulations, UPRR ,BNSF railroads ,CPUC , Funding approaches, knowledge of systems engineering, risk assessment, BIM, Business development and change orders.

### Project Experience

#### \*BART GEC, Various Task Orders, San Francisco Bay Area, CA, USA

Sampath served as a Project Manager for a 34.5 KV and FO replacement - C line Rockridge to Lafayette. Some of his duties included: management of sub-consultants, and coordination with Caltrans and various cities along the C line from Oakland, Lafayette and Orinda. Sampath also served as the Deputy Program Manager responsible for managing various sub-consultants and design for Traction Power Replacement (25 sub stations), A-line seismic retrofit and Caldecott creep repair.

#### \* BART Silicon Valley Berryessa Extension (SVBX) Design-Build Project – Santa Clara Valley Transit Authority (VTA), Milpitas, CA, USA

Sampath served as the Deputy District Director for Program/Project Management ultimately responsible for the delivery of the District's capital program, which included over \$1.5B of transportation improvement projects in Riverside and San Bernardino Counties. He directly supervised a team of 18 project managers and supervisors and their staff of approximately 50 professionals. He was able to assemble well-functioning project development teams that delivered projects and completed through ongoing coordination and consensus building with local cities, regional transportation planning agencies, FHWA, stakeholders, and other state and federal regulatory agencies.

*\*Work performed at previous firm.*

## **Sampath Golla**, P.E, LEED, AP – *Continued*

Proposed Role: UPRR Coordination

### **\*California High-Speed Rail Authority (CHSRA), California High-Speed Rail (CP#1), Fresno, CA, USA**

Sampath served as the Guideway Manager and Engineer of Record for the first segment of this \$1 billion design-build project. . Sampath's team served as the Guideway manager for the initial 29-mile alignment in the Central Valley that begins in Madera and ends just south of Fresno. This predominantly civil infrastructure project included 27-grade separations, a 250-foot-long jacked box tunnel, 3.4 miles of aerial structures, a major river crossing over the San Joaquin River, and 2.7 miles of the trench.

Sampath managed and delivered three Shoofly for UPRR Mainline California high-speed rail including GO88 applications for all grade separations in addition to mainline design of High speed rail .UPRR shooflies include UPRR Downtown, Westside Wye and Herndon – in Fresno, enabling the construction of four grade separations of Union Pacific Railroad (UPRR) mainline tracks, for the California High-Speed Rail Authority's CPI segment. Since 2012 advancing the shoofly designs from alternatives analysis and concepts to 100% submittals to the Railroads. Sampath experience includes grade separations for UPRR ,BNSF and coordinating with Railroads see below for a list of mainline, and grade separation projects. | 2012-2018

- **UPRR Mainline**

- Herdon Shoofly Herdon Avenue, Fresno, CA
- Westside Shoofly, Fresno, CA
- Fresno Downtown Shoofly, Fresno, CA

- **UPRR Grade Separation Projects (2012-2018) CPUC GO 88**

- Herdon Avenue, Fresno, CA
- MCKinley Avenue, Fresno, CA
- Olive Avenue, Fresno, CA
- Fresno Street, Fresno, CA
- Tulare street, Fresno, CA
- Ventura Street, Fresno, CA
- Kato Road Grade Separation, Fremont, CA (2015-2017)
- Dixon Landing Grade Separation, Milpitas, CA (2015-2017)
- Main Street UPRR Bridge Replacement, Houston, Texas (2009-2010)

- **BNSF Grade Separation Projects (2012-2018) GO 88**

- Avenue 12 Grade Separation, Madera, CA
- Avenue 15 Grade Separation, Madera, CA
- Road 27-Grade Separation, Madera, CA

*\*Work performed at previous firm.*

## Shubhee Saxena

Proposed Role: Hydrology + Hydraulics



### SPECIALTY EXPERIENCE

- hydrology
- culvert + bridge design + modelling
- hydraulics
- pavement drainage design
- low impact development + urban runoff management
- flood control facilities
- storm drain improvement plans

### SCOPE TECHNICAL AREA EXPERTISE

- pavement hydraulics
- culvert + bridge design + modelling
- hydraulics
- hydrology
- water resources planning + management
- low impact development + urban runoff management
- stormwater permitting

**3+**  
years of  
experience

### Education + Training

- MS, Civil and Environmental Engineering, University of California, Irvine, 2018
- BS, Civil Engineering, Barkatullah University, Bhopal, 2015

### Affiliations + Memberships

- Member, American Water Resources Association (AWRA)
- Member, American Society of Civil Engineers (ASCE)

Shubhee Saxena has 3+ years of civil and environmental engineering experience in the areas of hydrology, hydraulics and water resources engineering and planning. Her experience includes hydrologic and hydraulic modeling, storm water management, 2D modeling, river modeling, culvert and bridge design, drainage design, flood control design, water resources modelling and planning, water demand and supply imbalances with climate change, water data analysis and visualization, quality assurance/quality control (QA/QC) and client correspondence.

Shubhee is experienced in water resources modelling, integrated resources planning and design. She brings working knowledge of software such as AutoCAD, InfoWater and InfoSewer, HEC-RAS, HEC HMS, ArcGIS, CalSim2 and CalSim3, and SALMOD. She is also knowledgeable in the required frequencies of stormwater quality and required stormwater permits and planning. Shubhee understands environmental considerations, including storm water pollution prevention plan compliance.

### Project Experience

#### Community Development Block Grant (CDBG) Street Improvements, City of Hesperia, CA

Water Resources Engineer. The City of Hesperia is focusing on realigning Peach Avenue between Centennial Street and Hinton Street on Peach Avenue where it crosses the Antelope Valley Wash. The project consists of realigning and raising the roadway profile over the Antelope Valley Wash with reinforced concrete boxes (RCBs) culvert, with new asphalt concrete pavement. It proposed to flatten horizontal curve radius, lengthening vertical curve, remove some trees to enhance sight distances, hence improving safety. It also includes golf course and irrigation modifications. The project would also improve public safety and mobility by constructing RCBs culvert spanning over the Antelope Valley Wash, replacing the existing low water crossing and eliminating flood-related hazards during inclement weather events. The City is planning to utilize

*\*Work performed at previous firm.*

## Shubhee Saxena – *Continued*

Proposed Role: Hydrology + Hydraulics

Community Development Block Grant (CDBG) funding from the U.S. Department of Housing and Urban Development (HUD). The project is anticipated to be constructed in spring 2021 under the CDBG Program fiscal year 2020-21. Shubhee is the water resources engineer and is responsible for hydraulic modeling, storm water management, 2D modeling, river modeling, culver and bridge design, drainage design, flood control design, quality assurance/quality control (QA/QC).

### **\*American River Basin Study, U.S. Department of the Interior, Bureau of Reclamation (Reclamation) and Cost Share Partners, CA**

Associate Water Resources Engineer. Reclamation in cooperation with its cost share partners is completing a comprehensive water study that will help inform water management in the Central Valley Project. The American River Basin Study includes the development of detailed hydrologic analysis and models for the basin, which will include consideration of the impacts of climate change. It will also leverage existing stakeholder groups to identify and evaluate adaptation strategies specific to the American River Basin. To complete this study, Reclamation is partnering with the Placer County Water Agency, El Dorado County Water Agency, City of Sacramento, City of Roseville, City of Folsom and Regional Water Authority. The basin encompasses 2,140 square miles in California from its headwaters in the Sierra Nevada near Lake Tahoe to the city of Sacramento where it meets the Sacramento River. It is highly populated, and the population is expected to grow 47 percent to nearly 3 million people by 2060. The basin supports salmon and steelhead listed under the Endangered Species Act and provides water to support the Bay-Delta ecosystem. Shubhee acted as the associate water resources engineer and was responsible for water data modeling, analysis and visualization using various water modeling software for supply and demand imbalance assessment in the region due to climate change in the region. She also assisted in client correspondence and stakeholder workshops.

### **\*Integrated Resources Plan (IRP) for the Environmental Utilities, the City of Roseville, CA**

Associate Water Resources Engineer. The ongoing IRP addresses challenges of water management for Roseville's economic future and quality of life. The project addresses the external and internal drivers including the stormwater, groundwater, recycled water and surface water of the region that influence water resource sustainability with climate conditions and changing economic patterns. The project focusses on implementing a participatory strategic planning process that leverages available studies and ongoing planning activities. The participatory strategic planning process is a structured long-range planning approach for an organization or a community to develop a shared vision and clear strategy, explaining how they would like their organization or community to develop in the future. The project has four stages: articulating a vision for the future, identifying challenges to achieving the vision, formulating options to overcome the challenges, and developing the implementation strategy and each stage is tailored to address specific needs of Roseville. The plan had various stages focused on themes viz Water Reliability Assessment, Options Identification, Options Evaluation, Implementation Strategy and IRP Preparation. Shubhee acted as the water resources engineer and planner and was responsible for the development, formulation, execution and delivery of the strategy, modules and workshops at each stage. She was also responsible for client correspondence and technical assistance. Shubhee helped in formulation of the technical report of all the steps.

*\*Work performed at previous firm.*

## Shubhee Saxena – *Continued*

Proposed Role: Hydrology + Hydraulics

### **\*Yuba Water Agency groundwater Management Plan, Annual Monitoring and Measuring Report, Yuba Water Agency, CA**

Associate Water Resources Engineer. Yuba Water Agency (Yuba Water) adopted an updated Groundwater Management Plan (GMP) in December 2010 to build on and formalize the historically successful management of the County's groundwater resource. Yuba Water initially developed and adopted a GMP in 2005. The updated GMP reflects conditions in the North and South Yuba groundwater sub basins through spring of 2010 and presents updated lists of basin management objectives and groundwater management actions. Yuba Water publishes an Annual Monitoring and Measurement Report to document progress in implementing the GMP. The Annual Monitoring and Measurement Report is intended to be an informational document that summarizes groundwater basin conditions and management actions during the annual period covered by the Report. Shubhee researched and reviewed the precipitation and hydrological data and updated the report for the year 2019-20. She was responsible for collection, compilation, modelling and analysis of the runoff and precipitation data and storage of groundwater levels. She performed data analysis visualization and updated the report for the year.

