

City of Mission Job Description

Job Title: **Engineer in Training/Designer**

Classification: **Exempt-Professional**

Department: Public Works



Division: Engineering

Supervisor: City Engineer

Effective: 5/26/2021

I. JOB SUMMARY

Responsible to assist the City Engineer on leadership and management of the City's Engineering Division. Provide engineering assistance to the Planning Department, Public Works Operations and Maintenance Divisions. Assists with the development of rights-of-way, roads, sewers, water, storm drainage systems, GIS, surveying, project inspections, utilities infrastructure, transportation system evaluation, and planning. Review construction plans for subdivision developments and Capital Improvement Projects. Involved the use of engineering software such as: HEC-RAS, HEC-HMS, H&H Models, Culvert Design, Geo-Pack, AutoCAD Civil Suite, Micro Station, and Google Earth. Assists the City Engineer in reviewing engineering related ordinances and other City documents. Performs and/or coordinate the review and processing capital improvement program, construction contracts, and relations with engineering consultants, contractors, TxDOT State agencies, and other organizations. Individual will be assigned other responsibilities as assigned by the department head/supervisor.

II. EDUCATION REQUIREMENTS

- Bachelor's degree in engineering related discipline, related graduate level education may be substituted for experience on a year per year basis.
- Requires a minimum of two (2) years of progressively experience work. Individual must have engineering knowledge, project management, and some professional level experience in a comparable environment (City, County, Private Sector or TxDOT engineering experience).
- Requires a minimum of 6 months to 2 years of related work experience with drainage and hydrology for roads and highways, bridges or Site Civil Engineering experience for Land Development.
- Experience utilizing civil/drainage related design software. For example, experience with some or all of the following, will be considered: AutoCAD Civil3D and/or MicroStation V8i, Geopak, InRoads, StormCAD, EPA-SWMM, ArcGIS, SMS w/ SRH-2D, HydroCAD Storm Sewers, CivilStorm, Inroads Storm and Sanitary, HEC-HMS and HEC-RAS software, or other PC software packages typically associated with H&H engineering.
- Must have knowledge and experience with Microsoft Word, Excel, Internet, and E-mail.
- Must be able to use a 10-key calculator.
- Must be able to type 45 wpm and have good filing skills.
- Must be proficient in working with personal computer, typewriter, and general office equipment.
- Must be able to communicate proficiently in the Spanish and English language.



III. EMPLOYMENT REQUIREMENTS

- Applicant will be subject to a complete background investigation. Incomplete, inaccurate and/or failure to report information will cause the applicant rejection from consideration.
- Applicant must take and pass a drug, physical, and pre-placement screening administered by the City of Mission doctor at the City's expense.
- Applicant must have a neat and professional appearance.
- Applicant must have a current valid class "C" driver's license issued by the Texas Department of Public Safety with no more than two (2) moving traffic violations within the past two (2) years.

IV. SKILL ABILITY REQUIREMENTS

- Ability to use Flow/Culvert Master, StormCAD, HEC-RAS, and Pondpack softwares for Hydrology and Hydraulics analysis.
- Ability to review vendor submitted flood analysis for technical accuracy and rigor including HEC-RAS, HEC-HMS, FLO-2D and BREACH models.
- Ability to inspect HEC-RAS runs to ensure compatibility with reports submitted by outside developers and engineers for subdivision and commercial projects.
- Ability to promote hydraulic structures that were modeled and analyzed using the U.S. Army Corps of Engineers' HEC-RAS program.
- Ability to involve the use engineering software such as: HEC-RAS, AutoCAD Civil Suite & Google Earth.
- Ability to incorporate the results into HEC-HMS and HEC-RAS computer models to generate 100-year and 25-year floodplains.
- Ability to cataloged storm water features using digital photography and incorporated into GIS database.
- Ability to prepare hydrology & hydraulic studies, reviewed environmental assessments GIS analysis and map preparation for various studies.
- Ability to coordinate and perform engineering planning, design, and construction or implementation of water and sewer systems, transportation systems, and communication systems.
- Ability to communicate technical information in an easily understandable format for a wide variety of professional, community, and general public audiences.
- Ability to communicate clearly, tactfully and persuasively to groups or individuals, orally and in writing in high stress situations. Must also have the ability to communicate effectively with computers and electronic communications.
- Ability to absorb and analyze information rapidly, draw sound conclusions and make decisions and recommendations quickly which address technical, engineering, public works, environmental, and people-related consequences.
- Ability to prepare and coordinate the preparation of project plans, estimates, budgets, reports, recommendations, documentation, and correspondence.



