

CITY COUNCIL MEETING
NOVEMBER 6, 1985

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ENGINEERING
DIVISION
REORGANIZATION
JOB SPECIFICATIONS
APPROVED

Council approved revised job specifications for
the Assistant City Engineer, Chief Civil
Engineer, Junior through Associate Civil
Engineer, Engineering Technician Supervisor and
Engineering Technician I/II.



CITY OF LODI

PUBLIC WORKS DEPARTMENT

COUNCIL COMMUNICATION

TO: City Council
FROM: City Manager
DATE: October 22, 1985
SUBJECT: Engineering Division Reorganization - Job Specifications

RECOMMENDED ACTION: That the City Council approve revised job specifications for the Assistant City Engineer, Chief Civil Engineer, Junior through Associate Civil Engineer, Engineering Technician Supervisor, and Engineering Technician I/II.

BACKGROUND INFORMATION: The reorganization of the Engineering Division, approved early this year as part of the budget, is being implemented. (See attached organization chart.) Some changes in job specifications are necessary and are summarized below:

<u>Position</u>	<u>Changes/Comments</u>
Assistant City Engineer and Chief Civil Engineer	The changes involve the shifted traffic engineering and development review duties.
Junior, Assistant, Associate Civil Engineer	Indirect supervision of subprofessional positions is changed to direct supervision.
Engineering Assistant	Deleted
Engineering Technician Supervisor	Rewritten to include duties of Engineering Assistant. Operation of computers was added to the examples of duties.
Engineering Technician I/II	Minor editorial changes were made. Operation of computers, review of development plans and public contact were added to the examples of duties.


Jack L. Ronsko
Public Works Director

Attachments - Job Specifications

JLR/RCP/eeh

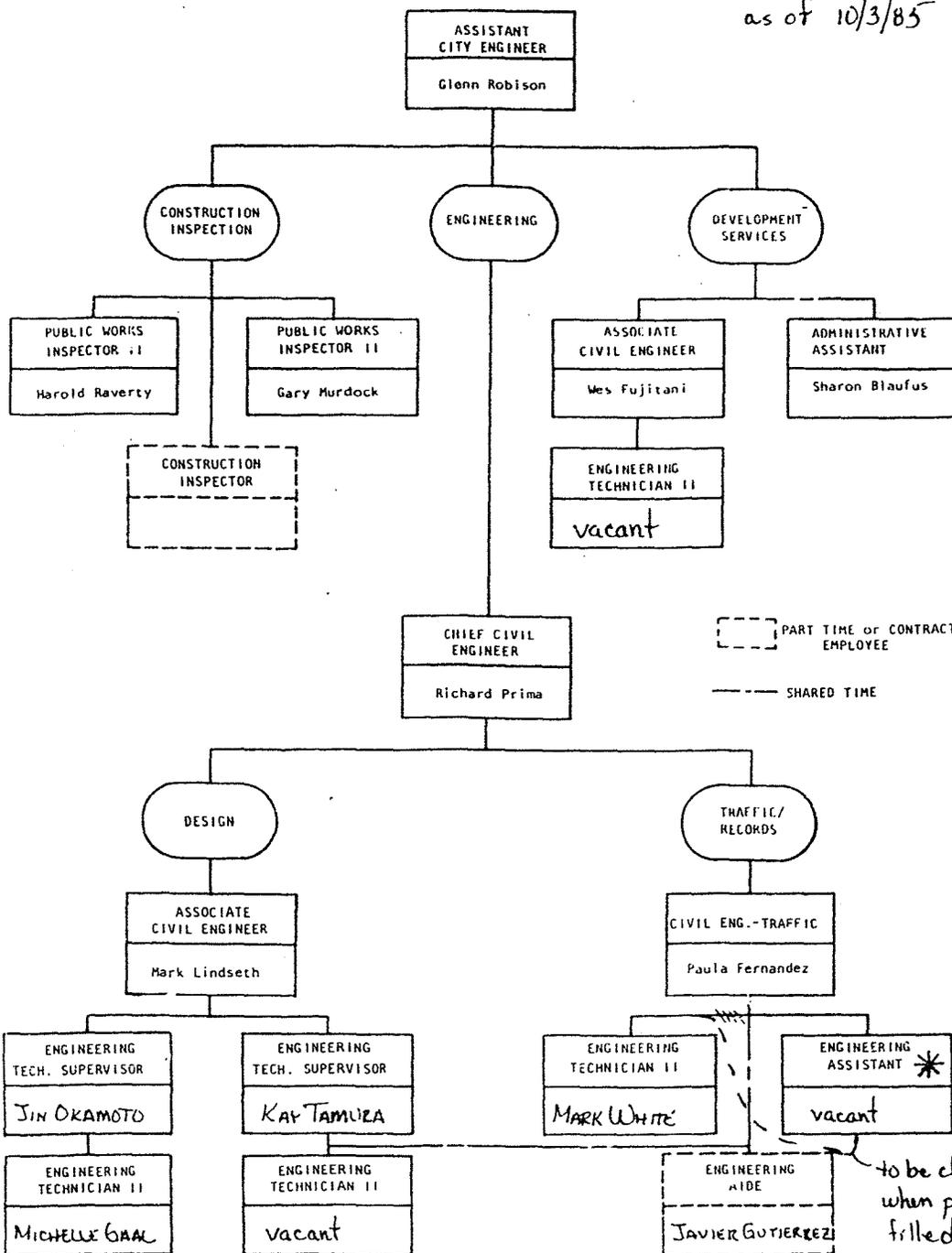
APPROVED:


