

DEPARTMENT: County Counsel/Personnel By: Jeffrey G. Green PHONE: 209/966-3222

RECOMMENDED ACTION AND JUSTIFICATION: (Policy Item: Yes ( ) No(X))

Adopt this resolution approving revised class specifications for Engineering Technician I, Engineering Technician II, and Engineering Technician III and adopting new class specification for the position of Engineering Technician Trainee at Salary Range 116. This new class specification will be assigned to the Mariposa County General Employees' Association (SEIU).

The Personnel Office has been requested to recruit to fill an existing vacancy at the Engineering Technician II level, and prior to opening this recruitment, it is recommended that revisions to the class specifications for this series be adopted as attached. The current class specifications for this series were approved in 1988 and, subsequent to then, significant changes have occurred in the technology related to these positions. The proposed revisions more accurately reflect the current functions and responsibilities for each level in this Engineering Technician series. The modifications to the minimum qualifications have been designed to target as large an applicant pool as possible. No change in the existing salary ranges is being recommended at this time. In addition to the existing specifications, the Department of Public Works requested the Personnel Office to incorporate a trainee level with this series to give them full flexibility in its staffing needs. In addition, the proposed new class specification will provide a true entry-level position for outside applicants as well as current County employees interested in a new career path.

**BACKGROUND AND HISTORY OF BOARD ACTIONS:** Per Mariposa County Personnel Policies and Procedures Handbook, Section 4.02 "Classification Plan Amendment: The Board may create new classes or revise or abolish existing classes."

**LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:**

1. Do not approve these proposed class specification revisions, new class specification and recommended salary range.
2. Make any changes to these class specifications and recommended salary range as deemed necessary by the Board.

**COSTS:** (X) Not Applicable

- A. Budgeted current FY \$ \_\_\_\_\_
- B. Total anticipated costs \$ \_\_\_\_\_
- C. Required additional funding \$ \_\_\_\_\_
- D. Internal transfers \$ \_\_\_\_\_

**SOURCE:** ( ) 4/5ths Vote Required

- A. Unanticipated revenues \$ \_\_\_\_\_
  - B. Reserve for contingencies \$ \_\_\_\_\_
  - C. Source description: \_\_\_\_\_
- Balance in Reserve for Contingencies, if approved: \$ \_\_\_\_\_

**SPECIAL INSTRUCTIONS:**  
List the attachments and number the pages consecutively:

1. Class Specifications \_\_\_\_\_
2. CAO Memo \_\_\_\_\_

**CLERK'S USE ONLY:**

Res. No.: 99-195 Ord. No. \_\_\_\_\_  
 Vote - Ayes: \_\_\_\_\_ Noes: \_\_\_\_\_  
 Absent: \_\_\_\_\_ Abstained: \_\_\_\_\_  
 Approved \_\_\_\_\_ ( ) Denied \_\_\_\_\_  
 ( ) Minute Order Attached ( ) No Action Necessary

The foregoing instrument is a correct copy of the original on file in this office.

Date: \_\_\_\_\_  
 ATTEST: MARGIE WILLIAMS, Clerk of the Board  
 County of Mariposa, State of California  
 By: \_\_\_\_\_  
 Deputy

**ADMINISTRATIVE OFFICER'S RECOMMENDATION:**

This item on agenda as:

- Recommended
- Not Recommended
- For Policy Determination
- Submitted with Comment
- Returned for Further Action

Comment: \_\_\_\_\_

A.O. Initials: [Signature]

**MARIPOSA COUNTY**

**JOB TITLE:** Engineering Technician Trainee

**DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES:**

To perform a variety of technical field and office engineering work related to surveys, materials testing, office calculations, and drafting. Employees in this classification receive close supervision with a framework of standard policies and procedures. Employees in this class function at the training level and are expected to advance to Engineering Technician I after one year.

**SUPERVISOR:** As Assigned

**TYPICAL DUTIES:**

- Learns and performs survey work that includes establishment of lines, angles, distances, and elevations for topographic, property, and construction surveys.
- Learns and performs engineering and surveying calculations as required.
- Learns and performs drafting as related to survey work, construction drawings, exhibits, etc.
- Assists in the public works inspection process.
- Learns and operates equipment on an engineering field survey party.
- Under direction and supervision, develops and enters data for computerized databases.
- Learns and performs samples extraction and laboratory and field testing of construction materials, including use of the nuclear soils gauge.
- Performs other related duties similar to the above in scope and function as required.

MARIPOSA: Engineering Technician Trainee

EMPLOYMENT STANDARDS

Knowledge of:

- general mathematics including high school algebra and geometry.