- Ability to manage diverse work activities of numerous, highly skilled subordinates in a manner conducive to proficient performance, high morale, and departmental effectiveness.
- Ability to speak and write clearly and accurately.
- Ability to perform a wide variety of different types of tasks without the variety itself causing a loss of efficiency.
- Ability to interpret basis for making decisions.
- Ability to contact outside companies or agencies.
- Ability to work with high-stress customers, meet deadlines, and handle multiple priorities.
- Ability to read and interpret documents such as safety rules and City policy procedures.
- Ability to work under exposure to inclement weather conditions.

V. ESSENTIAL JOB FUNCTIONS

- Directs and coordinates engineering planning projects, construction, and inspections.
- Prioritizes projects based on relevant information, scheduling them according to urgency and communicating information to employees, contractors, other departments and to the public.
- Assist engineering staff that are responsible for engineering planning, designs, plan reviews, consultant services, construction, inspections, reports, and supervision of assigned personnel.
- Assist the division's Engineering Technicians who are responsible for field inspection of private development projects that impact public works, GIS functions, and other specialty areas.
- Prepares and update reports pertaining to departmental activities and projects.
- Works in the field on various public works projects as required.
- Conduct inspections of public utilities to assess the need for repair, and ensures that proper standards of installation are met.
- Monitors the inventory of the departmental supplies and equipment, ordering new materials as needed to complete various projects, purchasing tools, approving expenditures by other employees.
- Advises the City Engineer, Public Works Director, and other persons on engineering measures and on regulatory ordinances which affect public works related developments.
- Coordinates, at the direction of the City Engineer and Public Works Director, the calling for bids and letting of contracts for consulting engineering and construction.
- Represents the City at a wide variety of meetings.



- Attendance at evening meetings, public meetings, field setting meetings, and other functions is required.
- Manages all new Construction Projects Related to Public Works, Parks and Recreational Departments and any other subsequent project as directed by the City Engineer and Public Works Director.
- Maintains construction work schedules, manages construction meetings and recommends modifications to contracts, plans, specifications and estimates prior or during construction.
- Assist coordinate and reviews with the Planning Department all new development plans, specifications and estimates. Recommends modification/changes or additional design of any construction submittal to the City Engineer, Public Works Department and Planning Department based on engineering review.
- Attends Planning & Zoning and Drainage meetings pertaining to new development

VI. NON-ESSENTIAL JOB FUNCTIONS

- Other duties and responsibilities include leadership and/or participation in intergovernmental and City-wide teams and work groups, designated backup duties for the City Engineer and Public Works with respect to representing the City to other municipalities, consultants, contractors, other agencies, and employers.

VII. EQUIPMENT/MATERIALS

General office and safety equipment/materials to include but not limited to the following:

- Video Camera, Copy machine, Fax machine
- Computer, Printer, Mouse
- Typewriter, Telephone, Cell phone
- HEC-RAS, HEC-HMS, H&H Models, Culvert Design, Geo-Pack, AutoCAD Civil Suite, Microstation, Google Earth.
- Surveying Equipment
- Microsoft Office
- Blueline copier- 1050C Design Jet HP, Stapler, rulers
- Camera (digital), Compact disc
- Pens, pencils, highlighters, Policy handbook, engineers scale
- HP-650C Design Jet, Computer keyboard
- 2500 Design Jet color Pro CAD printer, Measuring tape



VIII. WORK ENVIRONMENT

Exposure to the following environmental conditions are required for this job.

