HRGreen PACIFIC

City of Palm Desert

PROPOSAL FOR

Storm Water and Drainage Infrastructure Assessment, Engineering Services - CDR00006

MAY 20, 2024

Tim Jonasson, PE

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Palm Desert, CA 92260

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HRGreen®
PACIFIC

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May 20, 2024

Melanie Ramirez, Senior Management Analyst
City of Palm Desert
73510 Fred Waring Drive
Palm Desert, California 92260

Re: Storm Water and Drainage Infrastructure Assessment, Engineering Services (CDR00006)

Dear Melanie and Other Selection Committee Members,

Since its incorporation in1973 the City of Palm Desert has been actively mitigating the impacts of flooding particularly from late summer storms that are intense in nature dumping up to a year's worth of precipitation in minutes overwhelming storm systems designed for more measured rain events. From Hurricane Kathleen in September 1976 to Hurricane Hillary in August 2023 the city has had to be prepared for storm cells that randomly settle over different parts of the city or inundate the local mountains which quickly transmit the runoff to the valley floor. From there storm drain systems and retention basins are often no match if they have not been properly designed or maintained causing major back ups and flooding of public and private property.

In order to provide flood protection for the next 50 years, the City of Palm Desert requires an experienced civil engineering consultant with knowledge of flood patterns common to the City and the Coachella Valley. This knowledge will be valuable in providing an inventory and assessment of the current state of the City's flood protection system, analysis of potential capital improvements to improve flood response in the future, as well as, assistance in hiring and overseeing a contractor to return the existing system to full capacity. HR Green, with its unique combination of understanding of local flood patterns and desert storm water design, as well as its previous work reviewing the impacts to Palm Desert from Hurricane Hillary, is just such a firm.

Our Differentiators:

- Since 2021, **HR Green has provided city engineer and engineering support services to Palm Desert.** Our proposed Project Manager, Tim Jonasson, PE, served as the interim Public Works Director for Palm Desert in 2018 after serving as Design and Development Director and Public Works Director/City Engineer for the City of La Quinta for 15 years. Tim led La Quinta's response to the summer flooding that occurred in 2013 and 2014 that resulted in the flood protection improvements recently completed by the City.
- **Proven Design Team -** HR Green has provided similar services with the design and now construction of the City's Section 29 Basin Expansion Project. We are familiar with your design standards eliminating ramp up time to get your stormwater improvements underway.
- **Local construction oversight -** HR Green's proposed Construction Manager, India Woodruff from NV5, will provide full time inspection and oversight of the city's contractors for any repair and clean up work. She is supported by a local inspection team the city has worked with in the past that are available 24/7 to meet the city's needs
- **HR Green's subconsultant support -** HR Green proposes Houston and Harris, a company the city is familiar with, for video inspection and storm drain cleaning. In coordination with our in-house geospacial team will provide an accurate depiction of the current state of the city's storm drain system.
- **HR Green is a full-service civil engineering firm** - We provide full engineering support for your projects from inception to reviews and approvals to inspection and ultimately City acceptance.

EXECUTIVE SUMMARY – OUR APPROACH TO ACCOMPLISH THE WORK: Our Project Manager, Tim Jonasson, PE, will be the primary day-to-day contact for this contract, overseeing both phases of the work, approving the design of any improvements and attending meetings as needed. Tim will be responsible for overall contract administration, HR Green staffing and subconsultant oversight for all services under this contract. Steve Loriso, PE will be the Assistant Project Manager responsible for overall quality control and Tim's back-up should he be needed.

INDIVIDUAL AUTHORIZED TO NEGOTIATE CONTRACT TERMS & COMPENSATION:

George Wentz, PE | Vice President | 44-651 Village Court, Suite 125, Palm Desert, CA 92260 | gwentz@hrgreen.com | Office 855.900.4742

Tim Hartnett | President | 1391 Corporate Drive, Suite 203, McHenry, IL 60050 | thartnett@hrgreen.com | Office 815.759.8328

We look forward to continuing to build our relationship with the City of Palm Desert providing public works engineering support services to the community that exceed your expectations.

Sincerely,

HR GREEN PACIFIC, INC.

Timothy Jonasson, PE
Project Manager

George A. Wentz, PE
Vice President

Timothy J. Hartnett
President

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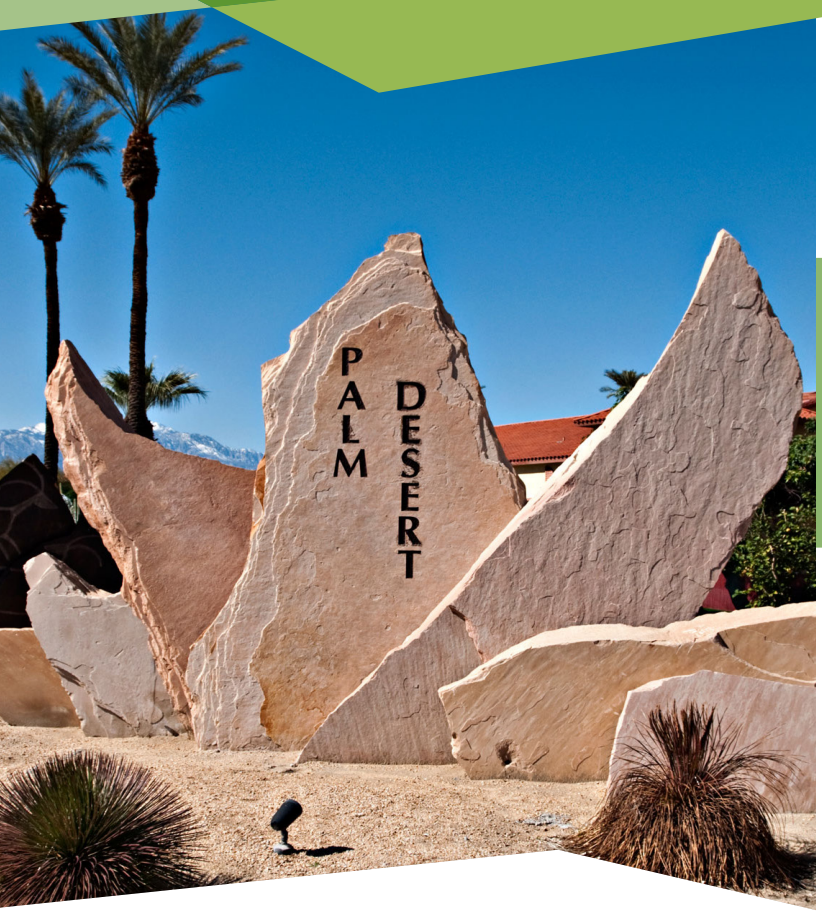
HRGreen PACIFIC



Experience and Technical Competence

Experience and Technical Competence

Background

Founded in 1913, HR Green ranks among ENR's Top 500 Design Firms (#173 in 2022) in the United States. The firm is an employee-owned corporation with 700+ employees nationwide and more than 60 in our two California offices. **Our Coachella Valley office, located in the City of Palm Desert, will serve as our home for this contract**.

Several staff members live in the Coachella Valley and are only minutes away from Palm Desert. HR Green staff is able to provide fast, responsive services to the City's needs. Our local staff members also have a broad range of public works engineering, construction management, and construction experience. To demonstrate our commitment to the City and our understanding of your specific needs, we have selected key team members to make them available to your project.

We understand the importance of meeting your schedule and will assign the staff necessary to meet our commitment. In addition to our management team, HR Green has a deep bench of additional staffing resources, if needed. HR Green selects our team for each project based on individual staff members' specific experience and knowledge, as well as their availability.

HR Green has received numerous awards throughout the U.S. for consulting services. Among others, the firm was recognized with the ***Premier Award for Client Satisfaction*** from PSMJ Resources, Inc.

ENR TOP500 Design Firms

- HR Green has continued to climb the rankings on Engineering News Record's (ENR) annual lists of top design firms in the nation, coming in at **173.**

Great Place To Work. Certified FEB 2021–FEB 2022 USA

Recognized as a Great Place to Work®-certified company

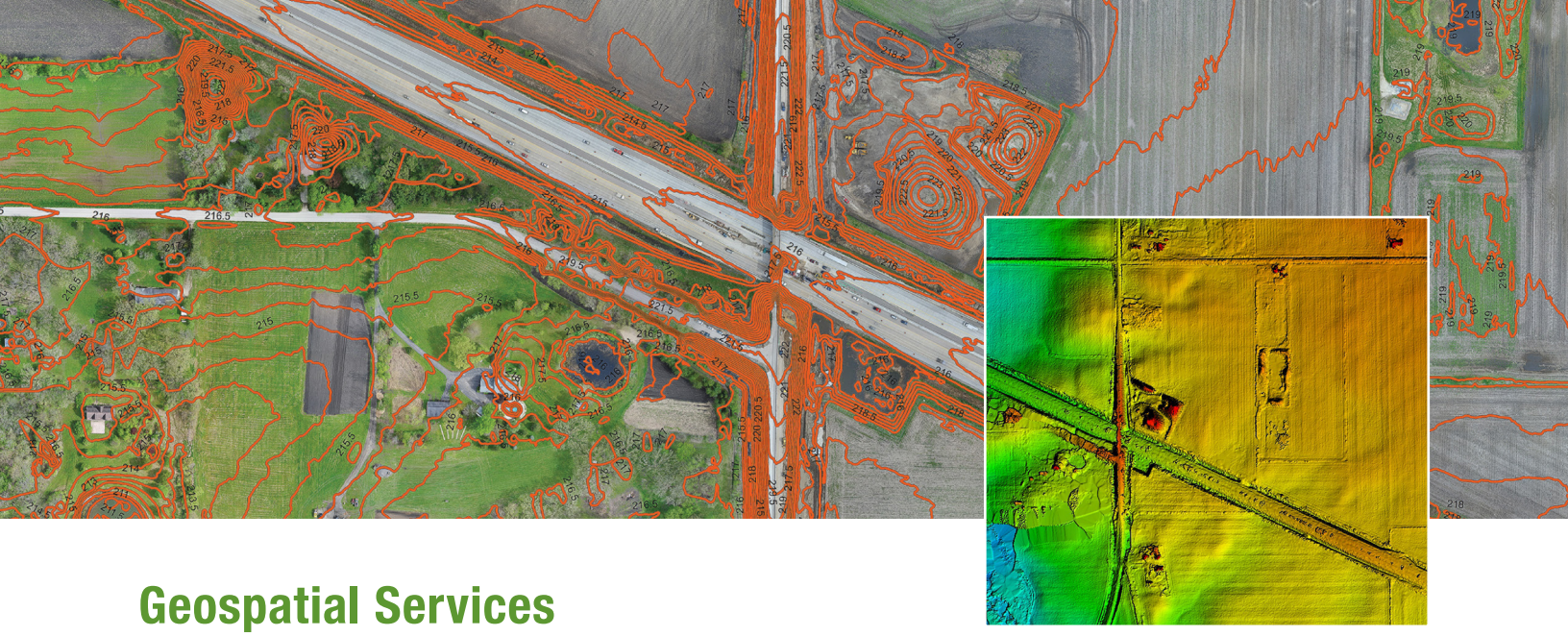
We Understand Palm Desert and the Coachella Valley

HR Green brings significant project experience on numerous types of projects; decades of project management experience and client satisfaction from several municipalities in the Coachella Valley and in nearby communities throughout Riverside County.

- Our Proposed City Engineer / Program Manager, Tim Jonasson, PE, is currently working with the City of Palm Desert on:
  - Project Management and On-Call Engineering Services
  - Building and Civil Plan Check Services
  - Analysis of Section 29 Drainage Basin Project
  - Traffic Signal Modifications and Hardware Upgrades
- Project experience with FEMA floodplain review (Palm Desert and La Quinta).
- Multi-faceted consulting services to a majority of Coachella Valley agencies, including the cities of Palm Desert, La Quinta, Rancho Mirage, Cathedral City, Desert Hot Springs, and the Coachella Valley Association of Governments (CVAG).
- Program Manager has served as the City of La Quinta's former Public Works Director and as a twice-President of APWA's Coachella Valley Chapter, working extensively with CVAG and cities to drive regional collaboration. Proposed staff members (and subcontractors) have worked with Palm Desert and are long-standing Coachella Valley residents.
- Available bilingual team members (English/Spanish).
- Long-term relationships with proposed subconsultants.