### **\*Shasta Dam Raise, Environmental Impact Statement, U.S. Department of the Interior, Bureau of Reclamation (Reclamation)**

Associate Water Resources Engineer. Reclamation is conducting a feasibility study to evaluate the potential effects of alternative plans for enlarging Shasta Dam from 6.5 feet, 12.5 feet, and 18.5 to increase anadromous fish survival, water supply reliability, and opportunities to improve flood damage reduction, water quality, hydropower generation, and recreation. This Environmental Impact Statement (EIS) has been prepared as part of the Shasta Lake Water Resources Investigation (SLWRI) to evaluate the potential physical, biological, cultural, and socioeconomic effects of implementing alternatives to modify the existing Shasta Dam and Reservoir, including taking no action. Shubhee assisted in the water quality assessment and review section of the report. She helped in runoff quality modeling, temperature modeling, fish passage modeling and pH and salinity modeling and data preparation and analysis affecting beneficial uses in the basin.

### **\*Combined Sewer System Regulatory Compliance Support Services, City of Sacramento, CA**

Associate Water Resources Engineer. The City is required to complete a comprehensive Water Quality Assessment and to provide extensive reporting for Combined Sewer System (CSS) discharges pursuant to the National Pollutant Discharge Elimination System (NPDES) Permit issued for the operation of the CSS by the Central Valley Regional Water Quality Control Board (RWQCB). Shubhee helped in water quality assessment monitoring laboratory analyses and specific sampling protocols, including toxicity for permit compliance from various treatment facilities and effluent and influent discharge locations.

*\*Work performed at previous firm.*

## Christine Brown, EIT

Proposed Role: Roadway Design



### SPECIALTY EXPERIENCE

- trail design
- roadway design
- intersection improvements
- complete streets
- safe routes to school
- traffic analysis

### SCOPE TECHNICAL AREA EXPERTISE

- roadway
- traffic
- construction management

**5+**  
years of  
experience

### Professional Registrations

- EIT – CA

### Education + Training

- B.S., Civil Engineering, California State Polytechnic University

### Affiliations + Memberships

- Member, Professional Engineer: CA

Christine Brown has more than 5 years of civil engineering experience servicing as deputy project manager, task lead, and project engineer for various public improvement projects throughout California.

Her specialties include geometric design and corridor modeling of trail, roadway, and railway corridors, grading, drainage, wet utilities, intersection improvement including ADA curb ramps, Complete Streets projects, Safe Routes to School projects, and traffic analysis. She is proficient in AutoCAD/Civil 3D, Microstation, InRoads, InfraWorks, SketchUp, and PTV Vissim.

### Project Experience

#### City of Palmdale, Avenue M Street Improvements, Palmdale and Lancaster, CA

The City of Palmdale is proposing to improve Avenue M from 3rd Street East to 5th Street East. The improvements include widening the existing roadway 38' to the south, improving the reclaimed water system, and developing traffic signal plans. As part of the roadway design team, Christine was responsible for refining the street improvement design as well as assisting with the design of the proposed reclaimed water improvements. Professional services are ongoing.

#### City of Los Angeles, Soto Street Widening (LABOE), Los Angeles, CA

The City of Los Angeles is looking to widen Soto Street from two lanes to four, from Multnomah Street north to Mission Road to relieve traffic congestion and improve safety by implementing a retaining wall to help keep hillside debris off the roadway. The project will tie into the Soto Street / Mission Road bridge removal and street improvement project to the north, and the Soto Street / Valley Boulevard bridge widening project to the south. It will include a wider sidewalk along with Class IV bicycle lanes and will greatly improve vehicular and bicycle mobility throughout the corridor. Christine served as the Deputy Project Manager and was responsible for managing the design schedule and sub-consultants, along with serving as the main point-of-contact with LA BOE. Christine also

## **Christine Brown**, EIT – *Continued*

### Proposed Role: Roadway Design

served as the Roadway Task Lead / Project Designer and was responsible for the discipline design budget as well as the final design of the roadway widening and civil improvements including the geometric layout, grading, drainage, and intersection improvements.

### **City of Lancaster, Trevor Avenue Widening, Lancaster, CA**

The City of Lancaster proposed to widen Trevor Avenue from the intersection with Avenue H to approximately 950' south. The project aims to widening the existing street to 64' with an additional 14' sidewalk on each side and includes water and sewer improvements, street light improvements, traffic control, and signing and striping. As part of the roadway design team, Christine was responsible for refining the street improvement design as well as assisting with the design of the proposed water improvements.

### **City of Los Angeles, Century Boulevard, Jordan Downs Redevelopment, Los Angeles, CA**

The City of Los Angeles proposed the extension of Century Boulevard from Grape Street to Alameda Street for a distance of approximately 2,600 feet as part of the Jordan Downs Redevelopment Project. Century Boulevard was underdeveloped in this area and required preparation of new street improvement plan and profile drawings, sewer plans, water plans, street light plans, traffic signal plans, signing and striping plans, storm drain improvement plans, planting and irrigation plans, dry utility plans, and incorporation of "green" elements and structures. As part of the roadway design team, Christine was responsible for portions of the design of the roadway extension, intersections, ADA curb ramps, drainage, and wet utilities along with direct coordination between the City, LA DWP, and the State Resources Control Water Board.



## Parakh Jaiswal, EIT

Proposed Role: Stormwater Quality



### SPECIALTY EXPERIENCE

- hydrology
- hydraulics
- storm water

### SCOPE TECHNICAL AREA EXPERTISE

- hydrology
- hydraulics
- storm water

< 1  
year of  
experience

### Professional Registrations

- EIT – CA (Civil, 170158)

### Education + Training

- M.S., Civil Engineering, Water Resources, University of California, 2019
- B.S., Civil Engineering, Galgotias College of Engineering and Technology, India, 2016

### Affiliations + Memberships

- Member, Professional Engineer: CA

Parakh served as engineer for drainage and transportation projects in California. Specializes in hydrology and water resources. She is well versed with hydrology, groundwater hydrology, flow in unsaturated porous media, watershed modelling, hydrologic computational modelling, wavelets in hydrology, and merging models and data. She possesses working knowledge of software such ArcGIS, SWMM, PCSWMM, Sewer GEMS, HEC-HMS, HEC-RAS, MIKE-SHE and MicroStation.

### Project Experience

#### I-40 Regrade Median Cross Slope, Barstow, CA

Parakh is responsible for the drainage analysis of over 15 culverts that would be extended to accommodate the proposed fill in the median. The I-40 Regrade Project is to re-grade the existing median cross slope within the clear recovery zone (CRZ) to 10:1 or flatter to reduce the severity and the number of run-off-the road accidents in the median on Interstate 40 from 1.4 miles east of Fort Cady Road (PM R25.0) to Crucero Road (PM R50.0) near Barstow, in San Bernardino County. This project is multi-phased that covers both PA/ED and PS&E phase.

#### Diaz Road Expansion, Temecula, CA

The Diaz Road Expansion Project proposes to improve Diaz Road as necessary to meet the classification requirements of Major Arterial (4 Lanes Divided), City Standard No. 101, approximately between Cherry Street and Rancho California Road. The approximate 2.2 mile segment will be improved on its current horizontal alignment and as depicted in the City's General Plan. Parakh is responsible for the hydrology, stormwater analysis and BMPs for the project.

#### Caltrans 12A1756 SR-1 Projects: EA 0P5900: Traffic Signal Upgrades, Newport Beach, Huntington Beach, Seal Beach, CA and EA 0P6800: Pavement Rehabilitation, Huntington Beach to County Line, CA

Parakh's responsibility is to prepare the drainage basemaps for the project as well as the Storm Water Drainage Report.

## Parakh Jaiswal, EIT – *Continued*

Proposed Role: Stormwater Quality

- **Traffic Signal Upgrades:** Upgrade Traffic Signal project located on State Route (SR) 1 between Crystal Heights Drive (PM 13.0) and First Street (Post Mile [PM] 33.6), in the cities of Newport Beach, Huntington Beach, and Seal Beach in Orange County (EA 0P6800). The proposed improvements for this location are to remove and replace the existing traffic signals and equipment due to age and serviceability with current Caltrans standard traffic signals and equipment, upgrade the existing curb ramps to the current American with Disability Act (ADA) standard, relocate/adjust the existing drainage facility due to ADA curb ramp improvements, trim the existing median island, and remove the existing pedestrian push button on the median island.
- **Pavement Rehabilitation:** The proposed improvements include a cold-plane and overlay of the existing pavement on SR 1, removing and replacing the existing traffic signal loops detectors within the project limits, upgrading the existing curb ramps to current ADA standards, and restriping the overlay area to the pre-project condition by incorporating current Caltrans striping and delineator standards.

### **SBCTA I-215 Bi-County Landscaping PA&ED and PA&E, San Bernardino County, CA**

Parakh served as an engineer for the I-215 Bi-County Landscape project and was responsible for PA/ED phase Storm Water Drainage Report. This 5.1mile long project will provide a themed landscape transition along the I-215 between the San Bernardino County and Riverside County line and Orange Show Road in the City of San Bernardino. The project will require significant coordination with Caltrans District 8 as well the stakeholder cities of Colton, San Bernardino, and Grand Terrace in order to build consensus and ultimately gain approval of the landscape design and environmental document.