THOMAS A. PETERSON, City Manager

FILE NO.

ENGINEERING DIVISION ORGANIZATION

as of 10/3/85



* Proposed new title: ENGINEERING TECHNICIAN SUPERVISOR

ASSISTANT CITY ENGINEER

DEFINITION

Plans and organizes the work of the Engineering Division of the Public Works Department; coordinates the work of the Engineering Division with other Divisions within the Department and with other departments within the City; acts for and on behalf of the Public Works Director in his absence.

DISTINGUISHING CHARACTERISTICS

This is a high level management position class in the Public Works Department. The position is responsible for the Engineering Division and performs a number of duties affecting all departmental divisions. These duties require extensive external contacts and working relationships. The Assistant City Engineer acts as Public Works Director in the Director's absence and is expected to possess extensive technical knowledge of engineering, public works administration, and the City's public works system.

SUPERVISION RECEIVED AND EXERCISED

Receives administrative direction from the Public Works Director.

Exercises general direction ^{of} subordinate engineering positions and general supervision over sub-professional engineering positions.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Plans and organizes the operations and activities of the Engineering Division; develops and implements goals, objectives, policies, and priorities.

Assumes responsibility for preparation and administration of the Division's budget.

Assumes responsibility for a variety of personnel actions including performance evaluation, training, and disciplinary actions. Recommends the hiring and suspension of personnel.

Meets with developers, subdividers, contractors, realtors, engineers, and architects to explain City development policies.

Directs all aspects of ^{rights-of-way} R/W and ^{right-of-way} easement acquisition and abandonment, discussing same with owners, developers, City ^{rights-of-way} R/W agents, and personnel involved in appraising and obtaining of rights of way; reviews and approves all ^{rights-of-way} R/W agreements and legal descriptions.

Prepares and writes all general correspondence and Council Communications related to the Division's activities; prepares special reports and studies requested by the Public Works Director.

CITY OF LODI
Assistant City Engineer (Continued)

EXAMPLES OF DUTIES

Handles the more difficult public citizen complaints and public relation matters.

Reviews and approves plans and specifications for most City work including curb and gutter, streets, sanitary sewer, storm drains, traffic signals, water mains, structures, City buildings, assessment districts, subdivisions, and developments. Directs inspection of these projects. Approves all contract payments and subdivision releases. Reviews and approves plans and specifications for informal contracts for curb, gutter, sidewalk, and approve award of informal contracts for same.