Asset Management Expertise

The use of accurate asset management programs within municipalities is becoming more widespread, however, only the most progressive organizations are seeking to incorporate a comprehensive management tool for their stormwater enterprise system. The magnitude of this project shall not be underestimated. The team that we assembled for data collection and analysis consists of our trained GIS professionals, asset plan architects and stormwater experts from across the company as well as an honest, customer service focused contractor. Palm Desert is in a unique position to bolster their GIS system with invaluable information and tools that can be used to increase efficient and effective stormwater system management going forward. This would include the development of programmed operation & maintenance, rehabilitation, and capital improvement solutions as well as fine-tuning routine maintenance schedules that more efficiently utilizes staff time.



Geospatial Services

Land surveying, GIS mapping, data collection, or field observations are often the crucial first step to any project. HR Green's geospatial professionals have a keen eye for detail and keep your project goals front of mind while adapting as required by site conditions.

With every project, our goal is to focus on your project needs, while providing accurate and detailed data. Whether its road alignment staking, topographic survey work, asset inventory, right-of-way and boundary surveying, site documentation, Unmanned Aerial Systems (UAS), or 3D laser scanning, our technology and service are aligned to your project needs.

We coordinate with project teams and assist design professionals in providing the right data. With ongoing training, certifications, and years of experience, we strive to deliver high-quality services and often serve as an extension of your staff. From simple to complex, we pride ourselves in delivering critical information in a format that serves the end user.

We collaborate with our clients from project inception to successful completion, always seeking value driven solutions to your project needs.

Geographic Information Systems (GIS) is an invaluable tool for inventorying and managing municipal assets while also providing a defensible, scientific basis for well-informed capital improvement planning.

GEOSPATIAL SERVICES

Geographic Information System (GIS)

GIS as an essential tool for managing information and establishing a data-driven basis for intelligent planning and decision-making. Beginning with field data collection, data conversion, and analysis - GIS layers data in an accessible and meaningful way. Professional GIS deliverables like map books, database reports, and web mapping applications engage our clients directly. Additionally, our team can assist with training, inspections, or needs assessments.

Survey + Mapping

Surveying is oftentimes a crucial first step in defining and beginning your next project. Our data collection is compatible with Microstation, AutoCAD and ESRI ArcGIS, and we are pre-qualified to provide Land and Route survey services. From ROWs, utility mapping, topographic mapping, construction staking, to boundaries and easements, platting for land development, and Land Title Surveys, HR Green is able to provide survey services through licensed professional land surveyors in Illinois, Iowa, Indiana, Minnesota, Missouri, and Wisconsin. Additionally, we provide 3D Laser scanning services, making hard to reach structures or dangerous areas accessible.

sUAS (Drone)

HR Green's FAA licensed pilots are highly trained to abide by all FAA regulations as well as monitor safety, trespassing and privacy issues. In addition, HR Green's high-end equipment and cameras can provide imagery and elevation data. High-quality imagery that can assist with corridor design and construction progress, pavement evaluations, mapping, and detailed before-and-after site photos.

Asset Management

Careful asset management is a critical component of the successful operation of any community. Asset locations are married with the attribute information necessary to assess needs and plan improvements. The databases that serve as the foundation for these GIS solutions are based on industry standards, further informed by HR Green's professional expertise in engineering and planning, and tailored to the unique demands of our clients.

Top-of-the-line hardware solutions are available, but so are solutions that take advantage of less expensive technology that may already be on hand like smart phones and tablets.

In some cases, your available staff may play a central role in the asset inventory effort, while in others, experienced HR Green field personnel are the right choice for completing high-quality jobs on-schedule.

No two communities are alike. HR Green embraces these differences by offering "solution scalability" – flexible asset management solutions to meet your project needs.

HR Green's Successful Relationship with the City of Palm Desert

HR Green's proposed team members, as well as our subconsultants, have worked together on numerous similar projects across Southern California, including some in Palm Desert, bringing synergy and efficiency to the City.

Since 2018, HR Green has provided a broad array of consulting services, beginning with serving as Interim Public Works Director to manage the City's day-to-day departmental operations. This included the planning, design, and construction of CIP and land development projects. Thereafter, in 2021 HR Green was contracted for On-Call Support Services for Development Services and Public Works. To date responsibilities have included capacity analysis and design of the Section 29 Basin which provides regional stormwater retention for commercial and residential development between Monterey Avenue and Cook Street. Concurrent with this design HR Green was asked to review flood impacts from Hurricane Hilary and analyze preliminary mitigation measures along the Mid-Valley Channel alignment. HR Green also provided engineering support for staff's presentations to city council and residents.

CONSTRUCTION MANAGEMENT AND INSPECTION FOR ALESSANDRO DRIVE IMPROVEMENTS PHASE II

The City's Strategic Plan focuses on providing a safer, more efficient and reliable transportation system for residents and visitors. The construction of improvements to Alessandro Drive is also consistent with the Strategic Plan's goal to revitalize the Highway 111 corridor.

Following the design updates for street improvements along the Alessandro West corridor, the City selected HR Green to provide construction management and inspection services for the second phase of the project (Monterey Avenue and Las Palmas Avenue), which has included a complete rehabilitation of the street section, drainage improvements, as well as a temporary parking area to the north of the street. Specific aspects of construction have involved: traffic control; dust and water control; saw cutting; removal of asphalt concrete, concrete improvements, and base material; clearing and grubbing; installing HDPE storm drain system; constructing road base material, asphalt concrete pavement, curb, curb and gutter, cross gutter, and ADA curb ramps; signing and striping; and adjusting manholes and valves to grade.

OTHER HR GREEN SERVICES FOR CITY OF PALM DESERT

- Building and Engineering Plan Check
- Private Development Project Entitlement
- Staff Augmentation
- Traffic Operations
- City Engineer and City Surveyor

ANALYSIS OF SECTION 29 DRAINAGE BASIN PROJECT

HR Green conducted a desktop analysis for the City of Palm Desert to understand the history of the Section 29 Drainage Basin, understand future project impacts to the basin, and analyze the adequacy of the existing regional stormwater retention facility for a contributing basin approximately 519 acres in size.

The analysis investigated potential sources of discrepancy including changes in design guidance, changes in rainfall intensities, onsite storage requirements, land use, and errors in past calculations, among other factors.

Once sources of potential error were identified, an overall basin analysis was conducted to determine the additional volume that would be required to be retained to be in compliance with current regulations and design criteria.

After investigating the current basin design, an alternatives analysis was presented to the City to address the need for additional retention volume. The analysis eliminated alternatives that are either high risk, cost prohibitive,

schedule prohibitive, or generally unfeasible based on progress of current development projects.

The anticipated alternatives included existing retention basin expansion, infiltration vaults, individual undeveloped parcel retention, stormwater drainage wells, integration of stormwater retention with adjacent development, over excavation and import of high-infiltration soils, and adding a supplemental retention basin on other City property. Each alternative was evaluated by providing a cost-benefit analysis, life cycle analysis, drainage emergency overflow analysis, rough order of magnitude (ROM) cost estimate on a per unit basis, and additional information required to complete preliminary design.

UNPARALLELED COACHELLA VALLEY AND SOUTHERN CALIFORNIA EXPERIENCE

HRGreen® PACIFIC

REPRESENTATIVE AGENCIES SERVED	Firm Experience	Personal Experience	SERVICES PROVIDED: Permit Processing	Engineering Plan Review	Map Review	Land Development Coordination	Building Plan Review / Administration	City Engineer and/or City Surveyor	Project / Program Management	Accessibility / ADA Design	Design Management	PS&E Preparation	Bid / Construction Support	Technology Implementation / Electronic Review	Staff Augmentation	Broadband Consulting / Policy Development	Traffic Engineering	Traffic Operations / ITS	TYPES OF PROJECTS: Roadways	Bridges / Interchanges	Wet Utilities	Dry Utilities	Drainage/Asset Management	Building Facilities	Virtual City / Electronic Plan Check
City of Palm Desert	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●
City of Rancho Mirage	●	●	●	●		●		●						●					●		●	●	●		●
City of La Quinta	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●
City of Coachella	●												●			●			●						
City of Desert Hot Springs	●		●	●		●								●					●		●		●		●
CVAG	●	●														●		●				●			
City of Indio		●							●	●	●	●		●	●				●		●		●		●
City of Cathedral City	●	●	●	●		●	●		●		●	●	●	●	●				●		●		●		●
City of Beaumont	●		●	●		●			●		●	●	●	●	●				●	●	●		●		●
City of Banning	●		●	●										●					●				●		●
City of Moreno Valley	●		●	●	●	●	●	●				●		●	●		●	●	●		●	●	●	●	●
City of Hemet	●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	●	●	●	●
City of Victorville	●			●	●	●								●			●		●		●		●		●
City of Eastvale	●			●		●								●			●		●			●			●
City of Hesperia	●			●	●	●								●					●		●		●		●
City of Redlands	●													●		●						●			●
City of Jurupa Valley	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
City of Corona	●			●	●									●					●		●	●	●	●	●
Elsinore Valley Municipal Water District	●			●	●									●					●		●	●	●	●	●
City of Lancaster	●			●	●	●								●					●		●		●		●
City of Upland	●			●	●	●								●			●		●		●	●	●		●
City of Malibu	●													●		●						●			●
City of Pomona	●	●	●	●	●	●		●	●	●	●	●	●	●	●		●	●	●	●	●	●	●		●
City of Palos Verdes Estates	●		●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●		●	●	●	●	●
Southern California Association of Governments	●													●											●
County of Orange	●	●	●	●		●	●		●				●	●					●		●	●	●	●	●
County of Los Angeles	●	●					●		●		●			●	●				●		●	●	●	●	●
Imperial County	●			●	●									●					●		●		●		●
City of Claremont	●								●	●	●	●	●						●		●	●	●		
City of Placentia	●		●	●	●	●	●	●	●		●	●	●	●	●		●	●	●	●	●	●	●	●	●
City of Anaheim	●	●		●	●		●		●					●	●	●			●	●	●	●	●	●	●
City of Lake Elsinore	●		●	●	●	●		●	●	●	●	●	●	●	●		●		●	●	●	●	●		●
City of Diamond Bar	●	●	●	●		●		●	●	●	●	●	●	●	●		●	●	●			●		●	●
City of Rancho Cucamonga	●		●	●		●			●	●	●	●	●	●	●		●	●	●	●	●	●	●		●
City of La Canada Flintridge																							●		

Legend

- ● Firm Experience
- ● Personal Staff Experience

"HR Green has been successful performing City Engineering, project support, plan checking, and development reviews for the City of Hemet. The firm brings a business sensibility to engineering management, working closely with our staff to streamline and assist our processes. Further, HR Green is an ideal fit for combining experience with value by reducing the amount of paper, time, travel, and costs."

Chris Lopez
Former City Manager, City of Hemet

Specialized Experience

HR Green's GIS solutions marry the location of assets and attribute information necessary to assess needs and plan improvements. The snapshot below showcases our experience with asset management in Stormwater, Wastewater, Water, Fiber, and other corridor assets.