**Lisa Battiato**, CEG, APM, LEED AP

Proposed Role: Geotechnical Lead

**SPECIALTY EXPERIENCE**

- engineering geology
- groundwater pump testing
- stabilization of soils
- dewatering + drainage
- constructability
- agency requirements

**SCOPE TECHNICAL AREA EXPERTISE**

- hydrogeology
- pavement design + repair
- investigation logistics
- geotechnical engineering for large pipeline projects

**23+**  
years of  
experience

**Professional Registrations**

- Certified Engineering Geologist, No. 2316 – CA
- Professional Geologist, No. 7512 – CA

**Education + Training**

- BS, Geology, University of California, Riverside
- Accredited Pavement Manager
- LEED Accredited Professional
- Envision Sustainability Credential
- Geothermal Professional
- OSHA 40-Hour

Ms. Lisa Battiato has more than 23 years of experience providing geologic consulting services throughout California. Her experience encompasses a wide range of projects including transportation and water infrastructure; educational, medical, commercial, and industrial facilities; mixed-use and multi-family residential developments; and other large-scale land developments. Her technical expertise includes: seismic hazard analyses; subsurface fault, landslide, liquefaction, and geotechnical investigations and assessments; geologic mapping; pavement distress mitigation; geotechnical services during utility installation and roadway construction; geologic evaluations of levee stability; project management services for large, hillside grading projects; and supervision of materials testing services during construction. Ms. Battiato has been actively involved in determining methods and designs necessary for slope stabilization, seepage, mitigation of collapsible soils, induced soil settlement, expansive soils, subsurface dewatering, and drainage.

**Project Experience****RCFC & WCD, On-Call Geotechnical Engineering & Ancillary Services, Riverside, CA**

As the project manager for Geocon's on-call geotechnical engineering services contract, Ms. Battiato is responsible for developing the scopes of work for geotechnical investigations and laboratory testing programs, performing quality control oversight of testing and inspection services, and authoring reports and letters. Geocon has performed inspection and testing services for several RCFC & WCD projects including: Arroyo Del Toro Channel Stage 1; Romoland MDP Line A, Stage 3; San Jacinto MDP Line C, Stage 2, Lines C4, C5 and B. In addition, Geocon performed percolation and infiltration testing for two sand filter infiltration basins.

**Elsinore Valley Municipal Water District, Soils & Materials Testing for Various Capital Improvement Projects, Southwestern Riverside County, CA**

Ms. Battiato was the project manager for testing and inspection services performed for five capital improvement projects for the EVMWD. The projects included the Water Main Replacement Project, Extending

## **Lisa Battiato**, CEG, APM, LEED AP – *Continued*

### Proposed Role: Geotechnical Lead

Recycled Water to Five Sites Project, Valve Replacement Project, AMR Water Meter Replacement Project, and Water Pressure Zone Interconnection Project. Ms. Battiato provided project management services and quality control oversight of laboratory testing and inspection and testing services.

### **Foothill Reservoir and Brinton Booster Station, Banning, CA**

Geocon performed a geotechnical investigation for design of Foothill Reservoir, a 3.5 MG reservoir tank located north west of Mountain Avenue and the associated Brinton Booster Station located on a City owned property east of Mountain Avenue. Geocon excavated small diameter geotechnical borings to depths up to 75 feet. Geocon worked with the City to identify subsurface utilities in the vicinity of the previously graded booster site. Challenges included the ever-changing scope of the improvements as the client negotiated developer responsibilities with the City. Geocon stayed flexible and was able to address the final proposed improvements appropriately.

### **Non-Potable Watermain, Banning, CA**

Geocon performed a geotechnical investigation for several non-potable water system improvements south of Interstate 10 in Banning, California. The proposed improvements include a well site with associated reservoir tank, a booster station and water tank reservoir site, a second booster station at a third site and 5 miles of water line. Permitting was performed through Caltrans and the City of Banning. Challenges included the ever-changing scope of the improvements as the client negotiated developer responsibilities with the City. Geocon stayed flexible and was able to address the final proposed improvements appropriately.

### **Mountain North Reservoir & Foothill Booster Station, Banning, CA**

Geocon performed a geotechnical investigation for design of Mountain North Reservoir, a 3.5 MG reservoir tank located in the northeastern portion of the proposed Atwell Development in Banning, California and the associated Foothill Booster Station located north of Mountain Avenue in the city of Banning. Geocon excavated small diameter geotechnical borings to depths up to 75 feet. Challenges included the seismic evaluation of the reservoir which was located near an active branch of the Banning fault.

### **Dawson Canyon Reservoir, Temescal Canyon Area of Riverside County, CA**

Geocon was hired to provide geotechnical and materials testing during grading and construction of Dawson Canyon Reservoir in the Temescal Canyon area of Riverside County. Upon initial grading it became apparent that the geotechnical investigation report done by others did not accurately reflect the geotechnical conditions at the site. Geocon jumped in and performed a supplementary geotechnical investigation with additional slope stability analyses in very short order so construction could proceed, and the project schedule could be met.

### **EMWD, Salt Creek Regional Sewer, Winchester Area, Riverside County, CA**

Geocon performed a geotechnical and hydrologic investigation, pump testing, and geotechnical inspection and testing services during construction of Conestoga Regional Infrastructure Improvements along Salt Creek. Ms. Battiato developed the scope of work of the geotechnical investigation, executed the field exploration program, and authored the geologic portion of the geotechnical report. In addition, she assisted with quality control oversight of geotechnical inspection and testing services performed during construction.

## Brian Calvert

Proposed Role: Environmental Project Director



### SPECIALTY EXPERIENCE

- agency coordination
- Caltrans processes + regulations
- southern california focus

### SCOPE TECHNICAL AREA EXPERTISE

- project director
- CEQA/NEPA expert
- complex project management

# 26+

years of  
experience

### Professional Registrations

- Registered Professional Archaeologist (RPA), No. 35026105

### Education + Training

- MEP, Master of Environmental Planning, Arizona State University, Arizona, 2000
- BA (Cum Laude), Geography and Regional Science, The George Washington University, Washington, D.C., 1993

### Affiliations + Memberships

- Member, American Planning Association

Brian Calvert is a Senior Managing Director with ICF's Environment & Planning division in southern California. He has more than 24 years of experience preparing environmental documents and specializes in transportation projects involving the California Department of Transportation (Caltrans); having worked on over more than sixty transportation projects in his career involving Caltrans and the Federal Highway Administration (FHWA) prior to National Environmental Policy Act (NEPA) delegation. Brian's career has focused nearly exclusively on projects involving Caltrans. Brian has managed ICF's environmental on-call contract with Riverside County Transportation Commission (RCTC), Caltrans Districts 7, 8, 10, and 12, and the Riverside County Transportation Department (RCTD), where he has proven his ability to deliver projects on schedule and within budget. Brian's broad experience managing the planning and environmental work for transportation projects gives him a comprehensive knowledge of all relevant resource areas. The environmental documents and reports he has prepared to meet federal (NEPA) and state (California Environmental Quality Act [CEQA]) regulations requires the interpretation and analysis of environmental, social, and cultural data, and the presentation of this information in a clear and concise manner that conforms to established regulations and legislation. Brian is also active in ICF's environmental education program having been a co-instructor for the annual "Environmental Analysis for Local Agency Transportation Projects" course for southern California Caltrans districts, including District 8, for eight years.

### Project Experience

#### **On-Call Environmental Services Contract (Contracts 08A1169, 08A1521, 08A2107, and 08A2597)—Caltrans District 8, Riverside and San Bernardino Counties, CA**

Contract Manager. Brian leads the ICF team to complete a series of environmental task orders related to a variety of roadway improvements in Riverside and San Bernardino Counties. Thus far, more than 60 task orders have been produced under this contract. Document types have

## **Brian Calvert** – *Continued*

### **Proposed Role: Environmental Project Director**

included IS/MNDs, IS/EAs, EA/FONSIs, EIS/EIRs, community impact assessments, relocation impact documents, water quality studies, and air quality studies. ICF has delivered many IS/MNDs and EA/FONSIs projects on extremely short schedules.

### **On-Call Environmental Consulting Services—RCTD, Riverside County, CA**

Project Manager. Brian has served as project manager for RCTD's on-call environmental contract since 2006. More than 30 task orders have been issued under the contract to date. Work has included the preparation of environmental documents and technical studies, as well as obtaining regulatory permits. Brian's team of technical staff and relationships with Caltrans and regulatory agencies have led to our success in providing these services on budget and on time for each task order.

### **I-15 Express Lanes Project—RCTC, Riverside, CA**

Environmental Manager. This project involves the addition of express lanes along I-15 from Cajalco Road to SR 60. For this project Brian lead the preparation of the environmental technical studies, including air quality, noise, community impact, visual impacts, cultural resources, biological resources, and jurisdictional resources, and lead the preparation and processing of the environmental document (Initial Study/Environmental Assessment).

### **On-Call Environmental Consulting Services—RCTD, Riverside County, CA**

Contract Manager. Brian has served as project manager for RCTD's on-call environmental contract since 2006. More than 30 task orders have been issued under the contract to date. Work has included the preparation of environmental documents and technical studies, as well as obtaining regulatory permits. Brian's team of technical staff and relationships with Caltrans and regulatory agencies have led to our success in providing these services on budget and on time for each task order.

### **State Route 210 Pepper Avenue Interchange Project — City of Rialto with San Bernardino Associated Governments, San Bernardino County, CA**

Project Director. SANBAG, in cooperation with the California Department of Transportation, is proposing to construct a new interchange along State Route 210 (SR-210) at Pepper Avenue. ICF is preparing the necessary technical studies and environmental document for the proposed project. Technical studies include the following: Natural Environment Study, Visual Impact Assessment, Historical Resources Evaluation Report, Air Quality Report, and Noise Study Report.

### **Cajalco Road Widening from Harvill Avenue to Temescal Canyon Road—RCTD, Riverside, CA**

Project Manager. RCTD is proposing to widen Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, from two lanes to three lanes in each direction (east and west) from Temescal Canyon Road to I-215; a distance of approximately 16 miles. The project is evaluating three build alternatives along with the no-build alternative. Brian is managing the engineering, traffic, and environmental components of the project. Environmental documentation being prepared includes the PES, NOP/IS, NOI, HPSR, FOE, visual impact assessment, noise study report, noise abatement decision report, NES, jurisdictional delineation report, air quality report, relocation impact report, water quality assessment report, location hydraulic study and summary floodplain encroachment report, community impact assessment, initial site assessment, Section 4(f) evaluation, and EIR/EIS.