Prepares construction grant applications.

Reviews and approves building plans and occupancy permits for conformance with Public Works requirements.

Meets with the general public regarding questions directly related to Public Works and, at times, Planning and Building: complaints, water and sewer taps, rights-of-way, encroachment permits, traffic, etc.

Directs personnel involved in obtaining and collating traffic data; reviews, edits and approves City Council communications regarding all aspects of traffic: annual reports, parking, traffic signals, speed zones, signings, parking, etc.

Gathers information, reviews, and prepares memo to Community Development Department indicating Public Works requirements as they relate to parcel maps, tentative subdivision maps, SPARE review, use permits, etc. Directs engineers and subprofessional personnel in some of these duties.
Performs related duties as assigned.

Site Plan and Architectural Review Committee

QUALIFICATIONS

Knowledge of:

Principles, practices, and methods of civil engineering as applied to the planning, designing, and construction of municipal public works projects.

Design principles, required in planning public works projects; principles of mechanical, structural and traffic engineering and surveying; field survey and construction practices as they apply to the design construction of public works projects.

Municipal public works administration.

Principles of management and supervision.

Safety principles, practices, and procedures.

CITY OF LODI
Assistant City Engineer (Continued)

Knowledge of:

Basic municipal accounting and budgeting practices.

Report writing techniques.

Ability to:

Analyze Division's operations and recommend improvements.

Establish cooperative public relations with contractors, developers, private engineers and the general public.

Analyze and interpret Federal and State regulations pertaining to the Engineering Division.

Prepare and review plans, specifications, and engineer's estimates.

Plan, assign, direct, and coordinate the work of subordinate personnel.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Five years of office and field experience in civil engineering, preferably including four years in design and construction of Public Works improvements, two years of which were in an administrative or supervisory capacity.

Education:

A Bachelor's degree in civil engineering.

Licenses and Certificates

Possession of a Certificate of Registration as a Civil Engineer issued by the California Board of Registration for Professional Engineers.

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

CHIEF CIVIL ENGINEER

DEFINITION

Plans, assigns, supervises, and reviews engineering work in connection with the location, design, construction, and maintenance of major Public Works projects and subdivision and development improvement plans prepared by private engineers; acts for and on behalf of the Assistant City Engineer in his absence.

DISTINGUISHING CHARACTERISTICS

This is a combination supervisory/managerial position in the Engineering Division of the Public Works Department. This position supervises the Design section of the Division and participates in management and policy-making for the engineering Division as a whole. This position has responsible charge for City engineering work, including contract engineering services.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Assistant City Engineer and Public Works Director.

Exercises general direction ^{of} subordinate professional engineering positions and general supervision ^{of} sub-professional engineering positions.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Plans, assigns, supervises, and reviews the work of Design section engineers; oversees the work of consulting engineers.

Assumes responsibility for the preparation and administration of the Design section budget; participates in policy-making for the Engineering Division.

Assumes responsibility for a variety of personnel actions including performance evaluation, training, and disciplinary actions. Recommends the hiring and suspension of personnel.

Supervises the preparation of engineering plans and specifications for the construction of water, sewer, storm drain, park/basin projects, traffic signals and street improvement projects; checks plans for accuracy and completeness and makes recommendations for revision and improvement; reviews specifications for composition and accuracy; prepares and/or reviews preliminary and final cost estimates.

Assists subordinate engineering personnel with difficult problems.

Provides for training and development of Division employees.

Makes engineering calculations, such as hydraulic and structural analyses, and traverses.

EXAMPLES OF DUTIES

Meets with other agency officials, engineers, private individuals, and industry representatives in discussing engineering problems.

Makes Council presentations related to engineering studies and projects under his/her responsibility.