Client/Project	# ASSETS	ASSET TYPE				
		Data Conversion	Field Data Collection	Asset Condition Assessment	CIP	Cost Analysis
Jurupa Valley (CA) NPDES Compliance	12,000	•	•			
Palos Verdes Estates (CA) Catch Basin Data Collection	600	•	•	•		
Jefferson County (MO) Public Works Department	569	•	•			
St. Louis (MO) Metropolitan Sanitary Sewer District	300	•	•	•		
Northwestern University (IL) Campus Site Survey	5,433	•	•			
Minneapolis (MN) Annual Sewer Assessment	650	•	•	•		
Thornton (CO) Property Maintenance Code Compliance	982	•	•			
IADOT Ankeny (IA) Corridor Assets	411	•	•			
Liberty (TX) Sanitary Assets	2,400	•	•	•	•	•
Iteris (IA) ITS Master Plan	550	•	•			
Anamosa (IA) GIS Annual Asset Service Plan	5,900	•	•	•		
Oskaloosa (IA) Wastewater & Stormwater Infrastructure	5,700	•	•	•		
Palo (IA) Annual Asset Service Plan	3,000	•	•			
Central City (IA) Water Asset Management	1,700	•	•			
Rock Island Arsenal (IL) Waste Treatment Plant Design	4,100	•	•			
Keota (IA) Sewer System Modeling	180	•	•	•		
Indianola (IA) Sanitary Sewer Manhole Assessment	1,700	•	•	•	•	•
Walker (IA) Sanitary Sewer & Water Utilities Asset Data Collection & GIS Implementation	600	•	•	•		
Blanco (TX) Sanitary Sewer Assessment	250	•	•	•	•	•
Portland (OR) Data Collection	68,000		•			
John Deere (Ottumwa) Utility Replacement	1,200	•		•	•	•

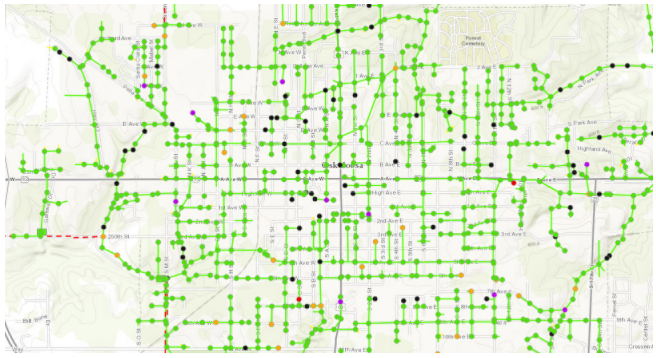
References

Geographic Information Systems

City of Jurupa Valley, California

CHALLENGES: For 10+ years, the City of Jurupa Valley has called upon HR Green to develop custom GIS solutions to meet a variety of municipal needs. These solutions have included database development, web application design, and field asset inventories that support a wide range of municipal services including stormwater inlet inspections, commercial and industrial stormwater inspections, pavement management, street sign and traffic signal inventories, permitting, and code enforcement. Based on HR Green's extensive track record of delivering reliable and innovative GIS solutions to asset management challenges, the City of Jurupa Valley chose HR Green to implement a comprehensive web mapping platform integrating all City departments in 2019.

SOLUTIONS: HR Green developed a GIS database based on industry standard design that accommodates the data necessary to manage the City's community data. This included data compilation, developing ArcGIS Online map applications that provide agency staff with access to their GIS data in both the office and the field (these applications include GIS functionality that not only allows users to view community assets, but also provides the ability to enter searches, make edits, and perform analysis), and training on the new ArcGIS Online site.



REFERENCE

Rod Butler
City Manager

City of Jurupa Valley
8930 Limonite Avenue
Jurupa Valley, CA 92509
P: 951.332.6464
E: rbutler@jurupavalley.org

"The City of Jurupa Valley continues to be very pleased with the services that we are receiving from HR Green. The firm provides highly competent and experienced staff at reasonable hourly rates. Being able to supplement our internal team with well-managed contract staff makes us all the more effective in serving our residents and the development community."

Rod Butler, City Manager,
City of Jurupa Valley

DATES PERFORMED

2011-Ongoing

Geographic Information Systems

City of Palos Verdes Estates, California

CHALLENGE: Since 2015, HR Green has provided full staffing services, including, but not limited to city engineering, development management, and building and safety administration. For a number of years, City officials had expressed an interest in conducting an inventory of trees adjacent to private property, which was last done in 1999. That inventory was flawed and never maintained. The responsibility for designing a tree inventory program would include tree type, location, and history.

SOLUTION: Our GIS team programmed a mobile data collection app called Collector for ArcGIS, allowing field staff to capture data on mobile devices. All data is synced in real-time and can be accessed by anyone with login rights. When cell coverage is not available, the data is stored in the device and then automatically uploaded when service is restored. Data includes tree species, height, diameter, photos, and any noted maintenance that is required. In the event of a fallen tree or large branch, a team member can go out to the location and upload photos so that work order decisions can be made real-time.

BENEFIT: Most notably, we deployed a catch basin asset inventory and cleaning application, along with a database based on City requirements that included metadata to collect a GPS location of each catch basin. This allows information gathered on the asset such as condition, dimensions, material, photos, etc. to assist the City in installing full capture devices into their stormwater network. A GIS application was also created for City staff and their cleaning contractors to record a cleaning record on each catch basin to report how much accumulated litter was removed from each asset and what types of litter it was composed of, such as, man-made or organic materials.

HR Green has also established an extensive database and several datasets for the City based on their existing data and other industry standards to be used through a browser or mobile technology to view and edit their GIS data. HR Green serves as the GIS Administrator of their ArcGIS Online platform and assist with customization and user accounts. We assist with printing plotter maps for the City based on their needs, and also obtain and maintain publicly available GIS data for use on their ArcGIS Online platform.

REFERENCE

Ken Rukavina, PE
Public Works Director/City Engineer (Retired)

City of Palos Verde Estates
340 Palos Verdes Dr. West
Palos Verdes Estates, CA 90274
P: 310.544.5228
E: krukavina@rpvca.gov

DATES PERFORMED

2015-Ongoing

"HR Green has provided a wide scope of resources, shown initiative to optimize a customer-centric service model, a capacity to identify and implement recommendations, leveraged new technologies to streamline operational efficiencies, and a strong commitment and ability to meet the City's expectations."

Ken Rukavina, PE

Former Acting City Manager/ Public Works Director/ City Engineer, City of Palos Verdes Estates (Retired)

Geographic Information System

City of Crockett, Texas

Challenges: The City of Crockett needed a comprehensive Geographic Information System (GIS) database to help them transition from their current paper map system to a fully digital system that would quickly and easily integrate with the website. In 2019, the City selected HR Green to assist with this process.

Solutions: By developing an asset management web mapping system, HR Green helped the City of Crockett capitalize on a number of efficiencies possible with GIS. In addition, we provided training of City staff, on-call technical support, and as-needed system maintenance processes.

Benefits: HR Green provided the setup of a comprehensive GIS database structure to accommodate data for water distribution, sanitary sewer, and stormwater system assets. We brought GIS Administration of the City's ArcGIS Online platform and accompanying website integration for City staff to access utility mapping content, and provided training of City staff, on-call technical support, and as-needed system maintenance processes. This included the transfer of existing infrastructure data from paper maps to GIS, and the development of web mapping applications for the City to use in the office and the field. IN addition, we helped create hard copy wall mount maps.

REFERENCE

John Angerstein
City Administrator

City of Crockett
200 N. 5th Street
Crockett, TX 75835
P: 936.544.5156
E: angersteinj@crocketttexas.org

Sanitary Sewer Collection

Indianola, Iowa

CHALLENGE: Sanitary sewer issues such as collection and conveyance, capacity, management, operations, wet weather system impacts, maintenance and expansion created a need for a holistic analysis providing clear and quantifiable solutions for the City of Indianola. It was decided in August 2013 that a hydraulic model of the City's sanitary system was necessary to integrate rainfall impacts with existing sanitary sewer flows to provide Indianola with the information needed to make informed infrastructure decisions. In order to create this model, however, a comprehensive data collection effort for the entire City's sanitary system was necessary.

SOLUTION: This inventory, consisting predominantly of manhole inspections, involved not only collecting high-accuracy locations and depths on system assets but also collecting additional attributes such as asset sizes, materials, and condition ratings. All of this data was collected in the field using mobile GIS/GPS technology including custom collection forms built to maximize efficiency and minimize user error. This field data was synced daily with a project GIS database designed both to accommodate the field data and the subsequent analysis outputs from the SewerGEMS modeling software.

BENEFIT: HR Green set an ambitious schedule for the GIS development and asset inventory field work to avoid delays due to winter weather, allow sufficient time for conducting the hydraulic analysis, and to be as responsive as possible to the needs of the client. Existing GIS databases and mobile applications were leveraged to hasten development efforts and field work commenced less than a week after the contract was approved. Despite delays due to weather, City support staff availability that only allowed for a single crew at any given time, and challenges locating assets that were in many cases buried, sealed shut, or tucked in overgrown or otherwise difficult settings, the City's 1600+ manholes were inventoried in less than three months. This allowed hydraulic modeling to commence in December 2013. While an updated GIS for the City's sanitary system was not the primary purpose for this project, the asset inventory GIS should be a significant value-added deliverable that Indianola can use to aid in operations and in prioritizing system improvements going forward.

REFERENCE

Jared Keenan
Water Resource Recovery Superintendent

City of Indianola
10939 Grimes Street
Indianola, IA
P: 515-961-9416

PROJECT COSTS

Engineering Fee: $122,000

COMPLETION DATE

2014

KEY FEATURES

- GIS database of City's sanitary system developed.
- Mobile GIS integrated with GIS database.
- Asset inventory completed for City's manholes.
- Project completed under tight time frame.

Section 29 Retention Basin Alternative Analysis

City of Palm Desert, California

Challenge: The City of Palm Desert contracted HR Green to complete a study of existing documents for the adequacy of their retention basin southwest of Highway 10/Sonny Bono Memorial Freeway, near Portola Avenue and Dinah Shore Dr. The report considered existing plans, documents, land uses, projected uses, and water runoff within the City of Palm Desert Benefit Assessment District No. 1 ("Section 29 Basin") to determine the adequacy to detain onsite flows. The study identified whether the current Section 29 retention basin capacity is adequate for retaining onsite flows attributed to the development of the Section 29 Basin consistent with the intent of the Resolution that established the City of Palm Desert Benefit Assessment District No. 1 to pay for the maintenance and servicing of the existing Section 29 retention basin and facilities.

Solution: An alternative analysis was presented after investigating the current pond design to address the need for additional retention volume. The analysis eliminated alternatives that were either high-risk, cost-prohibitive, schedule-prohibitive, or generally unfeasible based on the progress of current development projects. The anticipated alternatives included expanding the existing retention pond, installing infiltration vaults, using individual undeveloped parcels for retention, creating stormwater drainage wells, integrating stormwater retention with adjacent development, over-excavating and importing high-infiltration soils, and adding a supplemental retention pond on other city property. Each alternative was evaluated by providing a cost-benefit analysis, life cycle analysis, drainage emergency overflow analysis, rough order of magnitude (ROM) cost estimate on a per-unit basis, and additional information required to complete preliminary design.

Benefits: The ultimate solution was to provide a supplemental retention pond on the adjacent park property. By selecting this alternative, the City can decrease the time associated with renegotiating easements and land acquisition. The City's Parks department has conceptual ideas for the park site, but by combining efforts, we laid out a retention basin design that has duel-use purposes for a future park and retention basin. A two-tier system was designed to reduce sediment transport to the larger section of retention basin that will also be used as a soccer field. Walking paths are integrated into the design to benefit the surrounding residents. The retention pond provides much-needed flood attenuation for the surrounding areas where development is rapidly occurring, protecting citizens during flood events. This project is currently under construction.