## Brian Calvert – *Continued*

Proposed Role: Environmental Project Director

### **Interstate 215 (I-215) Widening from Murrieta Hot Springs Road to Scott Road and from Scott Road to Nuevo Road IS/EA and MND/FONSI— RCTC, Riverside County, CA**

Environmental Manager. Brian was responsible for managing the preparation of the necessary technical studies and environmental documentation for compliance with NEPA and CEQA, along with the relevant Caltrans requirements. He served as the primary environmental contact with RCTC and Caltrans for the environmental documentation, which included extensive coordinating with Caltrans staff to resolve technical issues and documentation comments. The proposed projects would add a third mixed-flow lane primarily within the median of both the northbound and southbound directions, as well as overlay the remainder of the existing facility with asphalt concrete pavement within the project limits. The scope of work included preparation of the necessary technical studies and environmental documentation for compliance with NEPA and CEQA, along with relevant Caltrans requirements. Brian's team also prepared the air quality report, HPSR (including an archaeological survey report), natural environment study, paleontological studies, and visual impact assessment. Additionally, the team prepared the IS/MND and NEPA CE for the southern project and the IS/EA and MND/ FONSI for the northern project. Both projects involved coordination with RCA, USFWS, and CDFW regarding WRMSHCP compliance.

## Monica Corpuz, RPA

Proposed Role: Environmental Lead



### SPECIALTY EXPERIENCE

- cultural resource + section 106
- land use and planning
- environmental mitigation

### SCOPE TECHNICAL AREA EXPERTISE

- project management
- CEQA/NEPA compliance
- sustainable development

# 15+

years of  
experience

### Professional Registrations

- Registered Professional Archaeologist (RPA), No. 35026105

### Education + Training

- MA, Public Archaeology, California State University, Northridge, 2015
- BA, Anthropology, University of California, Berkeley, 2008

### Affiliations + Memberships

- Member, Women in Transportation
- Member, Society for American Anthropology
- Member, Society for California Archaeology
- Member, Association of Environmental Professionals

Monica Corpuz is a Senior CEQA/NEPA environmental planner with diverse transportation project experience providing services that range from preparing and managing CEQA and NEPA environmental documents, technical studies, environmental compliance, and archaeological studies and consultation. Her experience ranges from preparing and managing CEQA and NEPA environmental documents and obtaining essential permits to coordinating with local governments and regulatory agencies regarding environmental compliance, permitting, and mitigation measures. Monica's professional expertise includes CEQA/NEPA compliance, land use planning, sustainable development, and historic preservation, with a geographic focus on Southern California. She currently conducts issue-specific research, prepares environmental clearance documents, conducts archaeological fieldwork and authors cultural reports, and provides overall environmental planning leadership and support. She has worked on a variety of issues, including land use, biological resources, traffic, aesthetics, geology, noise, archaeology, and environmental mitigation. Monica has 15 years of professional and academic archaeological work, and she is professionally qualified to lead and conduct archaeological studies.

### Project Experience

#### Caltrans District 8 On-Call—Caltrans District 8, San Bernardino and Riverside Counties, CA

Environmental Project Manager. Monica currently supports this Caltrans District 8 on-call by managing three on-call task orders concurrently. She organizes staff and assignments to meet deliverables, creates schedules and maintains them. She provides progress reports, tracks deliverables and the project schedule, is the main author of the Draft and Final Environmental Documents, and she attends meetings between Caltrans to discuss and resolves key issues.

#### Gilman Springs Shoulder Widening Project, Riverside County, CA

Project Manager. The County of Riverside Transportation Department (County), in cooperation with the California Department of Transportation (Caltrans), proposes to widen the median and



## **Monica Corpuz**, RPA – *Continued*

Proposed Role: Environmental Lead

shoulders along Gilman Springs Road from approximately 1.29 miles north of Jack Rabbit Trail to approximately one mile south of Bridge Street. For this local-assistance project, Monica coordinated deliverables and staff, provided QA/QC for staff on their reports, and authored the Section 4(f) for this project. She attended PDT meetings, was the main author of the Draft Environmental Document, tracked deliverables and maintained the project schedule and budget.

### **Upper Santa Ana River Tributaries Restoration Project and Mitigation Reserve Program EIR— San Bernardino Valley Municipal Water District, Riverside County, CA**

Senior Environmental Planner. Valley District proposes to construct and maintain four tributary restoration sites as an early effort to implement conservation measures of the Upper Santa Ana River Habitat Conservation Plan. The four restoration sites include Anza Drain/Old Farm Road, Lower Hole Creek, and Hidden Valley Wetlands partially within the City of Riverside. The sites are designed to mitigate impacts on species and jurisdictional aquatic resources. Monica supports this project in a variety of duties including tracking deliverables and assisting with the writing of the environmental documents.

### **Grove Corridor Widening Project—City of Ontario, CA**

Environmental Project Manager. Monica supported the Grove Avenue Widening Project team by conducting research and executing and authoring cultural environmental studies for compliance with CEQA and NEPA, including the Historic Properties Survey Report, Historic Resources Evaluation Report and the Section 4(f) Report. She provided comments on all technical studies, authored portions of the draft Environmental Document and responded to comments from Caltrans and the City of Ontario. She assisted the Principal Architectural Historian for the project by initiating and completing the research required for evaluating properties and authored more than twenty DPR forms for the project. Monica also reviewed and evaluated reports from subcontractors and provided comments and direction for compliance with state and federal regulations and for Section 106. This project is located in the City of Ontario designed to alleviate existing and anticipated future congestion along Grove Avenue between I-10 and Airport Drive and to improve traffic operations and mobility to and from Ontario International Airport and to provide route continuity along Grove Avenue in conformance with the City of Ontario General Plan Circulation Element.

### **I-10/Grove Avenue Interchange Project—City of Ontario, CA**

Environmental Project Manager. While employed by Parsons Corporation, Monica conducted research, and executed and authored cultural environmental studies for compliance with CEQA, NEPA, and Section 106, including the Historic Properties Survey Report and the Historic Resources Evaluation Report. She reviewed and evaluated reports from subcontractors, as well as providing comments and direction for compliance with state and federal regulations. Lastly, Monica was the main author for the draft Environmental Document and was responsible for addressing comments from the City, as well as Caltrans reviewers. This project proposes to redo the interchange at the I-10 and 4th street to improve traffic flow.

### **California High-Speed Train, Los Angeles to Anaheim CEQA and NEPA—California High-Speed Rail Authority/STV, Los Angeles to Anaheim, CA**

Project Coordinator and Task Manager. Monica supports this project by assisting the ICF project manager to track deliverables and update the schedule, coordinate with staff and sub-consultants, and provide QA/QC

## **Monica Corpuz**, RPA – *Continued*

Proposed Role: Environmental Lead

services on both internal and external deliverables. She also assists as an author on several of the EIR/EIS sections and technical studies, such as the Supplemental Archaeological Survey Report.

### **Cajalco Road Widening Project, Riverside County, CA**

Environmental Planner/Senior Archaeologist. The Riverside County Transportation Department is proposing to widen and realign Cajalco Road between Temescal Canyon Road to the west and Interstate 215 (I-215) to the east. The project is located in Riverside County, California and covers a distance of approximately 16 miles. A small portion of the westernmost part of the alignment is located in the city of Corona. The project would widen the roadway to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue. Monica contributed to this project by responding to Caltrans and RCTD comments on the cultural documents. She authored the initial draft of the FOE and Section 4(f) Report, and was responsible for updating the ASR, HPSR, XPI Report and the HRER. She attended PDT and cultural-specific meetings to sharp shoot problems and come up with creative solutions.

## Curtis, Bibolet, SR/WA, R/W-AMC

Proposed Role: Right-of-Way Data + Utility Coordination



### SPECIALTY EXPERIENCE

- utility coordination
- right of way professional
- real estate

### SCOPE TECHNICAL AREA EXPERTISE

- as-built collection
- coordination with utility companies
- utility protection in place
- utility relocation coordination
- master license agreements

**12+**  
years of  
experience

### Professional Registrations

- Real Estate Salesperson, CA #02008725

### Education + Training

- B.S., Communication Studies, Minor in Business, University of Idaho
- Senior Right of Way Professional, SR/WA, International Right of Way Association (IRWA), #6822
- Right of Way Asset Management Certification, (R/W-AMC), IRWA
- Safety Certified with BNSF Railway and Southern California Regional Rail Authority

### Affiliations + Memberships

- Member, International Right of Way Association (IRWA) Chapter 57

Curtis Bibolet is the manager of the Utility division at Epic's Orange County Regional Office in Anaheim. As a certified right of way professional, Curtis possesses an abundance of real estate transaction, utility relocation, and property management expertise. He has over 12 years of experience managing best practices, regulatory procedures, and logistics for utility relocation and property management projects on behalf of public agencies. With his friendly demeanor and proven business acumen, Curtis provides oversight and quality review for Epic agents. He is focused on maximizing revenue, clearing encroachments, and mitigating utility conflicts for his clients.

### Project Experience

#### SR-60/Potrero Boulevard New Interchange, City of Beaumont, CA

Utility Relocation Coordination Lead. The project provides the City of Beaumont with a full access interchange at Potrero Boulevard and SR-60 designed to mitigate increasing traffic volumes and implement the circulation element of the City's General Plan. Mid-way through the project, the City sought the services of Epic to assist with right of way acquisitions and utility relocations. Curtis coordinated all utility relocations and met strict deadlines to secure the City's \$8 million federal funding. Epic prepared and obtained approval for Caltrans District 8 right of way certification for level 1.

#### Riverside Drive Capital Improvement Project, City of Chino, CA

Utility Lead. The City is improving ADA ramps and sidewalk facilities in this resurfacing project. Epic was awarded the right of way and utility work under a current on-call contract with the City. Curtis is performing research and coordination with Southern California Edison poles that are in conflict and may require relocation.

**Curtis, Bibolet**, SR/WA, R/W-AMC – *Continued*

Proposed Role: Right-of-Way Data + Utility Coordination

**I-215 Bi-County Landscape Project, San Bernardino County Transportation Authority, Colton and San Bernardino, CA**

Utility Relocation Coordination Lead. As the right of way services subconsultant to the design engineer, EXP, Curtis and the Epic right of way planning team completed the requisite Caltrans Right of Way Data Sheet to estimate utility relocation costs and clear the project for constructing the proposed improvements to landscape along the I-215 corridor.

