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OBJECTIVE

Seeking a position to contribute and add value to the department's programs in a consistently professional manner.

SUMMARY OF QUALIFICATIONS

I am a professional engineer based in the State of Texas and have more than 20 years of engineering consulting experience in the general area of civil engineering and research, both in the United States and international settings. My technical qualifications include: civil engineering design and supervision; specifications; cost estimating; engineering reports; construction engineering; program and project management; contract administration; permit acquisition. Positions held during this period include program manager, project manager, project engineer, Research Assistant (water resources) and Water Resources Consultant and Project Controls Manager in the design and preparation of plans and specifications, schematic design, preliminary design and estimates for roadways, storm sewer, drainage, water distribution, wastewater collection, etc. As a water resources development consultant, I provided professional services for water resources projects sponsored by UNICEF and other international agencies in various eco-systems (mountain, desert, urban areas) in the Indian sub-continent through international non-government organization.

I have several years of college/university-level teaching experience, including as Adjunct Faculty in Construction Engineering at the University of Houston. Technical publications include the following:

1. Seepage from Canal to Asymmetric Drainages, *Journal of Irrigation and Drainage Engineering*, ASCE, Vol. 120, No. 5, September/October 1994, pp. 949-956.
2. Ph.D. Thesis, 1993: "Seepage from Canal With Asymmetric Drainages" (analytical solution using Conformal Mapping – includes shape of canal).
3. M.Tech (M.Sc.) Thesis: Soil and Water Interaction (Comparative Study of Laterite and Black Cotton Soils).
4. B.C. Raymahashay, A.T.W. Kirkos, S.K. Bisoi & B.K. Panigrahy, "Mineralogy of Ion Exchange of Selected Indian Soils", Proc. 7th International Symposium on Water-Rock Interaction, 9-23 July 1992, Park City, Utah, U.S.A.

In my recent roles as project controls manager (last nine years), my responsibilities involved managing all aspects of projects including communicating with the client and obtaining project information; developing scope of services; writing a proposal; scheduling all project tasks and personnel requirements; performing and overseeing engineering analysis and preparation and distribution of interim and final reports. I make sure that the services are provided within budget and schedule.

In addition to the project management and engineering responsibilities over several years of my career, I developed close interactions with government and non-government clients such as municipalities, colleges and other public entities and private businesses for whom I contributed professional engineering and management services for multiple small and large projects. Through these years, I gained extensive experience in managing multiple projects at a time. Representative projects include the following:

Northeast Water Treatment Plant (NEWPP) – City of Houston Public Works and Engineering Department – (Final Draft Report Submitted to Client: 2014)

- Conducted observations/inspections; coordinated and managed plant facilities assessments by professional architects and engineers (civil, structural and MEP).
- Coordinated, managed and reviewed documentation of site assessment of existing conditions and identified deficiencies at the facility for the following systems: buildings (administration, chemical, pump houses, etc.); plant structures; mechanical/plumbing and electrical components; transportation, site (storm water) drainage, plant potable water (outdoors), sanitary sewers, site landscaping, and site lighting/site security.
- Coordinated, monitored and managed water quality and alternative filter systems testing/modeling and reporting.
- Contributed in the production of plant assessment and recommendations and associated cost estimates and compiled information in final draft report form.
- The goal of the project is to recommend appropriate measures to bring up present capacity to its original rated capacity of 80 Million Gallons Per Day capacity; and expand the existing facility by installing new treatment facility within current plant compound to bring up total capacity of the plant to 400 Million Gallons Per Day to meet projected future needs in the year 2040. Develop cost estimates associated project goals.

Strategic Infrastructure Study in the Port of Houston Area – Precinct 2, Harris County - (2013-2014)

- Conducted research/analyses and wrote a draft report to assist Harris County (Precinct 2) and the Port of Houston in their plans, financing and policy decision making for transportation (land and sea) developments in the Port of Houston Area with special outlook in preparation of the projected needs after the soon expected completion of the Panama Canal expansion.
- Conducted interviews of stakeholders in the area including cities, petrochemical industries, port and area plants related businesses and professional associations, chambers of commerce, civic groups, residents, etc. for the documentation and development of the Strategic Infrastructure Study report for the Port of Houston Area.