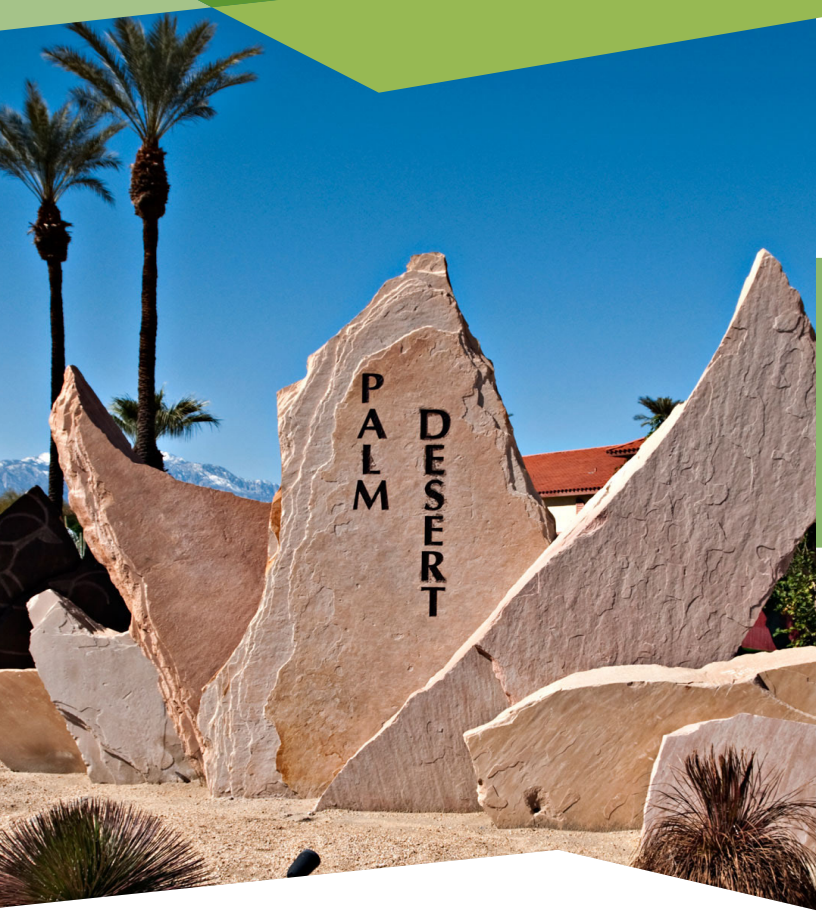
REFERENCE

Ryan Gayler
Project Manager

City of Palm Desert
73-510 Fred Waring Drive Palm Desert, CA 92260
P: 760.346.0611
E: rgayler@palmdesert.org

DATES PERFORMED

2021 - Ongoing



Firm Staffing and Key Personnel

Staffing, Key Personnel and Team Organization

HR Green's key personnel provide a combination of local knowledge, successful track record, and technical thought leadership to proactively meet and/or exceed your needs. We have assigned approximately 13 Key Personnel to provide services on this critical project for the City.

City of Palm Desert

LEGEND
- HR Green Key Personnel
- NV5 Key Personnel
- Houston and Harris Subconsultant

* Indicates certified in a different state.

Principal-in-Charge
George A. Wentz, PE

Project Manager
Tim Jonasson, PE

Asst. Project Manager QA/QC
Steve Loriso, PE, QSD/QSP

GIS Database Analysis / Development
Task Lead/Group Manager - **Mike Liska, GISP**
GIS Specialist - **Emily Carney, GISP**

Engineering Services
Task Lead - **Chase Keys, PE**

Construction Management & Inspection
Task Lead / Construction Manager - **India Woodruff**
Construction Technician - **Gary Petersen, CCM**
Sr. Construction Inspector - **Joe Axtell**

Water / Drainage Services
Task Lead - **Greg Panza, PE***

CCTV / Asset Cleaning
Task Lead - Houston and Harris NASSCO Certified Personnel

Up to 700+ Additional Staff Available Nationally As Needed

Per the RFP, biographies of our key personnel have been provided as a separate document.

Subcontractors

HR Green is pleased to continue to work with the following subcontractors to provide high-quality services to the City of Palm Desert.

NV5 - Construction Management

NV5, Inc. has been providing engineering and consulting services to public and private sectors for more than 70 years, delivering solutions through six business verticals: Testing, Inspection and Consulting; Infrastructure; Utility Services; Environmental Health Sciences; Buildings and Program Management; and Geospatial Technology. With more than 100 offices nationwide and abroad, NV5 has access to over 4,000 employees in a variety of fields who help clients plan, design, build, test, certify and operate projects that improve the communities where we work.

NV5's team specializes in the project management, engineering design, survey, plan check, construction management and inspection of capital improvement projects, including: streets, traffic systems, water and wastewater systems, dry utilities, drainage and flood control, parks and recreational facilities, vertical construction, and landscaping and grading. Their team includes licensed civil engineers, licensed contractors, construction managers, certified inspectors and experienced public works professionals. All team members have extensive experience working within the structure of municipal government and public construction policy and will seamlessly integrate with the City's team.

Houston and Harris - CCTV / Asset Cleaning

Houston & Harris PCS, Inc. was established in June 1988, starting as a partnership and incorporating in 2002 for the purpose of providing quality video pipe inspection and hydro-washing of sewer, storm drain and water lines to private contractors, engineering firms, municipalities and other government agencies. Including 3rd generation in our 35 years of existence, their staff of 25, of which one third plus have been in place for 16 to 30 years, provides combined industry experience and working relationships enabling a cohesive team to handle all our client's needs.

With 14 NASSCO certified employees, possessing a combined 140+ years of CCTV experience, and 9 pipeline assessment vehicles, Houston & Harris possesses the skill, experience and equipment to handle any situation that may arise during the course of this project. Recent projects in both Riverside and San Bernardino County as well as the surrounding areas have kept the Houston & Harris staff's abilities sharp, ensuring the capability to tackle out of the ordinary situations with confidence and competence. The administrative team has considerable experience in securing permits with various city departments and associated agencies such as Caltrans. Their video equipment consists of both Subsite Electronics and Envirosight camera systems. The expansive arsenal of camera and transporter combinations ensures they will always have the correct tool for the job.

Should cleaning services be requested, Houston & Harris PCS, Inc. owns and operates six Vactor 2100 Series Combination Cleaning Units and one Vactor Ramjet for hydro-cleaning, debris removal and Hydro-excavating projects. Two of those units are equipped with specialized recycling equipment allowing the truck to recycle collected sewer water to continue cleaning, minimizing the need for the use of potable water. Vactor combination units have 9-YD and 12-YD debris tanks, Recycler units have 15-YD debris tanks along with both classes having Positive Displacement Blowers. All hydro-cleaning units have the capabilities of 80 GPM at 2500 PSI. Units can be equipped with specialized nozzles, chain flails, root saws, and flex hose for remote access or hydro-excavation attachments to handle any situation, which the client might require. Eight trained operators with a combined experience of over 120 years ensures the highest efficacy of cleaning available. In the event of an SSO, any member of this experienced team can make informed and independent decisions on the best course of action to remedy the spill quickly.

With 35 years' experience in the wastewater & public works industry, we remain committed to the continued high quality of services we've always provided our clients; assuring their satisfaction.

Proposed Method to Accomplish the Work

Proposed Method to Accomplish the Work

The HR Green project approach will demonstrate our **expertise in stormwater management and engineering** as well as the application of **GIS solutions** for the City of Palm Desert.

GIS plays a critical behind-the-scenes role, offering data organization and analysis that help deliver services more efficiently and comprehensively.

PROJECT UNDERSTANDING

Since incorporating in 1973, the City of Palm Desert has experienced rapid commercial and residential development that included many public and private storm drains being added to its flood control system. In addition the city "inherited" several regional retention and detention facilities, stormwater channels and other facilities built by CVWD and Riverside County. This system generally performs well under normal rainfall events but is a challenge to operate during flash flooding that can occur in the desert thereby necessitating a comprehensive evaluation and consolidation of the city's storm drain data for maintenance and future design of improvements. Since 2001, the City has used stormwater utility funds to comply with municipal separate storm sewer (MS4) regulatory requirements, utilized capital funds for the development of drainage and floodplain improvements, and is now seeking to perform an overall stormwater infrastructure assessment. The goal is to create a condition report and database of all existing facilities for improved emergency response to future flood events, similar Hurricane Hillary, as well as to provide a tool for future management and improvement of the system. The stormwater infrastructure assessment will be broken down into the following tasks:

Project Management

- Preliminary Assessment - Phase 1
  - Research Records
  - Preliminary Mapping
  - Reconnaissance / Surveying
  - Video Inspections
  - Update Mapping and Bid Document Preparation
  - Bidding Assistance
- Maintenance Contractor Oversight - Phase 2
  - Management
  - Field Observations
- Final Assessment and Report - Phase 3
  - Final Mapping
  - Report Preparation
  - Maintenance Program

The techniques available today, allow for relatively straightforward use of ArcGIS asset information as well as the use of innovative alternative and scenario planning tools. These tools will give the City, for its' stormwater Infrastructure, the ability to efficiently assess, visualize and ultimately adopt various infrastructure management and implementation plans.

The analysis and planning is built upon the capability to (1) produce a highly organized database of system assets that includes complete asset identification, location, and characterization, and (2) provide risk ranking of assets based on condition, criticality, and service life.

KEY PROJECT SUCCESS FACTORS

In the following sections of our proposal, we have outlined our approach to meet the City's intended scope for this project. However, more than meeting the scope, the value HR Green will bring to this project is through leadership. We will guide the City every step of the way bringing ideas based on our experience and combined team expertise. We believe that the following factors, if executed correctly, will lead to project success.

Collaboration & Project Management:

COLLABORATION

The scope of magnitude of this project is significant. Incorrect sequencing, i.e., "putting the cart before the horse" approach can create mismanaged expectations and project outcomes. HR Green will collaborate with the City and guide you every step of the way, with a step by step approach. We will provide efficient project management by suggesting smaller step milestones so City is engaged in every step of the process. Frequent communication and updates, collaboration with various City departments,

capturing institutional knowledge early in the project, and providing interim deliverables for City's review will ensure project success.

Visioning & Planning:

Ahead of the any field activities, it will be important that HR Green complete a thorough review of the City's existing database system. This will ensure streamlined data collection, database set up, and less likelihood of reverse tracking on the approach. That said, we understand that this project will require some flexibility as we go. However, the more we can plan, discuss, collaborate and create a vision for this project in early stages of the project, the better managed the project will be to meet project budget and schedule.

Execution:

PERFORMANCE

Effective execution is a key success factor. HR Green's execution strategy includes frequent coordination and collaboration with the City, providing monthly progress report, and quarterly progress meetings. In fact, we feel, during early stages of the project, more frequent progress meetings may be necessary with City staff and identified stakeholders. We will lead and manage project meetings and prepare agendas and meeting minutes. We will request that all City departments that have oversight and stake in the project attend the kickoff meeting and periodic progress meetings. Another aspect of the execution is managing good public relations and other agency coordination. Since CCTV work and field inspections will require work within public right-of-way as well as on private properties, providing adequate notification will reduce calls to the City. HR Green will apply for and obtain necessary permit and coordinate traffic control approvals from relevant agencies when necessary, including Caltrans. We understand the importance of not only having a great strategy for the development of this project but also its effective execution.

PROJECT ASSUMPTIONS

HR Green's standard GIS database design (which includes all required attributes listed in the RFP) and mobile GIS form design, will be used to develop the GIS Database. HR Green will define the tabular GIS database structure and establish the valid feature values, attribute ranges, and classifications for use in attribute "pick-lists." HR Green will coordinate with the City to create the desired feature values, default values, attribute ranges, and "pick- list" classifications.

HR Green will import the City's existing GIS database as long as it has a defined spatial reference. HR Green will perform georeferencing and digitizing of city maps based on previous GIS electronic files provided by the City as part of the data migration into the GIS database under this scope of services.

The following assumptions on storm water system asset totals was made for the sake of putting together the fee for this proposal:

- Storm Catch Basins and related pipes, manholes, and junction structures – 980 assets.
- A contract amendment for any additional catch basins and related pipes, manholes and junction structures over 980 assets will be negotiated with the City for all Phases of this RFP.
- HR Green will assume 80 hours of field mapping to supplement the provided GIS mapping. Any additional required field mapping will be negotiated with the City. Effort will be made to locate each visible storm water asset within a reasonable time frame. Assets that cannot be located within a reasonable time frame will be noted and the inventory will proceed to the next asset to be respective of budget and project schedule. HR Green will coordinate with the City regarding the assets that were not located in the field and utilize CCTV data to locate the structure.
- If confined space entry is required for the 80 hours of Reconnaissance/Surveying, this will be completed using a 3D remote sensing laser scanner and imaging rover on accessible stormwater manholes and stormwater catch basins.
- If the stormwater pipe is larger than 36" in diameter, an amendment may be required for use of alternative equipment and possible personnel confined space entry.

