



# CITY OF HOUSTON

## JOB DESCRIPTION

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Job Code: 778.0

Job Title: **GRADUATE ENGINEER**

Pay Grade: 22

### **GENERAL SUMMARY:**

Provides engineering assistance in identifying, evaluating, managing and rehabilitating various facilities and systems.

### **RESPONSIBILITIES:**

- Conducts, reviews, inspects and analyzes field and project studies to ensure compliance with plans, contracts, regulations, etc.
- Develops, evaluates and/or designs new layouts, drawings, plans, specifications, etc. Advanced graduate engineers coordinate project development and signature approvals.
- Performs and reviews several types of engineering calculations to develop statistical data.
- Assists in preparing project schedules and estimates construction capital cost and construction time. Prepares documents required for low interest loan programs to finance facilities.
- Participates in and provides technical advice in the bid process.
- Communicates directly and indirectly with contractors to resolve disputes and ensure technical quality.
- Researches, analyzes and prepares various records, reports, alternative solutions and other data. Documents projects to ensure quality of commitment.
- Investigates and/or responds to inquiries from technical personnel and the general public on design criteria and project specifications.
- Maintains, monitors and applies operating procedures to enhance functioning of facilities and systems. Advanced graduate engineers coordinate the design process, scheduled maintenance and operation.
- May assist in on-the-job training and development of new hires.
- Advanced graduate engineers participate in and coordinate special master plan studies, which provide planning and guidance for various infrastructure programs.
- Advanced graduate engineers develop procedures for special studies and projects to improve operations and processes and may develop and implement emergency plan procedures.

### **SPECIFICATIONS:**

#### **KNOWLEDGE:**

Requires graduation from an approved curriculum in engineering that is approved by the State Board of Registration for Professional Engineers as of satisfactory standing.

OR

## **SPECIFICATIONS: (continued)**

Requires graduation from an engineering or related science curriculum at a recognized institution of higher education, other than a curriculum approved by the Board and passage of the eight-hour fundamentals of engineering examination prescribed by the Board.

### **OR**

Possession of a valid Engineering-in-Training Certificate issued by the Board under the current requirements of the Texas Engineering Practice Act.

### **EXPERIENCE:**

No experience is required.

### **COMPLEXITY:**

Work requires the direct application of a variety of procedures, policies and/or precedents. Moderate analytic ability is required in applying guidelines, policies and precedents, and in adapting standard methods to fit facts and conditions.

### **IMPACT OF ACTIONS:**

Errors in work lead to minor inconvenience and incur some costs. Work is typically performed under moderate supervision and within standard operating procedures. The incumbent occasionally can function autonomously, with the supervisor available to answer questions as they arise.

### **SUPERVISION EXERCISED:**

#### **Direct Supervision:**

No direct report employees. Advanced graduate engineers may perform general scheduling and review of work as a "working supervisor" or lead person.

#### **Indirect Supervision:**

No indirect reports.

### **CONTACTS:**

#### **Internal Contacts:**

Level of internal contact is primarily with professionals and supervisors. Interaction requires moderate tact and cooperation; e.g., scheduling and/or coordinating two personal calendars, resolving problems and/or obtaining necessary information.

#### **External Contacts:**

Level of external contact is primarily with lower-level service representative and vendors. Interaction requires moderate tact and cooperation; e.g., responding to questions which require some research to provide the correct answer.

### **PHYSICAL EFFORT:**

The position is physically comfortable; the individual has discretion about walking, standing, etc.

### **WORK ENVIRONMENT:**

There are occasional minor discomforts from exposure to less-than-optimal temperature and air conditions. The position may involve dealing with modestly unpleasant situations, as with occasional exposure to office chemicals and/or extensive use of a video display terminal.

### **PHYSICAL SKILL:**

Requires the ability to make coordinated gross motor movements in response to changing external stimuli within moderately demanding tolerances; or the ability to make coordinated eye/hand movements on a patterned response space within low tolerance demands with no real speed requirements.

## **MISCELLANEOUS:**

All duties and responsibilities may not be listed in the above job description.

**JOB FAMILY:**

Graduate Engineer  
Engineer  
Senior Engineer  
Chief Engineer

*Effective: October 1990*

*Revised: August 2004*