Assists in planning, organizing and directing office and field engineering, and assists in reviewing engineering design for maintenance personnel in construction and maintenance of Public Works projects.

Prepares and writes all general correspondence and Council Communications related to the Division's activities; prepares special reports and studies requested by the Public Works Director.

Prepares and evaluates contracts; prepares reports on Engineering Division functions and activities for City officials.

Analyzes Division activities; prepares reports, including the Division's Annual Report.

Performs related duties as required.

Directs personnel involved in obtaining and collating traffic data; reviews, edits and approves City Council Communications regarding all aspects of traffic: annual reports, parking, traffic signals, speed zones, signings, parking, etc.

QUALIFICATIONS

Knowledge of:

Principles, practices, and methods of civil engineering as applied to the planning, designing, and construction of municipal public works projects.

Design principles, strength of materials and stress analysis required in planning public works projects.

Principles of mechanical, structural, and traffic engineering, and surveying as they apply to the design of public works projects.

Field survey and construction practices.

Municipal public works administration.

Principles of management and supervision.

Safety principles, practices and procedures.

Basic municipal accounting and budgeting practice.

Report writing techniques.

CITY OF LODI
Chief Civil Engineer (Continued)

Ability to:

Design, prepare and review plans, specifications and engineer's estimates on public works projects.

Direct the work of subordinate engineering personnel.

Establish cooperative public relations with contractors, developers, private engineers and the general public.

Analyze Division's operations and recommend improvements.

Analyze and interpret federal and state regulations pertaining to the Engineering Division.

Conduct Division training programs.

Estimate job costs and keep neat and accurate records.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Three years of progressively responsible and varied professional civil engineering experience including experience in surveying and designing streets and water, sewer and storm drain systems.

Education:

A Bachelor's degree in civil engineering.

Licenses and Certificates

Possession of a Certificate of Registration issued as a Civil Engineer by the California State Board of Registration for Professional Engineers.

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

JUNIOR CIVIL ENGINEER
ASSISTANT CIVIL ENGINEER
ASSOCIATE CIVIL ENGINEER

DEFINITION

Performs professional engineering work in the planning, design, and construction of public works and related projects. Assumes varying degrees of responsibility for the engineering requirements of water, sewer, stormdrain, street, and other projects, depending upon class level. This is a flexibly staffed class series in that the Junior level position may reasonably expect to progress to the Assistant level with training, satisfactory performance, and obtaining proper certification. Similarly, the Assistant may expect to progress to the Associate level.

DISTINGUISHING CHARACTERISTICS

Junior Civil Engineer - This is the entry level in the professional engineering class series. Positions in this class differ from Assistant Civil Engineers in that they are not expected to immediately perform a wide range of engineering tasks or be familiar with City engineering policies and procedures. Unlike the Assistant, they would rarely exercise lead supervision over other engineering positions.

Assistant Civil Engineer - This class is between the entry level and full journey level classes in the professional engineering class series. Positions in this class differ from the entry level (Junior Civil Engineer) in that they perform a wider range of tasks, are more familiar with City projects and regulations, and are required to possess an Engineer-In-Training certificate from the State. The Assistant differs from the Associate Civil Engineer in that the Associate performs the most difficult engineering tasks while the Assistant performs moderately difficult tasks. Also, the Associate regularly exercises indirect supervision over other professional engineers while the Assistant does so only occasionally. Also, the Associate is a Registered Engineer while the Assistant is an Engineer-In-Training. Positions in this class generally are filled from the Junior level.

Associate Civil Engineer - This is the full journey level class in the professional engineering class series. Positions in this class perform the most difficult professional engineering work and are distinguished from the Assistant Civil Engineer in that they are Registered Civil Engineers, perform the functions requiring registration and act in the absence of the Chief Civil Engineer. Positions in this class normally are filled from the Assistant level.

SUPERVISION RECEIVED AND EXERCISED

Junior Civil Engineer

Receives specific direction from higher level professional engineers.