Emancipation Park Project – COH TIRZ #7 (OST / Almeda Corridor Redevelopment Authority & Greater Third Ward) – (Under construction: since early 2014)

- Provided program/project controls management services during the planning and design phase of the improvements for the Emancipation Park, a 10-acre parcel located in The Third Ward sector of Houston, Texas. Emancipation Park is the oldest park in the City of Houston. The improvements planned for the Emancipation Park included, but not limited to a new recreation building, a new replacement swimming pool, renovations to the existing historic buildings on site and other site amenities such a parking, water play areas, basket ball fields, and soft ball/tennis courts. As program manager, I assisted TIRZ #7 in selection of consultants through a nationwide search, including advertisements, evaluation of plan concepts, design reviews, stakeholder workshops, and agency coordination. When completed, the park is anticipated to be a national destination point. The total project budget is estimated to be \$30 million. Contractor is in place and construction work is in progress since early 2014.

Houston Community College System (HCC) 2004 Capital Improvement Plan (CIP) Bond Program (\$200M): 2005-2010

- As assistant to Program Director participated in performing budgeting, scheduling, man-power control, and management of 12 construction projects (new campuses and upgrade of existing campuses including transit oriented development) at seven campuses in the Greater Houston area. Tasks included assisting client in the management and coordination of the Master Plan development for these seven HCC campuses with construction costs ranging from over \$13M to over \$30M for each campus. The projects included learning hubs/buildings and associated infrastructure. Also, provided project controls management services in the design and construction contracts management, technical reviews of plans and specifications.

Neighborhood Streets Reconstruction (NSR 447, City of Houston Project – Houston, Texas) – Construction completed 2008

- Provided civil engineering design for a total of 11 streets and associated sidewalks design and reconstruction, along with utilities (storm sewers, water lines, and sanitary sewers), with the total street length over 12,000 ft. The 100% submittal was completed in April 2006, with an accelerated schedule. (Project Controls Manager)

COH TIRZ #7 (OST / Almeda Corridor Redevelopment Authority & Greater Third Ward) Infrastructure Assessment Study and Report – 2007-08

- Led the project team and authored the report based on public and private infrastructure Existing Conditions Assessment and provided Recommendations for Infrastructure Improvements; provided preliminary Cost Estimate for improving the existing infrastructure to accommodate the area growth and METRO LRT plans (University and Southeast Corridors). Assisted the Client to prioritize and develop CIP projects based on the infrastructure assessment report. (Project Manager/Project Controls Manager)
- As district engineer and program manager, assisted the Authority and the TIRZ by providing professional services for **infrastructure assessment study** within and outside the existing TIRZ #7 boundary. This study area is part of the infrastructure network that serves the City of Houston. The total length of the streets covered under this study was approximately 248,620 feet (just over 47 miles). The objective of the infrastructure assessment study was to assess, within the study limits, the existing street, water line, sanitary sewer, and storm sewer conditions and identify those infrastructure components which require improvements. Based on the assessment of the existing infrastructure, a Master Plan was developed to assist in formulating and implementing Client's capital improvement program. This study has enabled the authority to be well informed to prioritize projects and wisely use resources efficiently.

McGowen Street Reconstruction (Smith St. to San Jacinto St. – Midtown, Houston, Texas) – 2011-12

- Civil Engineering Services – Street Modification and Utilities Relocation; provided program management services heading the internal civil engineering team in design and development of construction documents in time and within Budget. (Project Manager)

West Belfort Street Reconstruction Project (City of Houston) – 2011

- Provided civil engineering support services for prime firm in the development of Preliminary Engineering Report and Phase II Traffic Control Plan (TCP) and Storm Water Pollution Prevention Plan (SWPPP) for this project. The

development of the TCP for the 4,100 ft, 4-lane street provided some challenges due to the high traffic volumes, unsuitable options for detour and residential access constraints during construction. The TCP developed attained the objectives of unhindered parking and access to the residential lots and avoided construction detours.