PROJECT APPROACH

OPERATIONAL EXCELLENCE

Our team is committed to delivering solutions that meet the City's expectations and goals for this project. We want to draw upon the institutional knowledge of the City's operation and maintenance staff, understand the way City currently manages its data to enhance the City's existing database and functionality, and more importantly is manageable in the long term by the City staff.

PROJECT MANAGEMENT

Upon receipt of the Notice to Proceed, a project kick-off meeting will be held to provide an opportunity for the HR Green team and City Staff to discuss the goals of the City and the project requirements. Minutes of this and all subsequent meetings will be prepared documenting subjects discussed, decisions made, along with action items and their responsible party. Progress meetings will be held biweekly to discuss project progress, compare cost estimates with available budgets, and to obtain City feedback/approval on progress made. Progress reports will be prepared within three days after the meeting indicating action items and completion schedule for review by City staff.

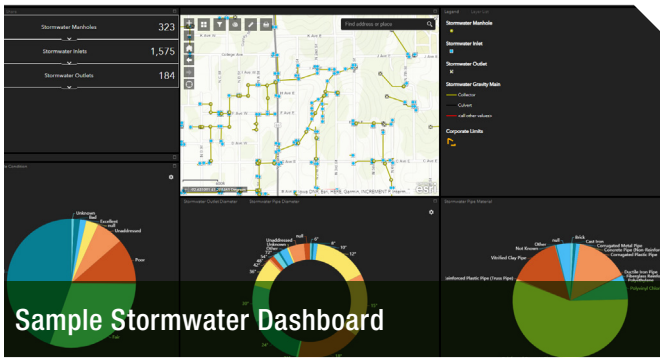
Deliverables

- Meetings Agendas and Minutes
- Monthly Progress Reports
- Invoicing
- General Project and Stakeholder Coordination

PHASE 1 - PRELIMINARY ASSESSMENT

HR Green will develop a GIS database by building upon the existing Palm Desert Stormwater GIS attributes to improve the efficiencies of data collection and GIS integration. Our schedule assumes the Preliminary Mapping progress allows for accurate planning of the Reconnaissance/Survey and Video Inspection tasks to minimize additional trips/mobilization and more efficient completion of our tasks. The HR Green GIS database will be based on ESRI industry-standard design that will accommodate elements required by the RFP and the other data necessary to manage the City of Palm Desert's stormwater system. The anticipated tasks include:

- HR Green will review and extract stormwater information from the provided City records.
- HR Green will perform preliminary mapping using provided City stormwater infrastructure records and GIS electronic files.
- HR Green will perform 80 hours of reconnaissance/ surveying to for systems that inadequate data is available. HR Green may utilize terrestrial LIDAR to collect accessible structure information.
- Video Inspections.
- HR Green will utilize the city's existing stormwater GIS database for data.
- HR Green will hold meetings with City Staff to discuss the database schema for organizing the asset information and inspection data. The database will utilize existing City schema and essential inspection attributes needed for condition or other assessment rating criteria.
- HR Green will develop the GIS database based on industry standards. More specifically, this includes ESRI data models, condition assessment required fields, and the expertise of HR Green GIS specialists and engineers.
- HR Green will develop a GIS database structure that will accommodate the necessary spatial features, tabular data fields required by the RFP for the management of the City's Stormwater system.
- HR Green will utilize the existing City GIS database horizontal coordinate system of California State Plane coordinate system VI FIPS 0406 (US Survey Feet) NAD83 (NSRS 2011). This format is the most accurate projection currently available for centimeter-grade GIS data collection using an appropriate real-time Global Navigation Satellite System (GNSS) Reference Network for the State of California.
- HR Green will design the City GIS database to include the following asset classes for the City's stormwater system: Stormwater pipes, inlets, catch basins, manholes, outlets/outfalls, treatment facilities (e.g. detention basins).
- HR Green will design the GIS database to include numerous data quality fields in each point asset class. When collecting 0.1-foot accuracy GPS locations using HR Green-designed Field Maps application, these data fields will populate automatically, providing a useful record of the inspection date of these assets and accuracy of their locations in GIS.
- HR Green will work with the City to determine if a related table for all the inspections is needed or if the City would prefer to include all inspection data in the asset feature class.
- A digital photo of each asset surface location and down photo will be linked to each asset when a field inspection is done.



Video Inspections

As directed by the City, HR Green's subconsultant, Houston and Harris PCS, will perform cleaning and video inspections of up to five miles of city storm drain to determine system conditions. Houston and Harris will also provide e-copies of videos together with video logs defining system conditions and pipeline data (e.g. pipe size, length, and grade). HR Green's engineers will rate system conditions using the city's rating scale below which shall be provided in a search database allowing statistical analysis of the ratings.

Bid Document Preparation & Bidding Assistance

Using the data collected in Phase 1 HR Green will update the mapping of the storm drain system for the City's review. Data will include all attributes collected during the 80 hours of reconnaissance and 5 miles of video detection as discussed above. Once the city has reviewed the updated mapping HR Green will prepare bid documents for the highest priority storm drain sections as identified by the city using City approved bid document templates. The bid documents will include updated mapping, cleaning and sediment removal specifications, performance schedule requirements, fully detailed special provisions and bid item descriptions and all applicable city standards and contract requirements for publicly bid projects. Once the bid documents are approved for advertisement, HR Green will provide bidding assistance including responding to RFIs, any necessary addenda preparation, review of bid proposals and contractor qualifications including state license status. HR Green will prepare staff reports and recommendation of award for the City Council's consideration. HR Green will also prepare the award of contract letter based on the City Council's action.

PHASE 2 - MAINTENANCE CONTRACTOR OVERSIGHT

Construction Management Support

Under the direction of our Project Manager, our Construction Manager will work directly with the City's system cleaning contractor to make sure all requirements developed in Phase 1 are understood and adhered to, that milestones are met, and that the completed project is as specified in the contract documents. HR Green staff takes care of all the supporting paperwork related to the construction contract, inspection records and daily reports are up to date and ultimately part of a project report at the conclusion of the work. HR Green will review and record requests for information or clarification (ie, RFIs and RFCs) and progress payments, verifying that work was done in accordance with requests. All progress payments will include a monthly status report including updated project schedule with a catch up plan if the project falls behind schedule. Any adjustments in quantities and or change order requests will be prepared for the city's review with as much notice as possible to prevent delaying the contractor from completing the project. In closing the contract, we make certain the work is complete, including documentation of proper disposal of any debris removed from the system, before final invoices are paid. HR Green will also monitor the contractor's compliance with bonding, insurance and labor requirements and regulations and that all warranties are honored. Our staff uses a Construction Management Plan (CMP) to manage projects. This project-specific plan serves as a guideline for the execution of all construction-related activities. The purpose of the plan is to facilitate smooth coordination and communication among parties involved, including the designers and the City staff, and to establish protocols for effective execution of the project requirements. The CMP is prepared immediately after our mobilization and updated continually as a project matures.

Field Observations

HR Green will provide inspection staff to verify daily work completed by the City's Contractor, safety compliance, progressing in compliance with the contract documents, and collection of storm drain system data. Our inspector will document all construction activities including providing digital photographs and daily field reports including location of the activity, number of workers present, construction equipment used, consultant staff present, weather conditions, and project progress. Our team will also provide a rating of system conditions using the City's given below. The final database shall be computerized and provide a searchable means of statistically analyzing the ratings collected.

RATING SCALE AND ASSOCIATED ACTION					
	1	2	3	4	5
	GOOD	FAIR	POOR	CRITICAL	FAILED
CONDITION	Like new, with little or no deterioration, structurally sound and functionally adequate.	Some deterioration, but structurally sound and functionally adequate.	Significant deterioration and/or functional inadequacy, requiring maintenance or repair.	Very poor conditions that indicate possible imminent failure which could threaten public safety.	Failed or non-functional condition.
ACTION INDICATED	No action is recommended. Note in inspection report only.	No immediate action is recommended, but more frequent inspection may be warranted. Maintenance personnel should be informed.	Team Leader (Inspector) evaluates need for corrective action and makes recommendation in inspection report.	Corrective action is required and urgent. Engineering evaluation is required to specify appropriate repair.	Emergency action is required to address public safety hazard. Roadway closure is typical.

All project documentation shall be completed on standard forms. Should the city not have its own forms HR Green will provide inspection reports constant with industry standards. As needed our inspector will prepare construction sketches and drawings to document system data collected in the field.

PHASE 3 - FINAL ASSESSMENT AND REPORT

Final Mapping

HR Green will conduct a thorough asset inventory and assessment of the City's stormwater system. Existing City GIS data will be utilized for referencing the location of assets as part of this field inventory. The anticipated tasks include:

- HR Green will prepare mobile data collection applications that provide access to the GIS database and allow for updates to the GIS database from the field. HR Green will leverage its standard mobile application design to facilitate accurate and efficient data collection. HR Green field staff will use fields equipped with custom pick-lists to record asset information that promotes efficiency and protects data integrity.
- HR Green will use a Trimble GNSS receiver tied into an appropriate real-time Global Navigation Satellite System (GNSS) Reference Network for the State of California. Using a Trimble receiver with a GNSS Reference Network provides an approximate 0.1 foot accuracy solution both horizontally (2 cm accuracy with fixed position) and vertically (6 cm accuracy with fixed position).
- HR Green field staff will GPS asset locations, collect mandatory condition attributes, and perform a 3D Manhole inventory where appropriate for proper condition assessment based on an agreed upon condition assessment. The confined space inventory will be performed using a remote sensing laser scanner and imaging rover. The laser scanner and imaging rover collect 3D point cloud, high definition video, and imagery of the manhole. Proprietary software will be used to inventory the necessary data fields.
- HR Green will work with the City to assemble a checklist of detention pond attributes to analyze while in the field related to embankment/spillway, outlet risers, trickle channels & forebays, vegetation and maintenance access.
- Concurrently with field data collection, Houston and Harris will conduct the CCTV assessment of all clean and accessible stormwater pipes. Disposing of material from cleaning will be compliant with local regulations. Access to outfalls for material collection is assumed to be within City easements and will be coordinated with the local land owner with assistance by the City.
- Houston and Harris will provide CCTV crews to clean and document storm sewer to meet schedule based on the quantities provided in the RFP. This is a benefit to the project as it will limit citizen disturbance within the heavily trafficked areas and provide additional safety to our crews. This aggressive schedule is subject to change based on initial conversations with the City regarding the exact quantities of infrastructure requiring assessment. In addition, if allowed by the City, upstream and downstream CCTV inspection will occur at optimal access point to expedite the schedule.
- HR Green field staff will check into local control monuments on a daily basis to ensure vertical position accuracy and perform calibrations/adjustments as needed.
- HR Green staff will review the field data to determine network connectivity and use desktop GIS to create/update line features (e.g. mains, laterals and network culverts that are a part of the connected stormwater system). These line features will demonstrate correct topology (e.g. pipe and network connectivity) with the GPS located stormwater assets.
- HR Green will place CCTV pipe information inside database using a Google Drive or similar delivery method as discussed with the City.
- HR Green will deliver a GIS database and a report summarizing the stormwater assets inventoried for this project. The report will detail the attributes collected in the field and will include the asset conditions recorded by HR Green's staff.

Items not included in the stormwater asset inventory:

- Sump pump lines
- Downspout lines
- Culverts
- Topography of detention and retention ponds

Report Preparation

HR Green will prepare a summary report and data set to include a dataset compatible with common asset management software. Any remediation, new installation or replacement work performed by the City's contractor will be included within the final City assets dataset to include at a minimum location, description, materials, and photos of work which will be uploaded directly into Asset Management Software or use a city-provided template report. The summary report will be submitted to the City no later than 60 days upon completion of the work. The report shall include an executive summary, introduction including summary of analysis completed, data assembled, conclusions, recommended Capital Improvement Program (CIP) to repair system deficiencies with schedule for completion, and program financing. HR Green will provide a draft for city review before submitting the final report to the City.