**North First Avenue Bridge Project, City of Barstow, CA**

Utility Relocation Coordination Lead. Utilizing Caltrans Highway Bridge funds, the City is replacing the bridge to correct the deficiencies. For this project, Curtis provided utility coordination services for 28 utility conflicts at original design and ultimately coordinated relocations for 11 facilities. Utilities affected included City of Barstow sewer and storm, Southern California Edison, Time Warner Cable, and Verizon. Curtis provided cost estimates and Caltrans Certification documentation.

**Ramon Road Widening, Cities of Palm Springs and Cathedral City, CA**

Utility Relocation Coordination Lead. Epic is providing right of way services for widening Ramon Road between Palm Springs and Cathedral City. This project includes 25 potholes belonging to 11 utilities. Curtis is providing management and review of all work involved in the protection, removal and/ or relocation of utility facilities necessary to clear and certify Right of Way with Caltrans. Tis project is funded through the Federal Highway Bridge Program and adheres to the Uniform Act.

## Robert Vasquez, PLS

Proposed Role: Topographic Survey



### SPECIALTY EXPERIENCE

- design surveys
- control surveys
- construction surveys
- 3D laser scanning
- underground utility location

### SCOPE TECHNICAL AREA EXPERTISE

- topographic surveys
- boundary surveys
- utility coordination
- right of way surveys
- RCFC experience

# 33+

years of  
experience

### Professional Registrations

- Professional Land Surveyor, CA, 7300, 1996

### Education + Training

- Certificate, Surveying and Mapping, Rancho Santiago College
- Project and Business Management Courses, University of California Riverside
- Management Leadership Academy, National University

Bob has 33 years of experience in the field of land surveying. He has served many positions from managing projects, field crews, office support teams, and from 3D laser scanning to developing a new service for subsurface 3D utility mapping. Bob's background is well-versed in all types of field and office survey functions. His past experience in the public sector, coupled with his broad range of recent experience with DEA, adds to his overall knowledge of understanding of various rail, airport, highway, land development, flood control, water and some unique projects. His project management experience includes managing and negotiating various size contract/task orders, public and private clients; using various standards and requirements. Bob is knowledgeable in the preparation of subdivision, rights-of-way and record of survey maps, jurisdictional boundary changes, land adjustments, legal description documents and exhibits, right-of-way engineering, construction surveying, QC surveying, 3D laser scanning, topographic field and boundary survey mapping and subsurface utility locating and mapping.

### Project Experience

#### Jurupa-Pyrite MDP Line A-2, Riverside, CA

As project manager, Bob was asked by Riverside County Flood Control to providing utility locating and mapping for this line to assist in making the final alignment of the route. Since underground utilities were not known, DEA was tasked to employ non-intrusive geophysical technologies to designate the horizontal and vertical positions of known and unknown utilities along the areas of investigation. DEA used GPR and EM equipment to designate the approximate horizontal position of existing utilities by paint markings on the surface, in accordance with the APWA Uniform Color Code scheme along the utility and at all bends in the line in order to establish the trend of the line. Utilities were designated, as well as their corresponding lateral lines, up to the point of local distribution or the edge of the survey area, whichever was specifically requested and scoped for the project. A field sketch of designated

**Robert Vasquez, PLS – Continued****Proposed Role: Topographic Survey**

utilities was prepared to assist in accurate surveying of utilities. DEA also conducted survey control and utility research to supplement the work on this project.

**Riverside County Flood Control, On Call Professional Land Surveying Services, Riverside County, California**

DEA was under a three-year contract with Riverside County Flood Control District to provide on-call land surveying services on an as-needed basis. Services met the applicable requirements of the District and accepted industry standards. Work under this contract included preliminary design surveys, construction staking, layout, as-built surveys, and control surveys. Bob served as project/contract manager on this contract.

**San Vicente Pipeline Project, for San Diego Water Authority, San Diego, California**

As a survey project manager, Bob was responsible for overseeing the surveying services. DEA provided various surveying services for this project and included horizontal and vertical control, topographic surveys, utility surveying, boundary and mapping. Most recently, DEA provided design surveying in support of the improvements to Alemania Road in the Poway area of North San Diego County.

F

# Key Personnel





80% availability

## Portia Gonzalez,

PE., Project Manager

### 29+

Years of Experience

### 20+

Years of Project Management Experience

### 50+

Drainage Design Projects Completed

### 15+

Stormwater Related Projects Completed

## Key Personnel

### Project Manager

**Portia Gonzalez, PE**, will be the Project Manager for this assignment. She will be the City's primary point of contact for the timely delivery of the Beaumont Master Drainage Plan Line 2, Stage 1 project. Portia possesses the proven leadership required to deliver a successful project to the City.

Portia Gonzalez brings more than 29 years of experience. She has served as project manager for various drainage and transportation projects in California, Arizona and Nevada. Her expertise includes project management, drainage design, hydrologic and hydraulic modeling, storm water management, 2D modeling, river modeling, floodplain delineation studies, storm drain master planning, detention basin design, bridge scour, roadway drainage and design, water resource planning, sediment transport and water distribution. She brings working knowledge of software such as AES, WSPG, HEC-HMS, HEC-RAS, Flow-Master, Storm CAD, CulvertMaster, InRoads Storm and ArcGIS. She was a former Riverside County Flood Control District Associate Engineer.

#### Some of her relevant experience includes:

- City of Hesperia - Peach Avenue Improvements, Hesperia, CA
- City of Temecula - Diaz Road Improvements, Temecula, CA
- Orange County Transportation Authority - I-405 Improvement Project, SR-73 to I-605, Orange County, CA
- San Bernardino County Transportation Authority - I-HOV Improvements, San Bernardino County, CA

**Portia's proactive management approach, communication and problem-solving skills and ability to build consensus makes Portia the perfect candidate to lead this project.** Portia worked in the Design Section of Riverside County Flood Control District and Water Conservation District (RCFC + WCD) for five years and possesses strong technical and leadership skills. She has a proven track record of successfully delivering many drainage projects in her 29-year career.



## Roles of Key Individuals on the Team

It is EXP's intent to bring the best team together to provide world-class engineering expertise to the City of Beaumont. All proposed EXP and subconsultant staff, including principals and all assigned professionals, are available to commit their time to projects under this contract. Our team organization provides an integrated team for performance of services required on this contract.

Our key team members have previously worked together on similar projects and are familiar with the City's standards and requirements. A brief outline of our key staff and roles are below. Please refer to their resumes on **Section E** for an expanded version of their respective experience on similar projects.

EXP confirms that all proposed staff will be available for the duration of the project, as indicated for each team member below by percentage (%) availability and as shown in the Organizational Chart presenting the key team members and their reporting relationships on the following page.

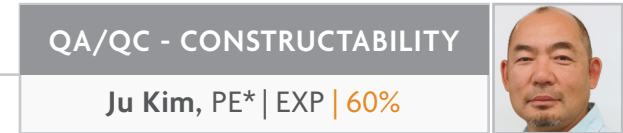
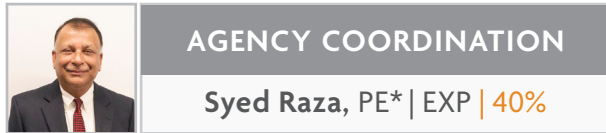
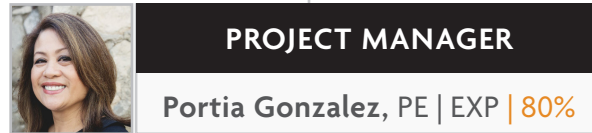
PROPOSED ROLE / NAME OF INDIVIDUAL (FIRM)	%	RESPONSIBILITIES / DUTIES
<b>Project Manager</b> Portia Gonzalez, PE (EXP)	80 %	First point of contact between EXP and the City. Responsible and accountable for ensuring client requirements are met, budgets and schedules adhered to. Liaison on all activities pertinent to the project, including coordination with all sub-consultants.
<b>QA/QC - Constructibility</b> Ju Kim, PE (EXP)	40 %	Responsible for the implementation and oversight of the Quality Management Plan and Constructibility.
<b>Roadway Lead</b> Gabriel Rodriguez, PE (EXP)	40 %	Lead for the roadway design plans.
<b>Agency Coordination</b> Syed Raza, PE (EXP)	40 %	Syed has extensive Caltrans' experience and will serve as a great resource to coordinate with Caltrans encroachment permits and future projects.
<b>Structural Lead</b> Byron Danley, SE, PE (EXP)	40 %	Prepare structural plans for all unique drainage structures including, junction chambers, manholes, headwalls, wingwalls and other miscellaneous structures.
<b>Drainage Design</b> Sandra Homola, PE, CFM, LEED AP (EXP)	60 %	Prepare storm drain plan and lead the preparation of hydrology and hydraulic analysis.
<b>Environmental Project Director</b> Brian Calvert	20 %	Provide oversight of the environmental compliance.
<b>Environmental Lead / Manager</b> Monica Corpuz, RPA	60 %	Lead for the environmental compliance.
<b>Geotechnical Lead</b> Lisa Battiato, CEG, APM, LEED, AP	60 %	Prepare the geotechnical report.
<b>Topographical Survey</b> Robert Vasquez, PLS (DEA)	40 %	Responsible for the delivery of topographic mapping of the project area.
<b>ROW/Utility Coordination</b> Curtis Bibolet, SR/WA, R/W-AMC (EPIC)	60 %	Coordination with utility companies, potholing of utilities, and prepare utility relocation plans.
<b>Traffic Control</b> Ben Hashemloo, P.E., PTOE (EXP)	60%	Prepare traffic control, and staging plans.
<b>UPRR Coordination</b> Sampath Golla, PE, LEED, AP	20 %	UPRR coordinator to assist the City with agreements.
<b>Hydraulics + Hydrology</b> Shubhee Saxena (EXP)	80 %	Perform the hydrology and hydraulic analysis and storm drain plans and also, prepare the final hydrology and hydraulics report.
<b>Roadway Design</b> Christine Brown, EIT (EXP)	80 %	Prepare roadway design plans.
<b>Stormwater Quality</b> Parakh Jaiswal, EIT (EXP)	80 %	Responsible for the SWPP.