Greater Southeast Management District – (Engineering and Program Management Services) – (2005 – 2014 as District Engineer/Program Manager)

- **Sidewalk and Curb Rehabilitation Projects** – provided design and project management services for the Greater Southeast Management District (GSMD) on these projects. The projects involved redesign and rehabilitation of the existing sidewalks, streetscape, and curbs along Almeda, McGowen, parts of Elgin, Ennis, Holman, and Delano Streets within the District. The scope of work includes evaluation of the existing condition and where applicable civil engineering and architectural layout and design of the systems in the right-of-way including sidewalks, curb ramps, driveways, pedestrian crosswalks, street signage in for accordance with the City of Houston, ADA, and Federal Transit Authority (FTA) standards and guidelines. The project also included reconstruction of bus shelters/pads and installation of solar lights in coordination and collaboration with METRO. The project included interactions and timely communications with residents, businesses and civic groups as well as COH TIRZ in the area.
- Provided program management services, on call-basis. Services provided included preparation of request for qualifications/proposals (RFQ/RFP), assisting in preparation of notices to contractors (advertisements), bid evaluation and contractor selection for various small and large scale maintenance, repair, landscaping, etc. on infrastructures within GSMD boundary.

Louetta Road Improvements Project: Precinct 4, Harris County Public Infrastructure Department (HCPID) – (Design completed early 2014)

- Provided project management in the preparation of the plans and specifications for approximately 5,000 linear feet roadway boulevard construction along Louetta Road from Cypress Ridge Drive to Imperial Woods Lane. Civil engineering scope included geometric design to accommodate the proposed two more lanes, analysis of the adequacy of the existing drainage system, recommend storm drainage improvements based on the analysis, roadway crossings across two (2) existing Harris County Flood Control District (HCFCD) drainage channels, determine and resolve public and private utility conflicts, and oversee design of a traffic signal and geotechnical studies. Coordination and management of sub-consultants work was provided. The geometric design included study of intersection sight triangles and impact of the proposed channel crossing guard rail fences on sight distances. Cost estimates and bid documents were prepared. Box culverts under Louetta Road were designed to extend downstream of the proposed roadway at a Harris County Flood Control District (HCFCD) drainage channel. Effective communications and coordination with HCFCD resulted in no additional detention requirement to construct the eastbound lanes along Louetta Road, based upon research and analysis of recorded plats and as-built drawings. The project construction is soon to start.

The Bay Area Boulevard at Port Road Intersection Improvements Project: Precinct 2, Harris County Public Infrastructure Department (HCPID) – (Design completed early 2014)

- The project is located just north of the Clear Lake area in Harris County in Precinct 2. The project consists of approximately 550 linear feet of asphalt paved boulevard along Bay Area Boulevard and 200 linear feet of two-lane asphalt paved roadway along Port Road. HCFCD concurred with ESPA that no drainage channel modifications or detention was required to construct the left turn lane along Bay Area Boulevard (widen the existing bridge), based upon researching the Corps of Engineer's hydraulic water surface model for the HCFCD drainage channel A104-13-00. A lateral drainage channel of Taylor Bayou. Provided project management and engineering services in the preparation of construction documents for the installation of a Traffic Signal, which includes the addition of a left turn lane, the widening of an existing bridge, the relocation of an existing 12-inch diameter waterline and an asphalt overlay. Management and coordination of sub-consultants were performed.

Fourth Ward Redevelopment Authority / City of Houston Tax Increment Reinvestment Zone No. 14 – (2012)

- **Utility and Street Conditions Assessment Study:** In this project, Fourth Ward Redevelopment Authority / City of Houston Tax Increment Reinvestment Zone No. 14 was assisted with its objective of making decisions for the improvement of the storm and sanitary sewers, paving, streetlights, parks, streetscapes, historic preservation, and property acquisition, with one third of the tax revenue allocated for affordable housing. The assessment was made to assist in the improvement and upgrading of deteriorating infrastructure, paving, street lights, streetscapes, and historic preservation within the community to the current City of Houston standards and criteria. The assessment report detailed the findings of the infrastructure condition assessment, recommendation for streetscape enhancements, and the estimated budget for completing the proposed improvements and upgrades. (Project Controls Manager)

Dixie Drive Area Development (Houston, Texas) - COH TIRZ #7/OST-Almeda Corridor Redevelopment Authority) – (2011)

- Provided project engineering and management services on this project. This project is primarily a neighborhood streets reconstruction of Bowling Green Drive and Allegheny Drive and the connector Streets in the Third Ward neighborhood near and adjacent Texas Department of Transportation (TxDOT) highways (State Highway 288 and Old Spanish Trail/Highway 90). The project included approximately 4,000 linear feet of streets re-designed and reconstructed, along with utilities (sanitary and storm sewers), sidewalks, ADA ramps etc. The existing asphalt roadway reconstructed and re-graded for concrete construction. The sanitary sewer design includes transfer of services from back-lot lines to the newly installed sanitary sewer. Underground drainage is re-designed as well. (Project Controls Manager).