Maintenance Program

HR Green will also prepare a Maintenance Program summary for City Public Works staff use identifying critical facilities that require "special attention" prior to a forecasted event. Since public drainage facilities often rely on private drainage and retention facilities in the desert the report will also identify critical homeowner and commercial association maintained facilities for the city's outreach to prepare annually as well as ahead of forecasted events. HR Green will review this program for compliance with all MS4 permit requirements.

PHASE 4 – STORMWATER INFRASTRUCTURE MAINTENANCE PLAN

- As the Data Collection/Asset Characterization Team populates the ArcGIS database, the Stormwater Infrastructure Management Team will begin to rank assets in accordance with characterizations/condition assessments.
- HR Green will meet with the City stakeholder group (established for project development) to review asset characterizations as well as define condition assessment, criticality, and other identified ranking criteria including the use of overall condition index (OCI) ratings and other constraints/requirements.
- Rank Assets following practices as modified for stormwater systems and other agreed upon criteria.
- Meet with the stakeholder group to review rankings and asset OCI. The review will be done visually/ interactively through the use of GIS dashboards and mapping. In collaboration with the stakeholder group, the team will identify constraints (i.e. budget, staffing and others) and develop priorities for future operation & maintenance, regulatory compliance, capital expenditures, and desired OCI.

HR Green Project Team Meeting

- By geography (or other agreed upon measure), in accordance with identified constraints, evaluate various operation & maintenance and rehabilitation, alternatives required to maintain the agreed asset OCI. This would include the development of Life Cycle Cost Comparisons (LCC) of alternatives. The team will develop long-term maintenance plan recommendations, including staffing and operational considerations. It also will include assisting the City with the assessment of various asset management software packages and tools that could be cost-effectively utilized to help manage the stormwater assets. All of the work within this task will require close coordination and collaboration with City staff.
- Meet with the stakeholder group to review the recommendations. The maintenance plan recommendations will be developed and evaluated incorporating identified budgetary, staffing and other operational constraints
- HR Green will work with the City staff through a formal communication and approval process as needed, including technical presentations and mapping support.

Schedule

Multiple field design-construction team projects require a strong communication plan to achieve successful results. Our approach to these projects is to solidify stakeholder requirements and project goals immediately after contractor selection so a comprehensive scope of work and cost can be assembled. In addition, project risks that impact schedule and fee will be discussed, documented and costed to eliminate potential schedule delays during design. The time frames include periodic meetings during investigation and formation of the storm water utility maintenance plan.

Project Task	Task Details	Anticipated Project Schedule
Project Management	▪ Kick-off meeting ▪ Periodic status updates ▪ Client/Team Meetings	Duration of Project
Phase 1 - Preliminary Assessment	▪ Research Records ▪ Preliminary Mapping ▪ Reconnaissance / Surveying ▪ Video Inspections ▪ Update Mapping and Bid Document Preparation ▪ Bidding Assistance	July 2024 - April 2025
Phase 2 – Maintenance Contractor Oversight	▪ Management ▪ Field Observations	February 2025 - May 2025
Phase 3 - Final Assessment and Report	▪ Final Mapping ▪ Report Preparation ▪ Maintenance Program	April 2025 - June 2025
Task 4 –Stormwater Infrastructure Maintenance Plan	▪ Database Management and Maintenance ▪ Assist Staff with Functionality, Display, and Upgrades for Desktop/Field Device GIS Maps ▪ Transition from ArcMap to ArcGIS Pro ▪ Organization of Data and Access for Staff ▪ Data Entry Improvements ▪ Static Data Syncing ▪ Data Editing Assistance	Draft by July 1, 2025

HRGreen
PACIFIC

City of Palm Desert

FEE PROPOSAL FOR

Storm Water and Drainage Infrastructure Assessment, Engineering Services - CDR00006

MAY 20, 2024

Tim Jonasson, PE

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Palm Desert, CA 92260

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PACIFIC

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HRGREEN.COM

May 20, 2024

Melanie Ramirez, Senior Management Analyst
City of Palm Desert
73510 Fred Waring Drive
Palm Desert, California 92260

Re: Storm Water and Drainage Infrastructure Assessment, Engineering Services (CDR00006)

Dear Melanie and Selection Committee Members,

HR Green is pleased to present the attached fee proposal for the subject project. Please be advised that our proposal is based on the following assumptions and limitations:

1. Land survey and geotechnical services are not included.
2. All GIS formatting will be done using HR Green's GIS database as detailed on Page 23 of our technical proposal.
3. As described in the RFP approximately 980 assets are to be mapped. Additional assets may be added by the City at additional cost.
4. A maximum of 80 hours of field mapping will be provided. Additional mapping will be negotiated with the city at additional cost.
5. All city permits will be provided at no cost to HR Green's team.
6. Traffic control up to $25,000 is included by HR Green's subconsultant (Tops & Barricades or similar firm); however, if additional traffic control is necessary it will at additional cost.
7. Video inspection and construction inspection will be subject to prevailing wages. No other work will require prevailing wages.
8. Confined space entry is not anticipated for Reconnaissance/Survey but may be added at an additional cost of $6,325 per day.
9. Video inspection will be performed on a single mobilization of HR Green's subconsultant, Houston and Harris. Any additional mobilizations requested by the city will be at additional cost.
10. Video inspection and cleaning cost is for a maximum of 6 miles (31,680 Linear Feet) of storm drain up to 36 inches in diameter maximum. Larger pipe inspection and/or additional footage may be added at additional cost. Storm drain cleaning requiring more than the standard 4-6 passes will be at additional cost.
11. Project duration is assumed to be approximately one year. Any work required by the City beyond July 1, 2025 will be additional cost at HR Green's 2025 bill rates.

Sincerely,

HR GREEN PACIFIC, INC.

Timothy Jonasson, PE
Project Manager

George A. Wentz, PE
Vice President

Timothy J. Hartnett
President

Fee Proposal

Below is HR Green's lump-sum, not-to-exceed fee proposal for the Scope of Services as outlined in the RFP. The fee proposal includes hourly rates for all personnel.

Palm Desert Staffing	Hours	Hourly Rate	Fee
Project Management	**160**		**$ 39,800.00**
Tim Jonasson	120	$ 275.00	$ 33,000.00
Mike Liska	40	$ 170.00	$ 6,800.00
Steve Loriso (QA/QC)	20	$ 255.00	$ 5,100.00
Preliminary Assessment - Phase 1	**960**		**$ 382,528.00**
Research Records	**80**		**$ 11,168.00**
Emily Carney	16	$ 160.00	$ 2,560.00
Brandon Kilcoyne	8	$ 114.00	$ 912.00
Pete Lovell	16	$ 156.00	$ 2,496.00
Intern	40	$ 130.00	$ 5,200.00
Preliminary Mapping	**400**		**$ 57,200.00**
Emily Carney	100	$ 160.00	$ 16,000.00
Brandon Kilcoyne	160	$ 114.00	$ 18,240.00
Mike Liska	80	$ 170.00	$ 13,600.00
Pete Lovell	60	$ 156.00	$ 9,360.00
Reconnaissance / Surveying	**296**		**$ 60,680.00**
Brandon Kilcoyne	80	$ 114.00	$ 9,120.00
Joe Axtell/Gary Peterson	80	$ 160.00	$ 12,800.00
Emily Carney	16	$ 160.00	$ 2,560.00
Joe Axtell/Gary Peterson - Traffic Control assistance	40	$ 160.00	$ 6,400.00
Manhole Scanner	80	$ 60.00	$ 4,800.00
Traffic Control Subcontractor			$ 25,000.00
Video Inspections	**32**		**$ 225,120.00**
Houston & Harris - Subcontractor			$ 220,000.00
Emily Carney	32	$ 160.00	$ 5,120.00
Update Mapping and Bid Document Preparation	**136**		**$ 24,360.00**
Emily Carney	40	$ 160.00	$ 6,400.00
Brandon Kilcoyne	40	$ 114.00	$ 4,560.00
Chase Keys (CIP)	40	$ 225.00	$ 9,000.00
Tim Jonasson	16	$ 275.00	$ 4,400.00
Bidding Assistance	**16**		**$ 4,000.00**
Tim Jonasson	8	$ 275.00	$ 2,200.00
Chase Keys	8	$ 225.00	$ 1,800.00

....Fee continued.

Maintenance Contractor Oversight - Phase 2	**436**			**$**	**89,520.00**
Management	16			**$**	**4,400.00**
Tim Jonasson	16	$	275.00	$	4,400.00
Field Observations	**420**			$	85,120.00
NV5 (CM)	**180**	$	224.00	$	40,320.00
Joe Axtell & Gary Peterson	240	$	160.00	$	38,400.00
Emily Carney	40	$	160.00	$	6,400.00
Final Assessment and Report - Phase 3	**248**			**$**	**45,100.00**
Final Mapping	**60**			**$**	**8,680.00**
Emily Carney	40	$	160.00	$	6,400.00
Brandon Kilcoyne	20	$	114.00	$	2,280.00
Report Preparation	**148**			**$**	**25,660.00**
Pete Lovell	40	$	156.00	$	6,240.00
Monika Kazmierski	80	$	149.00	$	11,920.00
Tim Jonasson	8	$	275.00	$	2,200.00
Greg Panza/ Matt Jones	20	$	265.00	$	5,300.00
Maintenance Program	**40**			**$**	**10,760.00**
Tim Jonasson	16	$	275.00	$	4,400.00
Greg Panza/ Matt Jones	24	$	265.00	$	6,360.00
TOTALS	**1804**			**$**	**964,728.00**

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City of Palm Desert

RESUMES FOR

Storm Water and Drainage Infrastructure Assessment, Engineering Services - CDR00006

MAY 20, 2024

Tim Jonasson, PE

44651 Village Court I Suite 123
Palm Desert, CA 92260

Phone 760.262.4311 **Direct** 760.250.6722

tjonasson@hrgreen.com

EXPERIENCE

38 Years

EDUCATION

Masters, Business Administration

Bachelor of Science, Civil Engineering

REGISTRATION / LICENSE

Registered Civil Engineer, CA #45843

- Nearly 30 Years Project/ Program Management, Municipal Engineering and Construction Management
- Former City Engineer/ Public Works Director, City of La Quinta (15 Years)
- Long-Time Coachella Valley Resident
- Extensive Experience Delivering Federally-Funded Projects

Tim Jonasson, PE

Program Manager

A long-time Coachella Valley resident, Tim has 38 years of development management, plan review oversight, design, CIP program management, design management, NPDES/ water quality compliance, and construction management experience for municipal public improvement projects, including roads, drainage, water, sewer, traffic, grading, parks, recreational facilities, parking lots and parking structures. He has served as construction manager and design engineer on a variety of municipal improvement projects including bridge construction, street and landscape improvements, water and wastewater improvements, parks construction and rehabilitation, golf course improvements and pier reconstruction. In 2018, Tim served as Palm Desert's Interim Public Works Director managing the day-to-day departmental operations.

SELECTED PROJECT EXPERIENCE

▷Design and Development, City of La Quinta, CA

Public Works Director/City Engineer for 15 years. Oversaw a Capital Improvement Program (CIP) budget of $14.7 million and a department operating budget of $5.3 million. He provided expertise and guidance to the executive team and City Council with additional responsibility for flood plain administration, storm water protection compliance, approval of plans for capital projects and private development and administration of Lighting and Landscape District. He served as a working director leading a department of 27 full-time employees (Public Works, Planning & Building) while providing oversight of all private development entitlement and permitting, contracts for capital project management, construction inspection, traffic engineering, fleet maintenance, and street and landscape maintenance. He also worked closely with the Coachella Valley Water District and Imperial Irrigation District which supply water/sewer and power to the City, respectively. Some of his key initiatives included:

- After flooding damaged over 50 homes and several public facilities in 2013 and 2014 led team to analyze the City's existing flood protection improvements, hire an engineering firm specializing in complex flood modeling to map the effect of abnormally large storms on the City's storm drains and then led the City Council through flood protection improvements to be incorporated into future CIPs. Also provided flood expertise to the City's defense attorneys during litigation which resulted in significant savings from flood claims.
- Procuring multiple multi-million dollar federal Highway Bridge Replacement grants to construct the Jefferson Street and Adams Street Bridges across the Whitewater Channel.