# Project Team Organizational Chart

## LEGEND

- EXP | EXP U.S. Services, Inc.
- ELS | Epic Land Solutions, Inc.
- ICF | ICF Stokes & Jones, Inc.
- GEO | Geocon Inc.
- DEA | David Evans & Associates, Inc.

## AVAILABILITY (%)



## SUPPORT SERVICES

<p><b>ROADWAY LEAD</b> Gabriel Rodriguez, P.E*   EXP   40%</p> <p><b>ROADWAY DESIGN</b> Christine Brown, EIT   EXP   80%</p> <p><b>TRAFFIC CONTROL</b> Ben Hashemloo, PE., PTOE*   EXP   60%</p> <p><b>UPRR COORDINATION</b> Sampath Golla, PE, LEED, AP*   EXP   40%</p> <p><b>STORMWATER QUALITY</b> Parakh Jaiswal, EIT   EXP   80%</p>	<p><b>DRAINAGE DESIGN</b> Portia Gonzalez, PE, QSD/QSP*   EXP   40% Sandra Homola, PE*   EXP   60%</p> <p><b>STRUCTURAL LEAD</b> Byron Danley, SE, PE*   EXP   40%</p> <p><b>HYDROLOGY + HYDRAULICS</b> Shubhee Saxena, EIT*   EXP   80%</p> <p><b>TOPOGRAPHIC SURVEY</b> Robert Vasquez, PLS*   DEA   40%</p>	<p><b>GEOTECHNICAL LEAD</b> Lisa Battiato, CEG, APM, LEED AP*   GEO   60%</p> <p><b>RIGHT-OF-WAY DATA + UTILITY COORDINATION</b> Curtis Bibolet, SR/WA, R/W-AMC*   ELS   60%</p> <p><b>ENVIRONMENTAL</b> Brian Calvert   ICF   20% Monica Corpuz, RPA*   ICF   60%</p>
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\* Denotes Key Personnel





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BEAUMONT  
CIVIC CENTER

550

# References



## References | For EXP

### San Bernardino County Transportation Authority

1170 W. 3rd Street  
 San Bernardino, CA 92415  
 Tim Byrne | Project Delivery Manager  
 t: 909.884.8276

**Date of Services:** 2019 - Ongoing

**Services Provided:** Landscape Architecture, Environmental Planning, Roadway, Traffic, Electrical, Right-of-Way Support, and Utility Coordination

### Caltrans District 12

1750 E. 4th Street, #100  
 Santa Ana, CA 92705  
 Steve Kinaly | Resident Engineer  
 t: 657.328.6000

**Date of Services:** 2019 - Ongoing

**Services Provided:** Traffic Signals, Drainage and ADA Compliance

### Caltrans District 8

464 W. 4th Street  
 San Bernardino, CA 92401  
 Rafih Achy | Project Manager  
 t: 909.383.4077

**Date of Services:** 2019 - Ongoing

**Services Provided:** Drainage Modifications, Guardrail Upgrades and Grading Modifications

### Riverside County Transportation Commission

4080 Lemon Street, 3rd Floor  
 Riverside, CA 92501  
 Bryce Johnston | Capital Project Manager  
 t: 951.787.7141

**Date of Services:** 2019 - Ongoing

**Services Provided:** Construction Inspection

### City of Seal Beach

211 Eighth Street  
 Seal Beach, CA 907410  
 Denice Bailey | Public Works  
 t: 562.431.2527 x1328

**Date of Services:** 2019 - Ongoing

**Services Provided:** Construction Management, Estimates, Survey, Geotechnical, Water Quality Management Plan, Community Outreach

## Scope of Services

Riverside County Flood Control  
and Water Conservation District  
1995 Market Street

## Scope of Services

Together with the City at the kick-off meeting upon NTP, the EXP team will review our 12-month schedule and create a baseline schedule for your approval. Portia will update the schedule bi-weekly to apprise the City of Beaumont of the work progress.

EXP will begin with topographical mapping, utility research, right of way mapping, and permit identification. Resource allocation is the roadmap for the design and oversight teams to work together delivering the project. For our 12-month environmental and design schedule, the following scope of work defined in the RFP and our deep understand of the project are discussed in detail below.

### Detailed Work Plan of Specific Work Task

#### TASK 1 | Project Management

**1.1 Meetings:** A project kickoff meeting will be conducted to confirm the Scope of Services and design parameters. PDT meetings will be conducted monthly throughout the duration of the project to track the overall project and facilitate the flow of information between the City, EXP, and all other stakeholders. Additional as-needed meetings will be held to address specific concerns. Agendas and meeting minutes will be generated for each meeting. (10 meetings assumed).

**1.2 Coordination + Progress Reporting:** EXP will provide coordination with City staff as well as other stakeholders as required. These may include RCFC, UPRR, Cherry Valley Water District, adjacent property owners or management companies. EXP will supervise, coordinate, monitor and review the project for conformance with standards, policies, and procedures. Monthly progress reports will also be provided to document the progress on the project. The EXP team will conduct a field review of the project site.

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#### Deliverables:

- ✓ Project Schedule
  - ✓ Monthly Project Status Reports
  - ✓ Meeting Minutes
  - ✓ PMP
- 

#### TASK 2 | Topographic Survey + Boundary Control

**2.1 Control Surveys:** Existing monuments will be utilized where available and durable monuments will be set as required where no suitable monuments exist. Should additional survey control be required to be set, horizontal and vertical control will be established from said existing survey control.

**2.2 Photogrammetric Mapping:** No additional aerial mapping will be obtained. Only existing mapping will be utilized and supplemented with ground surveys for areas of this project not covered by existing mapping.

**2.3 Topographic Survey:** Topographic field surveys will be performed to collect verification surveys within the project limits as identified by the design engineer. Supplemental surveys will be used to collect areas which are found to be different during our field review and to collect information at critical tie-in points, surface visible utilities and other features obscured by vegetation or shadows in the aerial mapping which fall within the survey limits. The topographic survey data will be processed and plotted at a scale comparable to the existing mapping files.

**2.4 Utility Mapping:** Field surveys will be performed to support the utility potholing effort. Once the potholes are completed, survey crews will obtain the location of the potholes and incorporate this information with the topographic survey.

**2.5 Right of Way Base Map:** Office staff will review existing base map provided by the city and verify the right of way and centerline data shown on said existing plans. Research will be conducted with the County of Riverside for maps and documents relating to the flood control right of way and street right of way. It is not anticipated that any field work will be needed for this task so no time has been included. Should there be a need for additional services beyond a review verification, these additional services will require additional fees outside this scope and fee.

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#### Deliverables:

- ✓ Topographical Mapping
  - ✓ Aerial Photography
  - ✓ Base Mapping with Utilities
  - ✓ Right-of-Way and Control Points
-

### TASK 3 | Utilities Research

Epic will act as the primary point of contact between the utility owners and project team identified on the utility plans. The scope of work will include:

**3.1 Utility As-Builts:** They will collect utility as-builts, actively participate in PDT/utility focus meetings, prepare the introductory request for as-built notices to twelve (12) utility owners and also, prepare and issue utility verification notices to make sure the facilities are accurately plotted on the project utility plans.

**3.2 Reviews and Verification:** Coordinate and perform up to ten (10) potholes, as well as provide a fee for each additional requested. A review and verification with the design team which facilities are considered in conflict will also be completed. They will coordinate and plan a meeting amongst the utility owner, design team and the City as needed to discuss the project design, relocation alternatives, and a plan to resolve the conflict (Est. four (4) meetings including field meetings) and provide a final close-out file to the City.

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#### Deliverables:

- ✓ Three (3) copies and one (1) digital copy of the Pothole Location Exhibit.
- 

### TASK 4 | Regulatory Compliance

**4.1 Biological Resources Technical Report and Focused Surveys:** A detailed literature and database review will be conducted to identify special-status species known or reported from the project area, as well as applicable Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) area policies. Following the literature review, ICF will perform field surveys and prepare a Biological Technical Report (BTR) analyzing potential impacts to biological resources and MSHCP consistency for this task. The site is within a burrowing owl survey area, and a four-visit focused survey will be performed within all suitable habitat between March 15 and August 31 in the project's limits of disturbance (LOD) and a 500-foot buffer.

**4.2 Noise Technical Memorandum:** ICF will conduct a noise analysis of construction impacts related to the Project, which would consist of 5,000 feet of reinforced concrete pipe being placed underground. Along with the residences identified toward the southern section of the alignment, ICF will identify any

other noise-sensitive land uses located in the general vicinity of the Project that could be impacted by noise and vibration during construction. Based on the nature of the project, operational noise would generally be negligible. Therefore, it is assumed that operational noise will be address qualitatively. The City of Beaumont generally exempts construction, except for interior levels that could exceed the City's municipal code at residences.

**4.3 Cultural Resources Assessment:** Historic maps and photographs will also be reviewed, if available. Due to the COVID-19 pandemic, the SCCIC is closed to outside researchers; therefore, records search results are expected to be delayed. According to SCCIC, a duration of at least 13 weeks should be expected from the time the record search is submitted to the time that the record search information is received. The scope of work will include:

- Pre-field Coordination
- Pedestrian Survey
- Paleontological Resources

**4.4 Air Quality and Greenhouse Gas Technical Memorandum:** The Air Quality Impact Analysis will be prepared to meet County and South Coast Air Quality Management District (SCAQMD) CEQA requirements. Impact analyses will be prepared consistent with the analytical methodology, technical requirements, and significance criteria outlined by the SCAQMD in their CEQA Air Quality Analysis Handbook (as updated per the SCAQMD website).

**4.5. CEQA Categorical Exemption:** ICF will prepare a CEQA Notice of Exemption (NOE) for approval by the City and filing by ICF. ICF assumes that the noise, biological resources, air quality, and cultural resources technical studies and memos that are prepared will support the NOE. Only the NOE is assumed; no separate report or document.