Campus Streets and Parking Upgrades - Rice University (Houston, Texas) 2008

- Led internal architectural and civil engineering design team and coordinated construction permit and construction management services. The project included demolition of a portion of existing asphalt parking lot and design sidewalk/handicap ramps, street lighting, drainage, pavement marking, and street side tree transplant area to mirror image and blend with existing layout along the

opposite side of Collegway Street in Rice University campus. Civil Engineering and Construction Phase Services – (Project Engineer & Project Manager)

HOUSTON COMMUNITY COLLEGE SYSTEM - Multiple Campus Master Drainage Plan and Series of Detention Ponds – (2007)

- Provided project controls management services in the development of master plan for multiple Houston Community College System (HCCS) as part of the 2004 Capital Improvement Plan Bond Program. Series of new detention ponds and improvements of the existing detention facility were designed to accommodate runoff from impervious surface due to new construction. Stormwater Quality Management Plan (SWQMP) was provided. The SWQMP includes storm water quality control devices inside the detention pond that assures clean water outflow into the bayou systems including Buffalo Bayou and a major tributary to Hunting Bayou. At Drennan campus a bio-retention SWQM features that uses plants and soils to filter before it goes to the Buffalo Bayou water system was designed. (Project Controls Manager)

Kingdom Builders Facility - Houston, Texas: 2005-07

- Provided project controls management services (Civil Engineering) for this facility which is approximately 175,000 SF and construction cost was approximately \$27,132,000. Coordinated with internal architect in collaboration with prime (Morris Architects) for providing a portion of the architectural design services and construction phase architectural services as well as all of civil engineering services for the project. (Project Controls Manager).

Houston Community College System Facilities Master Plan: Greater Houston Area - (2005 - 2010)

- Was involved as team member in providing professional services in developing Houston Community College System Facilities Master Plan (FMP). The purpose of FMP was to aid in the creation of a clear vision for all future development of the physical environment of the College in support of its academic missions and goals. The physical planning process was ideally coordinated with the College's overall strategic plan and was intended to bring consensus regarding allocation of capital resources to achieve greater efficiency. As a physical representation of the College's mission and strategic plan, the FMP serves both the present and the future, thus requiring that the process remain flexible in order to respond to changing needs. HCC has undertaken the goal of creating a Facilities Master Plan to address the planning needs for the next 25 years, through the year 2035.

Public Affairs Building (Texas Southern University, Houston, Texas) 2006-2007

- The \$15 million state-of-the-art facility; nearly 82,000 gross SF; includes modern instructional classrooms, laboratories (including Crime Lab), conference rooms, departmental offices, community use space and an auditorium. Provided project management and civil engineering design services.

Escamilla Early Childhood / Pre-K Center (Aldine ISD, Houston, Texas) 2007-09

- Development and design of the 8.86-acre site for the Escamilla Early Childhood / Pre-K Center required coordination with Aldine ISD, Harris County and the City of Houston. A SWPPP and SWQMP were generated to conform to TCEQ and Harris County requirements, respectively. Wastewater capacity availability was confirmed by the City of Houston. Connection for water was made to a 12-in waterline in the ROW of East Mount Houston with an 8-in pipe used to provide

domestic and fire water to the facility. Sanitary sewers were designed to capture wastewater from all restrooms throughout the facility. The storm sewer system includes area and curb inlets, manholes, sewers, storm water quality features (i.e. swales, a detention pond and a storm water quality unit), underground detention (4.38 acre-ft) and a detention pond (1.34 acre-ft). Permitting services were provided to obtain the appropriate permits from Harris County and the City of Houston. Led internal team to provide construction phase services as well. (Project Engineer & Project Manager)

METRO Solutions Phase 2 – University Corridor Light Rail (Houston, Texas)

- Utilities Relocation; Traffic Control; Pavement Marking/Signage; ROW Plans; SWPPP; Cost Estimate; Specifications (Project Manager/Project Controls Manager) – 2008 (Project on hold due to funding, etc.)