CITY OF LODI
Junior Civil Engineer
Assistant Civil Engineer
Associate Civil Engineer (Continued)

SUPERVISION RECEIVED AND EXERCISED

~~Occasionally~~ Exercises indirect supervision ^{of} ~~of a technical nature~~ over sub-professional engineering positions.

Assistant and Associate Civil Engineer

Receives general direction from higher level professional engineering positions.

Exercises indirect supervision ^{of} ~~of a functional nature~~ over lower level Civil Engineers and ~~over~~ sub-professional engineering positions, ~~usually as a project manager for a public works project.~~

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Designs and prepares plans, specifications and cost estimates for public works projects including water, wastewater, street, storm drain, and related projects; researches project design requirements; performs complex calculations and prepare estimates of time and material costs.

Reviews and checks final maps, parcel maps, and subdivision improvement plans for accuracy and conformance with City codes, ordinances and departmental requirements.

Writes and checks legal descriptions for parcels of land.

Conducts specialized studies involving selection and use of materials and equipment, design techniques and economic comparison of alternatives, (i.e., water well construction and rehabilitation, ~~man-made lake design~~, sewer pipe materials, etc.).

Serves as field inspector and field engineer on public works projects.

Assigns routine investigation, design and drafting tasks to technical subordinates; reviews completed work; assists in the solution of difficult problems.

Prepares applications for State and Federal grants; administers grant projects.

Answers questions from contractors, private engineers, other public members, and other City departments on public works projects, City codes, ordinances, and policies.

Performs related duties as required.

W.P.O. SHARL PROLECTOR B. REEST
W.P.O. SHARL PROLECTOR B. REEST

QUALIFICATIONS

Junior Civil Engineer

Knowledge of:

Principles and practices of engineering as applied to public works, utilities, and building construction projects.

Methods, materials, and techniques used in the construction of public works and utilities projects.

Modern developments, current literature and sources of information regarding engineering.

Ability to:

Make engineering designs, do computations, and prepare engineering plans and studies.

Use and care of drafting and surveying instruments.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

No related working experience.

Education:

A Bachelor's Degree in Civil Engineering from an accredited college or university.

Licenses or Certificates

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

Assistant Civil Engineer

In addition to requirements of the Junior Civil Engineer:

Knowledge of:

City engineering policies and procedures.

Principles of supervision and training

CITY OF LODI
Junior Civil Engineer
Assistant Civil Engineer
Associate Civil Engineer (Continued)

Ability to:

Do moderately complex engineering designs and do computations under general supervision.

Communicate clearly and concisely, orally and in writing.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Two years experience as a professional engineer.

Education:

A Bachelor's Degree in Civil Engineering from an accredited college or university.

Licenses or Certificates

Possession of an Engineer-In-Training certificate issued by the California Board of Registration for Professional Engineers.

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

Associate Civil Engineer

In addition to requirements of the Assistant Civil Engineer:

Knowledge of:

~~Principles of supervision and training.~~

Ability to:

Perform complex professional engineering work with a minimum of supervision.

Manage engineering projects from inception to completion.

Perform field inspection of public works projects; review plans and maps submitted for compliance with all pertinent guidelines.

CITY OF LODI
Junior Civil Engineer
Assistant Civil Engineer
Associate Civil Engineer (Continued)

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Three years experience as a professional engineer, including two years experience with the City of Lodi.

Education:

A Bachelor's Degree in Civil Engineering from an accredited college or university.

Licenses and Certificates

Possession of a Certificate of Registration as a Civil Engineer issued by the California Board of Registration for Professional Engineers.

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

ENGINEERING TECHNICIAN SUPERVISOR

DEFINITION

Performs highly responsible sub-professional office and field engineering work in such areas as traffic, design, surveying, legal descriptions, maps and records.

DISTINGUISHING CHARACTERISTICS

This is an advanced journey level class performing specialized duties in assigned sub-professional engineering areas. This class is distinguished from the Engineering Technician class series by its administrative responsibilities and regular exercise of technical and functional supervision over Engineering Technicians.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from professional level engineers.