▷Construction Management and Inspection, Various Southern California Cities

Principal-in-Charge for the delivery of CIP projects, particularly drainage, pavement / roadway improvements and park improvements, including the Cities of Coachella, Grand Terrace, Palos Verdes Estates, Pomona, Rancho Palos Verdes, and Corona.

▷CIP Project Development, City of San Buenaventura, CA

Construction Manager for all capital projects and construction inspector supervision. This included the redevelopment of the downtown area, involving streetscape and drainage improvements for this economic development project to revitalize the downtown business quarter which was blighted and unfriendly to pedestrians. Tim was also responsible for engineering project entitlement and plan check review for all private development projects in the City.

George Wentz, PE

Principal-in-Charge

George brings 50+ years of municipal management experience. George currently is a Vice President for HR Green and supports our engineering, management and building and code-related services. **He has overseen the provision of a wide array of engineering services to more than 20 cities and various counties throughout Southern California**.

George has directed and administered projects which range from on-call support to full city contract services. His responsibilities have ranged from accountability for day-to-day completion of activities associated with a contract to Principal-in-Charge of particular projects. His managerial experience and high level of success is well documented and recognized by the cities he has served. He is recognized in the field as having a unique talent in working well with City Councils, boards, commissions, committees, ad-hoc groups, managers, department heads and staff to achieve desired agency results. He has focused on the master planning and implementation of high-profile projects, revenue-producing developments, golf courses, and mixed-use resort communities.

Moreover, George has served as a development manager, responsible for identifying specialty designers, contractors, and operators; preparing and maintaining documentation; incorporating applicable procedures and standards into design and construction documentation; coordinating closely with agency, developer, city departmental staff, approving agency, and community stakeholders; facilitating community outreach; and coordinating project management, estimating, constructibility, and scheduling efforts.

EXPERIENCE

50+ Years

EDUCATION

Master, Public Administration

BS, Civil Engineering

REGISTRATION

Registered Civil Engineer, CA #43273

SELECTED PROJECT EXPERIENCE

▷ **Principal-in-Charge, On-Call City Engineer/Public Works Engineering, Various Southern California Municipalities throughout San Bernardino, Orange, and Los Angeles Counties**

Principal-in-Charge for the delivery of civil plan review, staff augmentation, contract City Engineer/Public Works Director, and other engineering support to deliver the planning, design, and construction of CIP project/programs and land developments. In additional he has overseen and directed full Building and Safety Services. Agencies he has served include, but are not limited to the Cities and Counties of: Chino Hills, San Bernardino, Hesperia, Victorville, Ontario, Apple Valley, Upland, Anaheim, Placentia, Diamond Bar, Laguna Hills, Irvine, Yorba Linda, Palos Verdes Estates, Rolling Hills Estates, Rolling Hills, Hemet, Lake Elsinore, Azusa, **Palm Desert**, Riverside County, Los Angeles County, and the County of Orange.

EXPERIENCE

25+ years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

Registered Civil Engineer, CA #64701

Qualified SWPPP Developer/Practitioner (QSD/QSP), CA #00503

Steve Loriso, PE, QSD/QSP

Assistant Project Manager/Coordinator (QA/QC)

Steve has more than 25 years of design, CIP program management, design management, plan review, NPDES/water quality compliance, and construction management experience of municipal public improvement projects. As City Engineer and Project/Program Manager for various Southern California municipalities, he has overseen a broad range of infrastructure improvement projects from planning and design, through construction and maintenance. Types of projects include roads, drainage, water, sewer, traffic, grading, and parking lots. Steve has managed the implementation of the Municipal Separate Storm Sewer System (MS4) Permit for various municipalities, performed review of compliance documents for private and public developments, acted as the owner's representative and liaison between design teams and general contractors on facility and infrastructure construction projects.

SELECTED PROJECT EXPERIENCE

▷ Municipal Engineering, City of Jurupa Valley

City Engineer responsible for managing City's Capital Improvement budget, plan checking of land development projects, overseeing the design and construction of all capital projects, facilitating the MS4 Permit and stormwater quality compliance requirements, and grant writing/administration. Several design projects have involved improvements to arterials/corridors and incorporation of Complete Streets elements. Coordinated the design and construction of Jurupa Community Services District $60 million water and sewer CIP Program, comprised mostly of water and sewer pipeline (new and replacement) within the City right-of-way. Project Manager for design and construction of drainage improvements which required utilizing infiltration devices in order to mitigate the storm flows to a manageable and safe level.

▷ City Engineering, City of Hemet

Acting City Engineer responsible for managing the City's Capital Improvement Program budget, land development plan checking, entitle reviews in conjunction with the Planning Department, and overseeing the construction of both City and private development projects. City projects included traffic signals, roadway widening, pavement maintenance/rehabilitation/reconstruction, drainage, sidewalks, water and sewer improvements. This role also involved coordinating with other utility purveyors in the City on their capital projects within City right-of-way.

▷ On-Call Engineering, City of Palos Verdes Estates

QA/QC Manager for the design and construction of CIP projects including: annual slurry seal, ADA sidewalk/curb ramp improvements, pavement rehabilitation projects, drainage improvements, and sanitary sewer upgrades. Also oversaw the plan review of various private development projects within the City.

▷ On-Call Engineering, Cities of Rancho Cucamonga, Claremont, San Gabriel, Diamond Bar, Montclair, Lake Elsinore, Walnut, Indio, Lake Elsinore

Project Manager for various staff augmentation, project management, design engineering, plan/map review, construction management, inspection assignments.

EXPERIENCE

11 Years

EDUCATION

BS, Civil Engineering

REGISTRATION / LICENSE

Registered Civil Engineer, CA # 90593

Chase Keys, PE

Task Lead - Design Services

Chase has 11 years of CIP Program Management, design management, plan review, and construction management experience of municipal public improvement projects. His experience includes a multi-faceted involvement with Engineering and Public Works Departments as well as NPDES compliance operations. Types of projects include roads, drainage, water, sewer, traffic, and parking lots throughout Southern California, including for the City of Pomona. Chase has also helped prepare grant applications for federal, state, and regional funding. Moreover, he has assisted in both the office and field on construction projects, and processed paperwork through Caltrans Local Assistance and regional transportation agencies. He has served as CIP Manager for the Cities of Jurupa Valley and Hemet and has also served on site at the Cities of Lake Elsinore, Palos Verdes Estates, and Beaumont in delivering a broad array of CIP and land development projects.

SELECTED PROJECT EXPERIENCE

▷ **CIP Management, City of Jurupa Valley, CA**

CIP Manager responsible for managing City's Capital Improvement budget and overseeing the design and construction of all capital projects including grant writing/administration. Chase is involved with the projects from conception and budgeting through construction management and close out. Manages wide array of projects from minor traffic signal modifications to multi-million-dollar street improvement projects. In 2016-2017 Chase managed and designed roughly $8,000,000 of residential street rehabilitation projects through seven project phases. This work included performing a pavement evaluation on every residential street within the 45 square mile City to determine the priority list of projects to be included in the program.

▷ **CIP Management, City of Hemet, CA**

CIP Manager responsible for managing City's Capital Improvement budget and overseeing the design and construction of all capital projects including grant writing/administration. Chase is involved with the projects from conception and budgeting through construction management and close out. Manages a wide array of projects for both engineering and public works including the City's water/sewer system. In this role Chase oversees all of the City's annual neighborhood pavement rehabilitation projects.

▷ **Holt Avenue Improvements, City of Pomona, CA**

Project Manager for the analysis and design of approximately 4 miles of new raised center median along the Holt Avenue Corridor as part of the City's corridor specific plan. The project included a thorough traffic analysis of the corridor including taking 24-hour turning movement counts at 85 intersection and 60 private driveways, traffic forecasting, and traffic model development to document existing, future no-build, and build conditions. Prior to final design, four concepts were prepared and presented to the public and City Council. Final design included reconstruction of the existing pavement, new signing and striping, traffic signal modifications, street lighting, new median and parkway landscaping, trail design within an adjacent park including outdoor workout equipment, protection of the exiting sanitary sewer under the proposed median, water and sewer main improvements, and stormwater improvements.

EXPERIENCE

18 Years

EDUCATION

BS, Information Systems-Geographic Information Systems, American Sentinel University

AAS, Agriculture GPS/GIS, Kirkwood Comm. College

REGISTRATION / LICENSE

Geographic Information Systems Professional - IA #67860

FAA sUAS Pilot#4186144

Mike Liska, GISP

Task Lead - GIS Database Analysis / Development

Mike brings 18+ years of GIS/GPS experience from projects across 15 different states. Mike serves as HR Green's GIS Group Leader for the Geospatial Group where he leads a talented team of GIS professionals fluent in a range of technical competencies. He is responsible for Managing GIS asset inventories and condition assessments of utilities nationwide for private and municipal clients and other governmental agencies. Over the past 14 years, Mike has provided ongoing GIS Services to clients around the country. He develops custom and standard GIS Databases for clients to track assets which include fiber, water, wastewater, storm water, Electric, signs, trees, pavement, cemeteries, etc. Mike has created GIS designs for Fiber, Water, and wastewater infrastructure. Mike and his team manage multiple client GIS databases and serves as administrator for their ArcGIS Online Organizations. He develops custom web map and web applications using ArcGIS Portal and ArcGIS Online to support client requests. While developing databases and web maps, Mike customizes Field Maps for ArcGIS Applications for field data collection and inspections used on a variety of equipment Make and Models. Mike is NASSCO certified in PACP, MACP, and LACP which he has performed thousands of Level 1 inspections. Mike is a trainer for internal staff and external clients on GIS Desktop and Web Based environments as well as field data collection using high accuracy GPS equipment. Mike is a licensed FAA sUAS Remote Pilot which he flies drones for projects needing high resolution orthophoto imagery, infrared video/photos, planimetric data, and Digital Elevation Models.

SELECTED EXPERIENCE

- **Miscellaneous GIS Services, City of Jurupa Valley.** GIS Manager to develop a GIS database based on industry standard design that accommodate the data necessary to manage the City's community data. This included data compilation, developing ArcGIS Online (AGOL) map applications that provide agency staff with access to their GIS data in both the office and the field (these applications will include GIS functionality that not only allows users to view community assets, but also provides the ability to enter searches, make edits, and perform analysis), and training on the new ArcGIS Online (AGOL) site. To accelerate the delivery of construction documents for a citywide pavement rehabilitation initiative, HR Green staff leveraged GIS to save time and money. When we prepared the Pavement Management Plan we developed and manage a new Citywide GIS data system and Truck Route Plan. This included implementing new traffic accident and signing, striping and markings databases. To comply with NPDES mandates, HR Green developed a comprehensive solution allowing for the efficient collection of stormwater inlet maintenance field data, tracking project progress, and analyzing data trends for improved long-term asset management. Our staff developed a GIS database to work with a mobile app which interfaces with Collector for ArcGIS and Operations Dashboard. This allowed field personnel to collect data remotely while updating the database in real time.
- **GIS Services, City of Palos Verdes Estates.** GIS Manager to develop a Catch Basin GIS Asset Inventory and Cleaning application that supported development of a database based on industry standards and City needs to collect a GPS location of each catch basin and then the gathering of information on the asset such as condition, dimensions, material, photos, etc. to assist the City in installing full capture devices into their system. Oversaw the creation of an application to be used by the City and their Cleaning Contractors to record each time they cleaned the basin to report how much trash they removed from each asset. The City still uses this process today. Oversaw the creation of a Tree Inventory and Street Sign Inventory application used by City staff to obtain information in the field.