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#### Deliverables:

- ✓ Technical Reports + Memoranda
  - ✓ Three (3) copies and one (1) digital copy of applications permits and correspondence
-

## TASK 5 | Geotechnical Investigation

Geocon will prepare an encroachment permit application for the City of Beaumont and Caltrans to perform borings and subsequent patching within the roadways.

**5.1 Geotechnical Borings:** Geotechnical borings will be excavated along the proposed storm drain alignment. We have budgeted two days of drilling to excavate ten borings. We will measure the pavement and base thicknesses, log the geotechnical borings based on USCS criteria, and collect soil samples for laboratory testing. The borings will be backfilled with soil cuttings and temporarily patched with cold patch asphalt. The scope of work will include:

**5.2 Laboratory Testing:** Perform laboratory testing, which is anticipated to include maximum density/optimum moisture, in-situ density and moisture, direct shear, corrosion screening, and R-value testing. The final laboratory program will be based on conditions encountered during drilling.

**5.3 Geotechnical Report:** Prepare a geotechnical report for the proposed improvements. The report will include geotechnical recommendations for design and construction of the storm drain line, including temporary excavations, utility backfill, pavement restoration, temporary shoring pressures, boring logs, boring location map, results of laboratory testing, and identification of geologic hazards which could impact the proposed improvements.

**OPTIONAL – Pump Testing** will be performed if groundwater is encountered within the borings. We will collect water samples during drilling and run environmental laboratory tests to determine the chemical properties of the water so a disposal plan can be made. The cost of disposing of the water will depend on the chemicals within the groundwater.

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### Deliverables:

- ✓ Three (3) copies and (1) digital copy of the draft
  - ✓ Final Geotechnical Report
- 

## TASK 6 | Preliminary Design (30% + 60% Submittals)

The Preliminary Design will be based on the hydrology and hydraulic study and will include catchbasin locations, pipe alignment and profiles.

### 6a. 30% Submittal

**6a.1 Hydrology and Hydraulic Study:** EXP will evaluate the 1983 Hydrology Study for Line 2 to ensure design flows and parameters used represent current conditions. After consultation with the City and RCFC and deemed necessary, EXP will update the existing study using the Rational Method set forth in the RCFC Hydrology Manual. The approved Hydrology Study will be the basis of design for MDP Line 2 – Stage 1. EXP will develop a hydraulic model using WSPG to establish the Water Surface Profile or Hydraulic Grade Line for the storm drain and laterals. Downstream boundary conditions for pipe connectors will utilize the HGL established for the main line. For complicated junction structure, a junction analysis will be completed to establish HGL at the mainline. The 10-year and 100-year flow rates will be calculated for all catchbasins and off-site areas. The RCFC Hydrology Manual and Rational Method will be used to calculate peak flows. Flowmaster will be used to size the catchbasins and flow spread.

**6a.2 Hydrology + Hydraulics Report:** The report will include a narrative, Rational Method Hydrology results and summary table, WSPG Calculations, Catchbasin Hydraulics results and summary table. A Drainage Area Map will be included with catchment points and respective peak flow rates, tributary areas, times of concentrations and flow lengths.

**6a.3 30% Storm Drain + Plan Profile:** With the base mapping completed, the preliminary storm drain plan and profile will show the Line 2 – Stage 1 trunk line, utilities, right of way, TCE's, lateral connections and stubouts for future connections, manholes, junctions structures, transition structures, catchbasins and lengths, local depressions, outlet points, and other catchment point locations will be shown. Typical sections will also be shown for this submittal. The plans will be prepared using a 1":20' scale and profile will be prepared using 1":5'. Annotations will be added to show invert elevations, slopes, hydraulic information, pipe sizes, roadway stationing, pipe off-set distances.

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### Deliverables:

- ✓ Hydrology + Hydraulics Report
  - ✓ Preliminary Storm Drain Plans + Profiles
  - ✓ QA/QC Certification
-



**6b. 60% Submittal:** The 60% submittal will incorporate comments that are agreed upon from the 30% submittal. Pothole information will define the final alignment and profiles. The Plans and Drainage Reports will be updated from the 30% submittal and also include Drainage Structure Details; Roadway Improvement Plans; Utility Relocation Plans; Traffic Control Plan; and Engineer's Estimate.

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#### Deliverables:

- ✓ Three (3) copies and one (1) digital copy of all deliverables
  - ✓ Updated Hydrology + Hydraulics Report
  - ✓ Updated Storm Drain Plans + Profiles
  - ✓ Structural Details
  - ✓ Traffic Control Plans
  - ✓ Utility Relocation Plans
  - ✓ Specifications + Special Provisions
  - ✓ Engineer's Estimate
  - ✓ QA/QC Certification
- 

#### TASK 7 | Final Design (90% + 100% Submittals)

Following the incorporation of the City's and RCFC comments on the 60% level plans and draft bid package. EXP will submit final PS&E documents to the City for review and approval.

**7a. 90% Submittal Package:** The following will be provided in the 90% submittal package.

1. Title Sheet: RCFC Title Sheet
2. Storm Drain Plans and Profiles
3. Connector Pipe Profiles:
4. Structural Details
5. Utility Relocation Plans:
6. RCP Bedding and Paylines
7. Street Improvement Plans
8. Traffic Control Plans
9. SWPPP
10. Specifications and Special Provisions
11. Engineers Estimate

**7b. 100% Submittal Package:** The 100% submittal package will be finalized to include all comments/resolutions received from the City, RCFC + WCD, UPRR, Caltrans, utility owners and other stakeholders. The

technical specifications and special provisions and engineers estimate will be finalized for City approval.

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#### Deliverables:

- ✓ Three (3) copies and one (1) digital copy of all deliverables
  - ✓ Final Hydrology + Hydraulics Report
  - ✓ 90% + 100% PS&E;
  - ✓ QA/QC Certification
- 





## Cost

- Provided under a separate cover

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# Related Projects



## SR-1 - Traffic Signal Upgrades + Pavement Rehabilitation

Caltrans District 12

Newport Beach, Huntington Beach, Seal Beach, CA

Upgrade Traffic Signal project located on State Route (SR) 1 between Crystal Heights Drive (PM 13.0) and First Street (Post Mile [PM] 33.6), in the cities of Newport Beach, Huntington Beach, and Seal Beach in Orange County (EA 0P6800). The proposed project limit is between Crystal Height Drive and First Street in the cities of Newport Beach, Huntington Beach, and Seal Beach. This project would improve 20 intersections between PM 13.0 and PM 33.6. The proposed improvements for this location are to remove and replace the existing traffic signals and equipment due to age and service ability with current Caltrans standard traffic signals and equipment, upgrade the existing curb ramps to the current American with Disability Act (ADA) standard, relocate/adjust the existing drainage facility due to ADA curb ramp improvements, trim the existing median island, and remove the existing pedestrian push button on the median island.

**Timeline:** May 2019 - May 2021 | **Role:** Sub to ACT

**Client Reference:** Steve Kinaly, Resident Engineer  
t: 657.328.6000 | e: steve.kinaly@dot.ca.gov  
www.caltrans.gov



### KEY RELEVANCE

- Hydrology
- Storm Drain Design
- Catchbasin + Stormdrain Hydraulics
- Storm Water Quality
- Caltrans Coordination

## I-40 Median Regrade

Caltrans District 8

Newberry Springs to Ludlow, CA

EXP is providing the Drainage Design for the I-40 Median Re-grade (PM 25 - PM 50). The project is upgrading the existing non-standard I-40 median cross slopes within the 30-foot clear recovery zone from existing, which vary from 2:1 to 6:1 or steeper, to 10:1 or flatter. Drainage modifications and improvement work would consist of reconstruction of existing offsite drainage facilities by extending the storm drain in the median. Drainage design includes extending existing culverts at the median to accommodate the new fill slopes, new headwall and wingwall, and rock slope protection.

**Timeline:** Aug 2019 - May 2022 | **Role:** Sub to Transystems

**Client Reference:** Rafih Achy | t: 909.383.4077 | e: rafih.achy@dot.ca.gov | www.caltrans.gov



### KEY RELEVANCE

- Drainage Design
- NPDES Compliance
- Drainage Modifications + Improvements
- Roadway Culverts

## Diaz Road Improvements

### City of Temecula

Temecula, CA

The Diaz Road Expansion Project proposes to improve Diaz Road to meet the classification requirements of Major Arterial (4 Lanes Divided), approximately between Cherry Street and Rancho California Road.

The approximate 2.2 mile segment will be improved on its current horizontal alignment. Project elements include roadway widening, new curb and gutter, drainage facilities, treatment BMPs, traffic signal, and utility relocations. EXP provided the hydrology and hydraulic analysis based on the guidelines established in the RCFC&WCD Hydrology Manual. Hydraulic analysis was performed for all catchbasins and connector pipes.

**Timeline:** October 2019 - Ongoing | **Role:** Sub to David Evans and Associates (DEA)

**Client Reference:** Avlin Odviar, Senior Civil Engineer  
**t:** 951.693.3969 | **e:** avlin.odviar@temecula.gov  
[www.temeculaca.gov](http://www.temeculaca.gov)



#### KEY RELEVANCE

- Hydrology (Rational Method using RCFC + WCD Manual)
- Storm Drain PS&E
- Hydraulic Analysis of Catchbasins + Stormdrains
- Water Quality Management Plan + BMP Implementation + Design

## Peach Avenue Improvements

### City of Hesperia

Hesperia, CA

The City of Hesperia proposes to improve Peach Avenue between Centennial Street and Hinton Street on Peach Avenue where it crosses the Antelope Valley Wash. The project consists of realigning and raising the roadway profile with new asphalt concrete pavement on a double reinforced concrete box (RCB) culvert at the Antelope Valley Wash.

It proposed to improve the roadway geometry with these enhancement features: insert sufficient tangent between reversed curves, flatten profile slope and remove tree/sight distance obstructions, thus improving safety.