Exercises direct supervision over Engineering Technicians and other as assigned.

EXAMPLES OF DUTIES

Duties may include, but are not limited to, the following:

Plans, assigns, supervises, and reviews the work of subordinates.

Assists with and performs a variety of personnel actions including selections, promotions, performance evaluations, disciplinary actions, and dismissals.

Assists with budget development and administration for an assigned section.

Performs supervisory duties including review of employee time reports, training and evaluating subordinate employees, and determining needs and ordering of required supplies.

Prepares documents such as property descriptions, annexation descriptions, easements, and easement vacations.

Calculates distances, angles, traverses, closures, and makes drawings for property descriptions.

Inspects minor public works projects.

Takes soil compaction tests.

Performs complex sub-professional engineering work including design and preparation of improvement plans, specifications and estimates for a variety of public works, and other projects.

Supervises the preparation of utility inventory records and maintains utility system maps. Makes rough layouts and drawings required for office, council presentations, and contract work.

CITY OF LODI
Senior Engineering Assistant (Continued)

Conducts traffic engineering studies including vehicular and pedestrian volumes, prevailing speeds, accidents, and parking patterns.

Drafts written reports of traffic engineering studies including charts, maps, diagrams, and photographs necessary for the installation of traffic control devices.

Processes street right-of-way and easement vacations.

Operates computers and peripheral equipment in areas of record keeping, graphics, surveying and other engineering applications.

Serves as survey party chief; supervises work of subordinates engaged in field surveys.

Takes topography and sets line and grade for City public works projects.

Determines and lays out control for aerial photogrammetry.

Exercises judgment in staking out public works construction jobs in accordance with engineering plans.

Calculates distances, ties, angles, areas, stations, cuts and fills, traverses and closures.

Computes grades and profiles.

Performs related duties as required.

QUALIFICATIONS

Knowledge of:

Principles of algebra, geometry and trigonometry.

Nomenclature, symbols, methods, practices, techniques, and instruments used in drafting and mapping.

Basic principles of engineering field survey work.

Principles of supervision.

Ability to:

Supervise the work of others.

Perform a variety of difficult sub-professional engineering design and layout work.

Collect and analyze data.

Prepare neat and accurate drawings from sketches and survey notes.

CITY OF LODI
Senior Engineering Assistant (Continued)

Interpret engineering maps, plans, construction standards and legal descriptions.

Operate computers and learn various software programs.

Make accurate engineering computations.

Draft clear and concise reports.

Write clear and precise property descriptions.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Five years sub-professional engineering office or field work including some experience in a lead or administrative capacity.

Education:

Completion of high school (or its equivalent) plus some college level coursework in civil engineering, hydraulics, statics, surveying, or graphics. A Degree in Civil Engineering Technology would be roughly equivalent to three years experience.

Licenses and Certificates

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

ENGINEERING TECHNICIAN I
ENGINEERING TECHNICIAN IIDEFINITION

Performs sub-professional engineering office and field work involving surveying, drafting, minor inspection and design. This is a flexibly staffed class series in that a I level position may reasonably expect to progress to the II level with training and satisfactory performance.

DISTINGUISHING CHARACTERISTICS

Engineering Technician I - This is the entry level for the sub-professional engineering class series. Positions in this class are distinguished from the Engineering Technician II class in that they are not expected to be familiar with a broad range of subprofessional engineering functions but are expected to perform assigned duties responsibly given necessary training. As incumbents gain experience in the position, they progressively acquire the knowledge and abilities of the Engineering Technician II.

Engineering Technician II - This is the journey level class in the subprofessional engineering class series. Positions in this class are distinguished from the Engineering Technician I class in that they perform a broader range of sub-professional engineering tasks and are familiar with numerous office and field tasks. They are distinguished from the Senior Engineering Assistant in that they are not expected to possess extensive, specialized knowledge in one or more engineering areas and do not regularly exercise direct supervision over subordinates. Positions in this class normally are filled from the I level.