EXPERIENCE

27 Years

EDUCATION

BS, Civil Engineering, Ohio University

REGISTRATION / LICENSE

Professional Engineer, CO #37081

Greg Panza, PE, CFM

Task Lead - Water Drainage

Greg possesses 27 years of Civil Engineering experience, encompassing roadways, water/wastewater, stormwater, grading and utilities. He manages and master plans land development and municipal engineering projects, drawing from his expertise in both engineering design and construction management. As a Professional Engineer, he has provided leadership for major civil infrastructure projects in the healthcare, residential, recreational, training, and commercial sectors. His 15 years of project management, construction management and general contracting experience includes sequencing multi-year constructions, including five years managing projects for the National Park Service's Intermountain Region. Greg has overseen schedules, budgets, and contractors for complex, multi-million dollar projects. His project experience encompasses analysis and design with construction costs up to $20 million.

SELECTED PROJECT EXPERIENCE

▷Sanitary Sewer and Water Assessment | Dinosaur NM & Mesa Verde NP, Colorado - Regional Project Manager

Due to a failing water and sanitary sewer system. **CCTV inspection of all utility lines**, totaling approximately 5 miles was conducted to tabulate deficiencies. Worked with the Park to determine design of improvements, potential construction impacts and disturbance to the public. *Previous firm experience*

▷Intermountain Region Asset Management | CO, MT, WY, UT, OK, NM, TX -Regional Project Manager

Assessments of National Park Service assets consisting of utility infrastructure, roadways, bridges, structures and trails. **Assets were ranked** according to an Asset Priority Index (API) and Facility Condition Index (FCI) and inputted into the Facility Management Software System (FMSS). *Previous firm experience.*

▷Uplands Offsite Water/Sewer | Westminster, Colorado - Senior Project Manager

The Uplands project in Westminster requires upsizing of the downstream infrastructure. Using the City's GIS system and existing studies of the infrastructure, a utility study was conducted to determine upsizing requirements. Referencing the **GIS assets**, attributes were verified and updates provided within the study to better represent actual field conditions.

▷Utility Infrastructure Construction | Colorado/Wyoming - Senior Estimator

Conducted construction estimates and managed projects within Colorado and Wyoming for major utility infrastructure. **Infrastructure estimated and installation managed** consisted of waterlines up to 36", sewer lines up to 42", concrete stormsewer up to 96", various size box culverts, detention pond outlet structures and multiple manholes/inlets. Final inspection required pressure testing, CCTV and disinfection. *Previous firm experience.*

Emily Carney, GISP

GIS Database Administrator

Emily is an experienced GIS specialist with a broad skillset that includes GIS database setup, mobile application development, field inventory and inspection, engineering design in GIS, and production of high-quality mapbooks and map exhibits. She has a proven track record of efficiently deploying GIS solutions on a wide range of project types, including sanitary sewer, stormwater, water distribution and fiber utility networks. Emily is NASSCO-certified with considerable familiarity performing inspections on sanitary sewer and storm water assets. In addition to her GIS expertise, Emily has experience in environmental and brownfields services that include Phase I and Phase II Environmental Site Assessments, sample plan development, and remediation investigations.

EXPERIENCE

8 Years

EDUCATION

BS, Environmental Science, University of Iowa

REGISTRATION / LICENSE

Geographic Information Systems Professional - IA #161350

SELECTED PROJECT EXPERIENCE

▷ **GIS Sanitary & Storm Water Assets, City of Oskaloosa, IA - GIS Specialist**

Emily played a key role in the extensive data collection efforts required by the City for its sanitary sewer and storm water systems. She also developed web mapping applications to be used by City staff in managing their potable water, storm water, and wastewater systems.

▷ **GIS Services, City of Anamosa, IA - GIS Specialist**

Emily played a key role in the extensive data collection efforts required by the City for its sanitary sewer and storm water systems. She also developed web mapping applications to be used by City staff in managing their potable water, storm water, and waste water systems.

▷ **On-Call Stormwater Engineering Services, Jefferson County, MO - Staff Scientist**

Emily was involved in GIS database, mobile mapping application design as well as field data collection. Emily also designed the final mapbook deliverable to the Client.

▷ **Liberty Collection Systems, City of Liberty, TX - GIS Specialist**

Emily had a large role in the data collection efforts for the City's sanitary sewer system. She developed web mapping applications to be used by City staff in managing their sanitary, storm water, and water systems.

Gary Peterson

Inspection Team

Gary brings more than 35 years of comprehensive large-scale management and inspection experience. He has been responsible for land development orchestration and implementation of site mass/rough grading work, site wide storm drain installation, finish grading of lot pads and streets, installation/inspection of all wet utilities (sewer, storm drains and water). Installation of all curbs and gutter, paving. Installation inspection of all dry utilities (power, gas, telephone and cable). As for finish or detailed work completed layout, construction and installation of all hardscapes throughout the project along with irrigation and installation of plant material palette. He has a strong background in program development and quality assurance with an outstanding history of managing projects from initial conception, through development, to implementation. His excellent record includes bringing mission-critical projects in on schedule and within budget. Gary is especially skilled at strategic planning, budget controls and problem resolution, including outstanding communication talents with proven ability to build and lead highly efficient teams, train personnel and convey complex concepts in understandable terms.

EXPERIENCE

35+ Years

CERTIFICATIONS

NPDES Construction Site Inspections

WWR Construction Site Inspections Training

SMR Construction Site Inspections Training

Stormwater Pollution Prevention

SELECTED PROJECT EXPERIENCE

- **Project Consulting and Review for Design and Installation, Coachella Valley Water District**
- **Palm Valley Country Club, Sunrise Company, City of Palm Desert**
- **Indian Ridge Country Club, Sunrise Company, City of Palm Desert**

Joe Axtell

Construction Inspector

Joe brings more than 30 years of government and private construction inspection experience in all phases of road construction. He is a top-notch problem-solver and combines his strong public relations skills with his knowledge of construction materials and workmanship to recognize field issues and mitigate construction errors. Joe has extensive knowledge of all road construction materials and methods including concrete pours, excavation, soil composition, reinforced steel pipes and other materials. Additionally, he has thousands of hours of on-site inspection experience in construction and waterline projects on numerous capital improvement projects for municipalities throughout Southern California. Joe visually inspects each stage of road construction to protect the public interest and monitors contractors to ensure they meet design and compliance standards.

EXPERIENCE

30+ Years

PREVIOUS FIRM EXPERIENCE

- **Riverside County, CA – Senior Engineering Inspector**

  While with Riverside County Joe provided various construction inspection, resident engineer, and project management services on multiple projects which included transportation systems inspections, and municipal infrastructure upgrades. In this role he specifically was responsible for:

  - Riverside County, CA - 200+ Tracks – Lead Inspector
  - Traffic Control Safety

Subcontractors

India Woodruff (NV5)

Construction Manager

Ms. Woodruff is a proactive, self-motivated Assistant Construction Manager/Resident Engineer who has managed at-risk projects throughout Southern California. She is experienced in Microsoft Office, Procore, Primavera P6, Microsoft Projects, AutoCad, and Revu Bluebeam. Her solid negotiation and communication skills along with proven project management skills allow her to effectively interact with clients as well as construction trades.

EXPERIENCE

7 Years

EDUCATION

MS Civil Engineering (Coastal Engineering)

BS Civil Engineering

REGISTRATION / LICENSE

Metrolink Railroad Safety Contractor Safety Trained, No. 26471E22

SELECTED PROJECT EXPERIENCE

- Stormwater Inspections, City of Beaumont
- SWPPP Preparation and Support Services for Otay River Restoration Project, Odin Construction, Chula Vista, CA
- La Palma Avenue and Tustin Avenue Water Main Replacements, City of Anaheim, CA
- Crowther Sanitary Sewer Pipeline Replacement, City of Palentia

Key Personnel

Larry Houston, President, 1992 to present

- President
- Contractor A Licensed
- Site Reconnaissance
- Liaison on Municipal Contracts
- Certified Hazwoper
- CPR/First Aid
- Traffic Control & Flagger Certified
- Vactor & Video Operator
- Certified in Confined Space Entry, Operations/Rescue

Brad Houston, 2007 to present

- Operations Manager
- Video & Vactor Operator
- CPR/First Aid
- CIPP Point Repair Installer
- Traffic Control & Flagger Certified
- Certified in Confined Space Entry, Operations/Rescue
- Certified Hazwoper

Sergio Mora, QC/IT Manager, 2002 to present

- ITT Graduate-Electronics and Computer Science
- Ongoing Contract Data Base / Deliverable Conversions
- NASSCO Certified
- A+ Certified
- Ongoing training of company operators on using Pipelogix, IT Pipes, Posm, Wincan VX, Granite Net, ongoing training of operators on defect codes.

Bryan Cortez, 2004 to present

- NASSCO Certified
- Quality Control Supervisor

Administration

Elizabeth Butler, 2002 to present

- Office Manager, Contract Administration

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San Bernardino, CA 92423
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CA #884167

Key Personnel

Shivon Constantine, 2002 to present

- Human Resource Manager
- Prevailing Wage, Payroll Administration,

Sean Sandoval, 2020 to present

- Safety Officer
- NASSCO PACP MACP LACP Certified
- Traffic Control & Flagger Certified
- Certified in Confined Space Entry, Operations/Rescue

Frank Tellez, 2001 to present

- Video & Vactor Operator
- NASSCO PACP MACP LACP Certified
- Certified Hazwoper
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue
- Traffic Control & Flagger Certified

Alex Leandro, 2004 to present

- Vactor Operator
- CPR/First Aid
- Traffic Control & Flagger Certified
- Certified in Confined Space Entry, Operations/Rescue

Juan Machain, 2005 to present

- Vactor Operator
- CPR/First Aid
- Traffic Control & Flagger Certified
- Certified in Confined Space Entry, Operations/Rescue

Juan Chavez, 2006 to present

- Vactor Operator
- CPR/First Aid
- Traffic Control & Flagger Certified

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Key Personnel

- Certified in Confined Space Entry, Operations/Rescue

Richard Dion, 2021 to Present

- Video Operator/ Vactor Operator
- NASSCO PACP MACP LACP Certified
- Traffic Control & Flagger Certified
- Laborer
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

Ivan Gomez, 2017 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- CPR/First Aid
- Laborer
- Certified Hazwoper
- Traffic Control & Flagger Certified
- Confined Space Entry, Operations/Rescue

Kevin Gomez, 2017 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- Confined Space Entry, Operations/Rescue
- CPR/First Aid
- Traffic Control & Flagger Certified

Miguel Barba, 2020 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- Traffic Control & Flagger Certified
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

Christian Perdomo, 2020 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- CPR/First Aid
- Traffic Control & Flagger Certified
- Confined Space Entry, Operations/Rescue

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Key Personnel

Jesus Bahena Perez, 2023 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- CPR/First Aid
- Traffic Control & Flagger Certified
- Confined Space Entry, Operations/Rescue

Jesus Gutierrez, 2023 to Present

- Video Operator
- NASSCO PACP MACP LACP Certified
- CPR/First Aid
- Traffic Control & Flagger Certified
- Confined Space Entry, Operations/Rescue

Javier Rodriguez, 2021 to Present

- Traffic Control & Flagger Certified
- Laborer
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

Johnathan Chavez, 2022 to Present

- Traffic Control & Flagger Certified
- Laborer
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

Brian D'ambra, 2023 to Present

- Vactor Operator
- Traffic Control & Flagger Certified
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

Jeremy D'ambra, 2023 to Present

- Traffic Control & Flagger Certified
- Laborer
- CPR/First Aid
- Certified in Confined Space Entry, Operations/Rescue

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TRANSPORTATION
+
WATER
+
GOVERNMENTAL SERVICES
+
LAND DEVELOPMENT
+
ENVIRONMENTAL
+
CONSTRUCTION