**Timeline:** March 2020 - January 2021

**Role:** Sub to Angenious

**Client Reference:** David Burket, Project Construction Manager | **t:** 760.947.1202 | **e:** dburkett@cityhesperia.us  
[www.cityofhesperia.us](http://www.cityofhesperia.us)



#### KEY RELEVANCE

- Hydraulic Analysis (Large Flows under Roadway)
- Structural Analysis
- Channel Design
- SWPP

## I-90 from I-190 to Harlem Avenue

### Widening + Resurfacing

Illinois Department of Transportation, District 1  
Chicago, IL, USA

EXP provided Phase I and Phase II engineering and survey services for the Interstate 90 (I-90) improvement from Interstate 190 (I-190) to Illinois Route 43 (Harlem Avenue) in Chicago for the Illinois Department of Transportation. The study included an analysis of the existing expressway deficiencies within this 2 mile corridor, and development of the proposed add-lane improvement which would provide an additional travel lane to the outside in both eastbound and westbound directions on the existing alignment.

EXP prepared a Location Drainage Study for I-90 during Phase I. Recurrent flooding issues along the corridor were investigated. Geopak Drainage was utilized to prepare complex hydrologic and hydraulic calculations for the existing and proposed storm sewer systems. The analysis considered impacts to the roadway and storm sewer system from sensitive tailwater conditions at both major outlets, high floodplain elevations in the Des Plaines River at the west end and an existing Pump Station at the east end. The existing conditions occurrence of flooding was identified, and a new parallel 60-inch storm sewer line was designed to work in connection with the existing storm sewer system and alleviate flooding at the low points in the roadway during large storm events. Stormwater detention requirements were calculated and incorporated into the proposed design. Phase II design is complete and construction is under way.

**Timeline:** Completed (Phase I - 2014, Phase II - 2016)

**Role:** Subconsultant to HNTB

**Client Reference:** Serin Keller, Project Manager  
t: +1.847.705.4556 | e: serin.keller@illinois.gov  
www.idot.illinois.gov



#### KEY RELEVANCE

- Complex Hydrology + Hydraulics
- Storm Drain Design
- Stormwater Detention Design
- Drainage Modifications Plus Improvements
- Roadway Flooding Alleviation
- NODES Compliance

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BEAUMONT

## Additional Information

- TBD
- TBD
- TBD

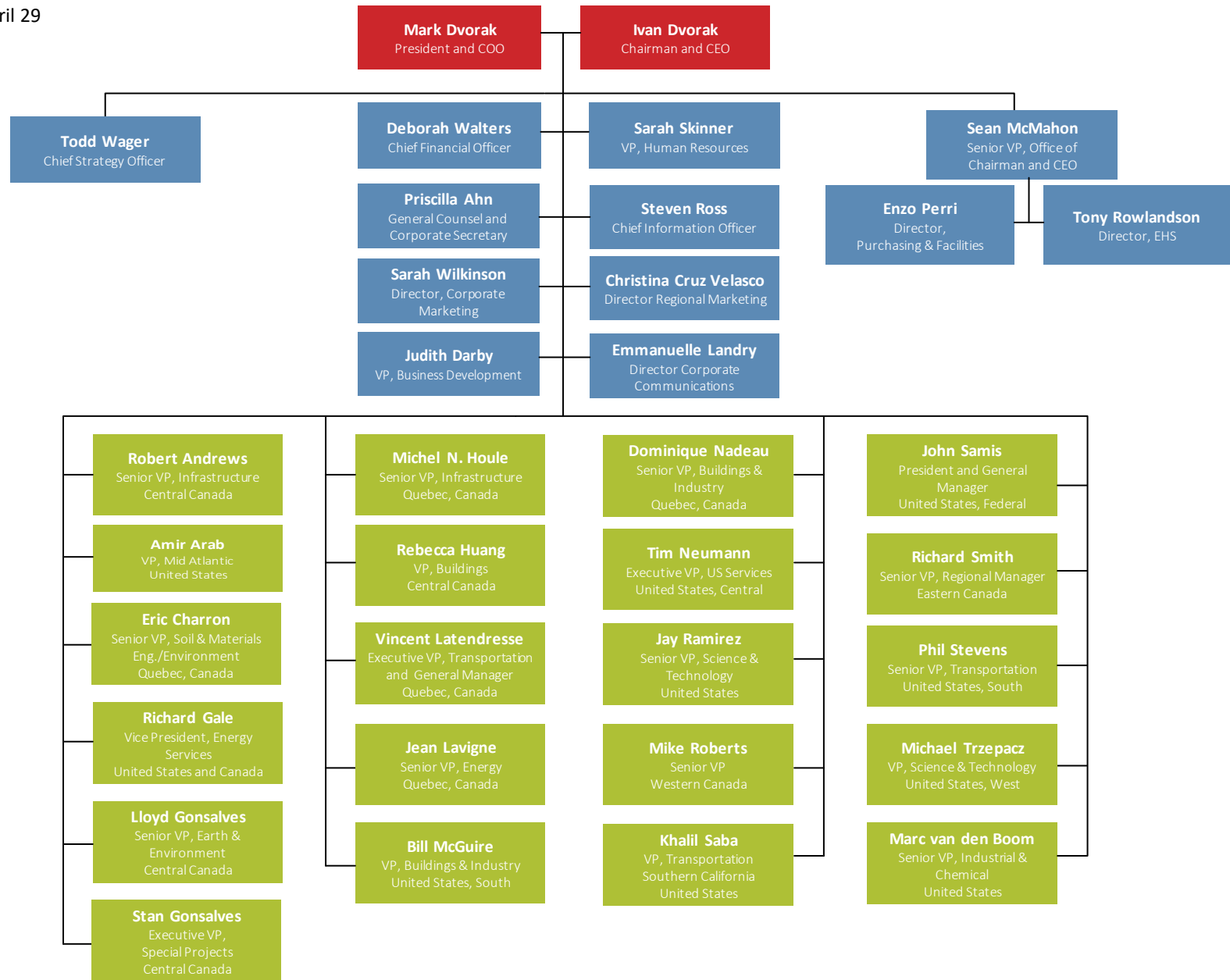


# Corporate Organizational Chart



# EXP Organizational Chart

Rev. April 29



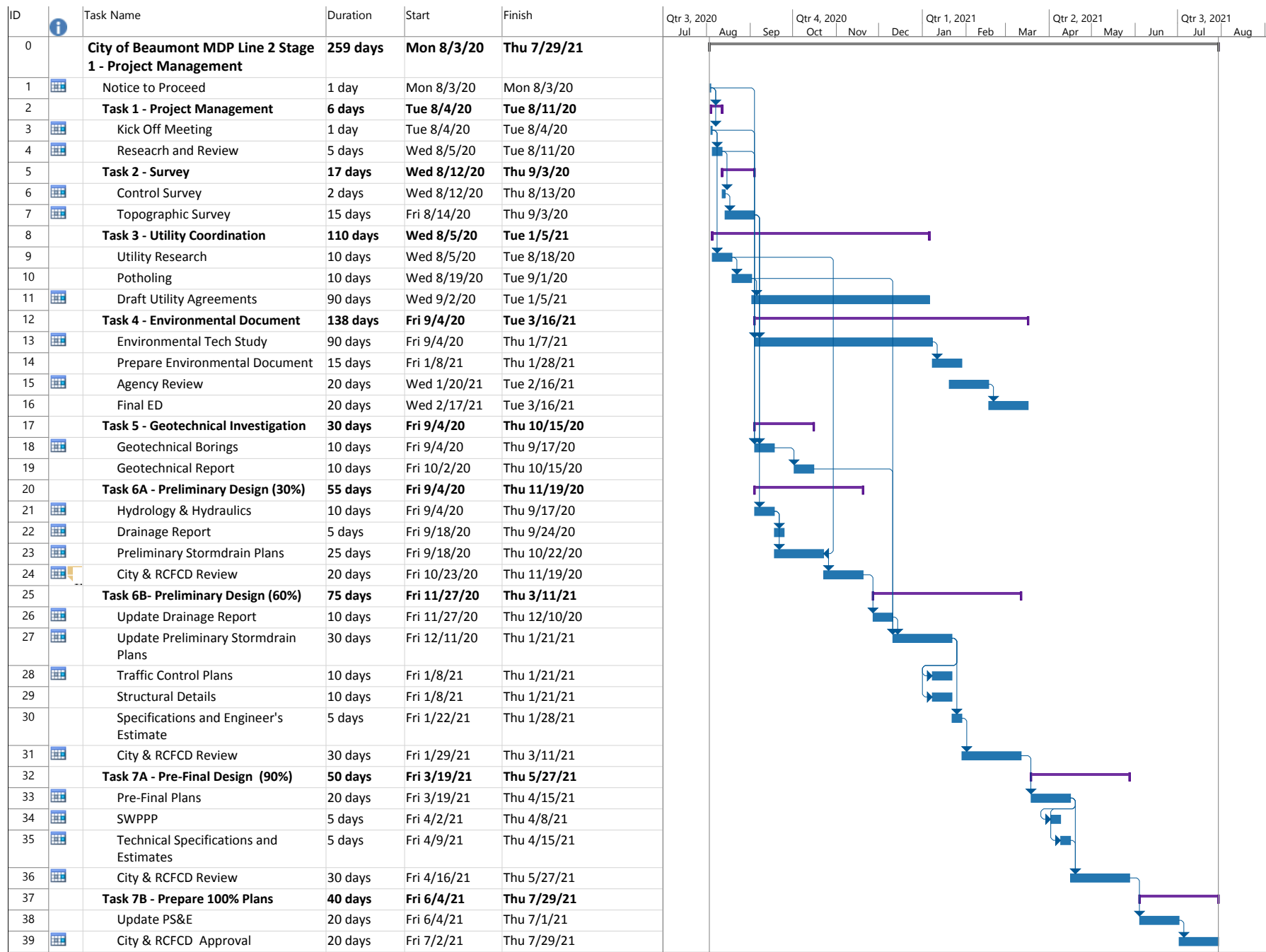
■ Corporate Services

■ Sector Leaders





Schedule





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