Ability to:

- work outdoors in a variety of weather conditions.
- learn the operation of surveying instruments.
- under direction and supervision, learn the operation of computer software.
- assist in preparation of accurate and complete notes, sketches, plans, and reports.
- learn drafting work.
- learn and perform mathematical calculations quickly and accurately.
- understand and execute written and oral instructions.
- establish and maintain positive work relationships with those contacted in the performance of required duties.
- perform at the expected level required of an Engineering Technician I after one year.

MINIMUM QUALIFICATIONS

High school graduation or a GED.

**MARIPOSA COUNTY**

**JOB TITLE:** Engineering Technician I

**DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES:**

To perform a variety of technical field and office engineering work related to surveys, materials testing, office calculations, and drafting. Employees in this classification receive close supervision with a framework of standard policies and procedures. Employees in this class function at the entry level.

**SUPERVISOR:** As Assigned

**TYPICAL DUTIES:**

- Learns and performs survey work that includes establishment of lines, angles, distances, and elevations for topographic, property, and construction surveys.
- Learns and performs engineering and surveying calculations as required.
- Learns and performs drafting as related to survey work, construction drawings, exhibits, etc.
- Assists in the public works inspection process.
- Learns and operates equipment on an engineering field survey party.
- Under direction and supervision, develops and enters data for computerized databases.
- Learns and performs samples extraction and laboratory and field testing of construction materials, including use of the nuclear soils gauge.
- Performs other related duties similar to the above in scope and function as required.

MARIPOSA: Engineering Technician I

EMPLOYMENT STANDARDS

Knowledge of:

- general mathematics (including high school algebra and geometry) and drafting
- survey and drafting procedures
- survey instrumentation and functions

Ability to:

- work outdoors in a variety of weather conditions
- learn the operation of surveying instruments
- under direction and supervision, learn the operation of computer software
- assist in preparation of accurate and complete notes, sketches, plans, and reports
- perform drafting work
- perform mathematical calculations quickly and accurately
- understand and execute written and oral instructions
- establish and maintain positive work relationships with those contacted in the performance of required duties

MARIPOSA: Engineering Technician I

MINIMUM QUALIFICATIONS

High school graduation or a GED, one year experience in field engineering, land surveying, construction and/or computer drafting, and possession of a valid California driver's license. One year of technical school training in the areas of land surveying, construction technology, computer-aided drafting/design or equivalent technical fields beyond the high school level may be substituted for the required experience.

Creation Date: 4/88  
Revision Date: 6/99 (B/S 99-195)  
EngTechI

**MARIPOSA COUNTY**

**JOB TITLE:**            Engineering Technician II

**DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES:**

To perform a variety of technical field and office engineering work related to surveys, materials testing, drafting, and design; to conduct inspections; and to perform routine paraprofessional and technical duties. Employees in this classification receive general supervision within a framework of standard policies and procedures. Employees in this class function at the journey level and may perform more difficult engineering and paraprofessional duties.

**SUPERVISOR:**        As Assigned

**TYPICAL DUTIES:**

- Performs survey work including level, chain and/or transit.
- Designs, lays in, profiles and balances vertical and horizontal road realignments and/or public works projects site designs, as assigned.
- Conducts maps and deeds research; plotting for right-of-way, construction or maintenance projects.
- Checks grade during road or other public works construction projects.
- Performs higher level duties in a training capacity.
- Under supervision, uses a computer to perform a variety of survey and design-related calculations.
- Under direction and supervision, prepares records, reports and legal documents.
- Keeps accurate field notes and makes sketches of survey work performed.
- Performs drafting as related to survey and design work on public works plans, profiles, sections and details.



MARIPOSA: Engineering Technician II

TYPICAL DUTIES (Cont'd):

- Operates electronic surveying equipment, such as total station and data collector, and performs computer input of survey data.
- Responsible for assuring field vehicles, equipment and supplies are adequate for planned field tasks.
- Performs field interviews and record-keeping for contract transit operators.
- Assists in the oversight and management of contract transit operators and coordinates with County transit program.
- Performs sample extraction and laboratory and field tests of construction materials, including soils compaction tests using nuclear soils gauge
- Maintains radiation records for all users of the nuclear soils gauge.
- Performs other related duties similar to the above in scope and function as required.