	None	Amount of Time		
		Under 1/3	1/3 to 2/3	Over 2/3
Wet humid conditions (non-weather)		X		
Work near moving mechanical parts		X		
Work in high, precarious places		X		
Fumes or airborne particles		X		
Toxic or caustic chemicals	X			
Outdoor weather conditions			X	
Extreme cold (non-weather)		X		
Extreme heat (non-weather)		X		
Risk of electrical shock		X		
Work with explosives	X			
Risk of radiation	X			
Vibration		X		
Extreme Noise		X		

IX. MANUAL DEXTERITY

Both fine and gross hand manipulation is required to perform essential job functions. Both hand manipulation is utilized to grip a series of files and reposition a keyboard to Different computer stations and transport binders, books, storage boxes, chairs, and boxes of paper to storage or printing areas. Fine finger dexterity is required to hand write notes, fill out forms, types reports, letters, and memos, input data in computer, and document information needed for day to day tasks.



X. PHYSICAL DEMAND ANALYSIS

MATERIAL HANDLING ACTIVITIES

Tasks	Weights	Frequency	Performance
LIFTING	Up to 5 lbs	F	Books, papers, pens, pencils, telephone, keyboard, file folders, calculator from waist to maximum of shoulder level.
	6-10 lbs	F	Reams of paper, books, boxes from waist to maximum of shoulder level.
	11-20 lbs	F	Reams of paper, books, boxes from waist to maximum of shoulder level.
	21-25 lbs	O	Stacks of books, boxes from waist to maximum of shoulder level.
	26-50 lbs	O	Stacks of books, boxes from floor to waist level.
	51-75 lbs	N	
	76-100 lbs	N	
	Over 100 lbs	N	
CARRYING	Up to 5 lbs	F	Books, papers, pens, pencils, telephone, keyboard, file folders, calculator from waist to maximum of shoulder level.
	6-10 lbs	F	Reams of paper, books, boxes from waist to maximum of shoulder level.
	11-20 lbs	F	Reams of paper, books, boxes from waist to maximum of shoulder level.
	21-25 lbs	O	Stacks of books, boxes from waist to maximum of shoulder level.
	26-50 lbs	O	Stacks of books, boxes from floor to waist level.
	51-75 lbs	N	
	76-100 lbs	N	
	Over 100 lbs	N	
PUSH/PULLING	Up to 5 lbs	F	File cabinet drawers to retrieve and return files and move chair from one work station to another.
	6-10 lbs	F	File cabinet drawers to retrieve and return files and move chair from one work station to another.
	11-20 lbs	F	File cabinet drawers to retrieve and return files and move chair from one work station to another.
	21-25 lbs	O	Move boxes of files to clear work area and move boxes of computer paper on carpeted and tile areas, 10' to 20'.
	26-50 lbs	O	Move boxes of files to clear work area and move boxes of computer paper on carpeted and tile areas, 10' to 20'.
	51-75 lbs	N	
	76-100 lbs	N	
	Over 100 lbs	N	

N-Never O-Occasional 1-33% F-Frequently 34-66% C-Constant 67-100%

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NON-MATERIAL HANDLING ACTIVITIES

Task	Frequency	Performance
CLIMBING	O	Climb City Hall front steps
BALANCING	C	File folders, boxes, telephone, and papers.
STOOPING (bending at waist)	C	Pickup files, boxes, and structured plans
KNEELING (one or both knees)	O	Pickup files, boxes, and structured plans
CROUCHING (bending at hips/knees)	O	Pickup files, boxes, and structured plans
CRAWLING	N/A	
REACHING	C	Telephones and maps, files
TWISTING/TURNING (rotation)	C	On chair and while driving city vehicle
HANDLING (manipulated objects)	C	Pencils, pens, telephone, cell phone computer mouse, city vehicle, keyboard, and office supplies
FINGERING (finger dexterity)	C	Pencils, pens, telephone, cell phone computer mouse, city vehicle, keyboard, and office supplies
STANDING	C	Construction supervision and measuring distances
WALKING	F	Meetings, construction supervision
GRASPING (whole hand activities)	O	Blue prints, reams of paper, file folders, telephone, books, office equipment, and boxes
N-never O-Occasional 1-33% F-Frequently 34-66% C-Constant 67-100%		

I, _____ understand the physical demands, work environment factors and mental functions of this job. I can fulfill the essential functions of this position as described in this job description.

Signature

Date