METRO Solutions Phase 2 - North Corridor Light Rail Drainage Study and Report (Houston, Texas) - 2007

- Drainage Study – Existing Conditions and Impact of LRT (Project Manager/Project Controls Manager) – 2007: The scope of the drainage study is to execute the preliminary drainage system analysis for the entire project corridor described above. The report includes the result of the preliminary analysis performed for the project segment. The total length of this segment of the project corridor is approximately 4.8 miles. The drainage conveyance system along the project corridor alignment includes inlets, manholes, storm sewer pipes, and boxes that drain to fifteen (15) outfall locations. The outfalls ultimately drain into Little White Oak Bayou located to the west of the project corridor. The offsite drainage areas and storm sewer systems, upstream and downstream of the project corridor drainage system, were also considered in the analysis.

METRO Solutions Phase 2 - East End Corridor Light Rail (Houston, Texas) - 2006

- Assisted in determining alternate Light Rail Transit (LRT) Alignment accommodation within Harrisburg Street and ROW in the development of preliminary plans (Project Engineer) - 2006

Southeast Water Purification Plant (SEWPP) – Construction documents completed early 2014)

- Provided project management services for architectural services for plant facility storage building. Coordination with prime firm and other disciplines (structural, civil, MEP, etc.) was performed to complete the construction documents and cost associated cost estimate.

Kingwood Water Treatment Plant – (Construction documents and bidding completed early 2014)

- Provided project management services for architectural design services for plant facility buildings (chemical storage, etc.). Coordination with prime firm and other disciplines (structural, civil, MEP, etc.) was performed to complete the construction documents and associated cost estimate.

Additional Information

In addition, for over seven years, I had performed various geotechnical engineering field investigations and lab analyses and wrote geotechnical exploration reports recommending site preparation, foundation types and providing design soil parameters for various infrastructure projects. The projects include various small and high-level geotechnical engineering projects in the Greater Houston Area and in other extensive regions of the state of Texas and also in other states such as Louisiana, Mississippi and New Mexico. I conducted site visits, provided timely solutions to unforeseen geotechnical and related foundation and earthwork issues arising during construction, involved in task delegation, review of test results etc. My Masters level research works included the study of various soils types in Asia. I also have training and field experiences in water well drilling in various locations in Ethiopia.

Previous Employments include the following:

- ✓ ESPACORP/KCI Technologies Inc.: (October 2012 – May 2014) – Sr. Project Manager; Practice Leader (Resource Management)
- ✓ ESPA CORP, Inc.: (April 2005 – October 2012) – Project Controls Manager
- ✓ Professional Service Industries (PSI): (September 1998 – April 2005) - Project Manager
- ✓ Law Engineering & Environmental Services, Inc. (Law):(August 1997 – September 1998) – Graduate Engineer/Project Manager
- ✓ University of Houston (College of Construction Management): (2007 – 2012) – Adjunct Faculty
- ✓ Houston Community College System: (Since 1995) – Adjunct Faculty

EDUCATION

- Ph.D – University of Roorkee (Indian Institute of Technology), Roorkee, India
Civil Engineering/Water Resources Development (1994)
- M.Tech. (M.Sc.) – Indian Institute of Technology, Kanpur, India, Civil Engineering (1986)
- B.Tech. (B.Sc.) – University of Calicut (National Institute of Technology), Calicut, India
Civil Engineering (1984)

PROFESSIONAL MEMBERSHIP

American Society of Civil Engineers (ASCE)

- Played an active role in advocating the passing of Prop 1 (2010) which made way for Rebuild Houston of the City of Houston.
- Served as discipline committee chair for the first ever infrastructure report card for the Greater Houston Area (prepared by Houston Chapter of ASCE - 2011).
- Continue to provide voluntary services at the Houston Chapter of ASCE.

Engineers Without Borders (EWB)

- Volunteered as Technical Advisor for international water resources/sanitary project in an underdeveloped country (East Africa 2014).

REFERENCES

Available Upon Request.