EMPLOYMENT STANDARDS

Knowledge of:

- survey and design, techniques, instrumentation and functions.
- the principles of algebra, geometry, and trigonometry
- surveying and drafting procedures
- computer automated surveying techniques, including total station, data collectors and computer data entry
- personal computer operating systems including CAD software, word processing and data base
- soils and concrete material testing methods

### Ability to:

- operate precision surveying instruments
- prepare accurate and complete notes, sketches, plans and reports
- perform drafting work and to assist in the preparation of engineering designs
- performs mathematical calculations quickly and accurately
- meet the physical requirements necessary to perform required duties of the job
- operate total station, data collector, and perform computer data entry/calculations
- work with computer operation systems, CAD software, word processing, and data base software
- communicate effectively in both oral and written forms
- establish and maintain positive work relationships with those contacted in the performance of required duties

### MINIMUM QUALIFICATIONS:

- Graduation from high school or a GED and 3 years of technical engineering experience in the areas of land surveying, construction inspection, calculations/drafting of construction projects or computer-aided drafting, 2 years of which must have been in engineering or survey work comparable to an Engineering Technician I. Graduation from an accredited 2-year college with technical training in the areas of land surveying, construction technology, engineering technology, computer-aided drafting/design or equivalent may be substituted for 2 years of the above experience requirement, OR graduation from a 4-year college or university with major course work in civil engineering, architecture, construction management or a closely-related field. Possession of a valid California driver's license is required.

MARIPOSA COUNTY

JOB TITLE: Engineering Technician III

DESCRIPTION OF BASIC FUNCTIONS AND RESPONSIBILITIES:

To perform a variety of technical and paraprofessional engineering work; to inspect major and minor subdivision roads and issue private and commercial encroachment permits; to perform preliminary, construction and right-of-way surveys; to prepare plans, legal documents and reports; to perform inspections of construction projects on County roads; and to supervise a survey crew. Employees in this classification receive limited supervision within a framework of standard policies and procedures. Employees in this class function at the advanced journey level and may supervise survey crews and train subordinate engineering technicians.

SUPERVISOR: As assigned.

TYPICAL DUTIES:

- Inspects major and minor subdivision road construction for land developments for compliance with County Standards and Conditions of Approval.
- Participates in and supervises survey work as Chief of Party, using a variety of survey instruments and keeping survey notes; supervises computer-aided drafting activities.
- Prepares drafting plans and profile sheets, "p"-line work sheets, profile work sheets, super-elevation calculations, and right-of-way plats and public works project site layout, grading plans, profile and details.
- Issues, inspects and oversees private and commercial encroachment permits on County and/or Zone of Benefit roads.
- Inspects work completed under the County Grading Ordinance and Improvement Standards.
- Inspects fuel modification when required on subdivision roads.
- Manages the County soils laboratory and materials testing program.

MARIPOSA: Engineering Technician III  
TYPICAL DUTIES (Cont'd):

- Supervises and assists in construction materials sample extraction and complex field and laboratory tests.
- Uses a computer to perform a variety of survey-related tasks and design of public works infrastructure.
- Prepares accurate and complex records, reports, and legal documents.
- Performs hydrology, hydraulic and other engineering calculations, such as the determination of culvert sizes under engineering direction.
- Assists with field reviews and record keeping for contract transit operators.
- Oversees and manages contract transit operators and coordinates with County transit program.
- Manages Zone-of-Benefit road maintenance program.
- Performs other related duties similar to the above in scope and function as required.

EMPLOYMENT STANDARDS

Knowledge of:

- The uses, physical characteristics, sampling and testing of construction materials including Caltrans testing methods for soils, concrete and asphalt.
- The principles of algebra, geometry, trigonometry and complex engineering computations.
- Surveying and drafting procedures, record keeping, and equipment.
- The methods, materials, tools, equipment, and supervision of construction engineering.
- Public works construction plans and specifications.

MARIPOSA: Engineering Technician III

• Knowledge of (Cont'd):

- Principles of supervision and training.

Ability to:

- Operate precision surveying instruments including Total Station data collector and computer data entry software.
- Prepare accurate and complete notes, sketches, plans, and reports.
- Supervise and train others.
- Meet the physical requirements necessary to perform the duties of the job.
- Communicate effectively in both oral and written forms.
- Establish and maintain positive work relationships with those contacted in the performance of required duties.
- Under engineering supervision, use a computer to design public works infrastructure.
- Supervise and assist in the performance of tests and analysis of construction material samples.

MINIMUM QUALIFICATIONS:

High school graduation or a GED and 5 years of experience equivalent to an Engineering Technician II position; OR graduation from an accredited 2-year college with a minimum of 30 units of coursework in the areas of land surveying, construction technology, engineering technology, computer-aided drafting/design or equivalent technical fields and three years of experience equivalent to an Engineering Technician II position; OR graduation from an accredited 4-year college with a degree in civil engineering or a closely-related field and 6 months of experience equivalent to an Engineering Technician II position. Possession of a valid California driver's license is required.