SUPERVISION RECEIVED AND EXERCISEDEngineering Technician I

Receives immediate supervision from higher level sub-professional engineering positions and from professional engineers.

Engineering Technician II

Receives general supervision from a Senior Engineering Assistant and professional engineering positions.

Occasionally exercises indirect supervision of a technical nature over Engineering Technician I's, usually by assisting in their training.

EXAMPLES OF DUTIES - Duties may include, but are not limited to, the following:

Uses drafting instruments; performs design work on less complex public works projects.

Prepares rough layouts, drawings, diagrams, and plans for public works projects.

Performs the computing and drafting operations involved in reducing field survey notes.

CITY OF LODI
Engineering Technician I
Engineering Technician II (Continued)

Calculates distances, ties, angles, area, stations, traverses, closures and construction quantities.

Lays out, draws, inks, traces, checks, and keeps maps up to date.

Refers to public records to obtain information necessary for projects.

Takes traffic counts and surveys

Takes simple survey notes, does such engineering drawing as tracing maps and simple construction plans and diagrams.

Draws details from rough layouts of drawings.

Letters either freehand or with the aid of mechanical lettering devices.

Assists in maintaining drafting supplies.

Copies data, computes areas and tabulates readings.

Makes mathematical computations.

Operates computers and peripheral equipment in areas of record keeping, graphics, surveying and other engineering applications.

Operates blueprint machine

Reviews portions of development improvement plans for conformance with City requirements.

Answers complaints from the public regarding curb, gutter, and drainage improvement plans and specifications; answers contractor and public questions concerning City encroachment policies and issues encroachment permits.

Inspects minor public works projects.

Operates transits and levels to determine distances, layout curves and establish ties in the preparation of a variety of preliminary locations, construction, property, and other survey work.

May serve as a working survey party chief working with subordinates in the observation, computing and recording of field data.

Determines lines, angles, distances, elevations, and keeps field notes of readings and observations.

Cleans and adjusts survey instruments.

CITY OF LODI
Engineering Technician I
Engineering Technician II (Continued)

EXAMPLES OF DUTIES

Field

Calculates cuts and fills for pipe and street work.

Takes relative compaction tests.

Serves as rodman or chairman in performing supervised work with an engineering survey party in the field.

In a training capacity, may operate transits and levels as instrumentman on the survey party.

Performs other related duties as required.

QUALIFICATIONS

Engineering Technician I

Knowledge of:

Drafting methods, techniques and equipment.

The principles and uses of algebra, geometry, and trigonometry.

Elementary engineering survey principles and practices.

Ability to:

Do simple drafting neatly and accurately.

Solve problems and make computations using algebra, geometry, and trigonometry.

Follow oral and written directions.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

No related working experience.

Education:

Completion of high school or its equivalent supplemented by courses in algebra, geometry, trigonometry, and mechanical drawing.

CITY OF LODI
Engineering Technician I
Engineering Technician II (Continued)

Licenses and Certificates

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.

Engineering Technician II

In addition to the requirements of the Engineering Technician I:

Knowledge of:

Nomenclature, symbols, methods, practices, techniques, and instruments used in drafting, mapping, and surveying.

Ability to:

Perform a variety of office and field sub-professional engineering work.

Collect and analyze data.

Prepare neat and accurate construction plans, drawings and diagrams.

Interpret engineering maps, plans, construction standards and legal descriptions.

Understand and apply laws, rules and regulations.

Operate computers and learn various software programs.

Experience and Education

Any combination of experience and education that would likely produce the qualifying knowledge and ability. A typical combination is:

Experience:

Two years of sub-professional engineering office or field work.

Education:

Completion of high school or its equivalent supplemented by courses in drafting, trigonometry, and surveying.

Licenses and Certificates

Possession of a valid Driver's License issued from the California Department of Motor Vehicles.