Kansas Department of Transportation

Trainee Handbook

Fall 2012

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KDOT TRAINEE HANDBOOK

The U.S. Department of Transportation (USDOT) established a training program for federally-funded highway projects. The authority to implement and monitor training is found in 23 CFR, Part 230.111 and Executive Order 11246, as amended. The Kansas Department of Transportation selects certain projects with training opportunities for minorities and women and other disadvantaged persons. These projects will have a bid item for training hours and include Special Provision 07-01007- latest revision. The primary objectives are to maintain a pool of qualified construction workers and to correct the historical shortage of minorities and women in the skilled craft area.

NOTE: This information is available in alternative accessible formats. To obtain an alternative format, contact Transportation Information, Eisenhower Building, 700 SW Harrison, 2nd Floor West, Topeka, KS, 66603-3754, or (785) 296-3585 (Voice)/Hearing Impaired - 711.

WHO CAN BE A TRAINEE?

A trainee on a project can be selected from the contractor's existing workforce or can be a new hire for the project. The goal is to hire a minority or a woman in a skilled craft where the contractor is low on minority or women employees. The trainee should learn new skills and earn a higher wage after the training program.

The person selected for training should have dependable work habits, a desire to learn, improve and willingness for the task.

No one can be employed as a trainee in any trade or work classification in which such person has successfully completed a training course or attained journeyman status.

WHAT SHOULD A TRAINEE EXPECT?

WAGES:

The starting pay scale for a trainee can be 60% of the specified prevailing wage for the first half of the training period, 75% for the third quarter and 90% for the last quarter of training. A trainee who is also a union apprentice will be paid union apprentice scale plus fringe benefits. Non-union trainees will be paid any listed fringe benefits in cash.

EXAMPLE:

The project is in Pottawatomie County and the wage scale for experienced Form Setters is $10.50 per hour. The trainee program for this craft is 800 hours. The beginning trainee should receive at least $6.30 per hour. This is below the federal minimum wage of $7.25 per hour. Therefore, $7.25 could be paid for the first 400 hours of training. From hour 401 to 600 the minimum wage would be $7.88 per hour. From hour 601 to 800 the wage would be $9.45 per hour. After 800 hours of training, the trainee would graduate to the full wage of $10.50 per hour. Note: Most contractors do pay wages above the minimum during the training period, however, it is not required that they do so.

TRAINING:

Once a trainee is enrolled, that person shall be trained in the craft throughout the duration of the project, or until training is completed. When training opportunities in the craft are suspended or completed, the training may continue on other KDOT projects, regardless of funding.

The objective is for the trainee to acquire new job skills and continue on as a regular employee after training.

TERMINATION:

No enrolled trainee can be terminated by the contractor, other than for seasonal layoff, without a counseling session by the contractor to explain the reason for the termination. The contractor must give KDOT written notice of the counseling sessions and the reason for termination.

RESPONSIBILITY

Before the contractor will be issued a Notice to Proceed, the training plans must be approved by KDOT from the Area Office and the Office of Civil Rights in Headquarters.

CONTRACTOR:

At the preconstruction conference or earlier, the contractor submits a work schedule for the project with an estimate of the number of training hours available in each proposed craft. Submit a copy of the training program to be used and a Form 1002 (Request for Trainee Approval) for each trainee. The trainee must also be provided with a copy of the training program to be used. The contractor must show the trainee on weekly certified payrolls. The contractor will complete a Form 231 for each week during the training and submit to KDOT with a copy to the trainee weekly. The contractor will provide the trainee with data about the wages at each phase of training. The contractor shall provide each trainee a certificate of completion at the end of the training period. During the training period the contractor shall make at least three (3) written reviews of the progress and discuss each with the trainee. This interaction may be documented on the For 231. Training should include one-on-one feedback between the trainee and their supervisor. The areas to be evaluated include dependability, safety, job attitude and job skills.

TRAINEE:

It is the responsibility of the trainee to arrive at work on time each day and to be properly dressed for the weather and the job. If the trainee is unable to be at work he/she should contact the foreman or superintendent as early as possible. If the trainee has problems related to the job, the problem should be discussed either with the foreman or superintendent before it affects job performance.

RESPONSIBILITY (continued)

KDOT:

AREA ENGINEER:

1. At preconstruction conference receives Form 1002, training plan and work schedules.
2. Forwards Form 1002 to Office of Civil Rights for processing.
3. Allows work on the project only after the training has been approved.
4. Receives weekly Form 231 and verifies with the certified payrolls and job site observations by staff.
5. Forwards Form 231 to Office of Civil Rights.

OFFICE OF CIVIL RIGHTS:

1. Reviews Form 1002/training plan and sends a letter of approval or disapproval to the contractor and the field office.
2. If training is not approved, prompt action must be taken by all parties to gain approval so that the project is not delayed.

REIMBURSEMENT TO THE CONTRACTOR:

The contractor will be reimbursed $2.00 per hour for each hour of actual, verified training on the assigned project as per Form 231. No reimbursement will be provided for training other than on the assigned project that has the training requirement.

In addition, reimbursement for off-site training courses may be made if the contractor does one of the following:

1. Contributes to the cost of training.
2. Provides direct instruction to the trainee.
3. Pays normal wages to the trainee during the off-site training.

SANCTIONS TO THE CONTRACTOR:

Disregard of the trainee requirements of a contract are considered to be a failure to comply with the EEO provisions of the contract. As such, the same contract sanctions as listed in the current contract specification will apply. These could include a monetary penalty.

ASPHALT LAB TECHNICIAN

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. Safety Procedures
   B. Introduction of equipment and how to service

II. Perform Superpave HMA construction test
   A. Gyratory Compaction
   B. Bulk Density
   C. Maximum Specific Gravity
   D. Ignition oven binder content
   E. Moisture Sensitivity (Modified Lottman)
   F. Nuclear Densities

III. Overview of Superpave volumetric mixture design

IV. Superpave mixture data analysis and interpretation following QC/QA special provisions

V. Care and Maintenance

   A. Equipment cleaning, maintenance and calibration
   B. Recording, reporting and filing of data

VI. Job Attitudes

   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor, inspectors and co-workers

Note: Training credit will be given for formal, off-site training courses, such as aggregate field lab and superpave QC/QA.

ASPHALT PAVING MACHINE

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Screed regulation indoctrination and operation
   C. Operation of machine

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

ASPHALT PLANT OPERATOR

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. General health and safety
   B. Safety Procedures
   C. Observation of plant site activities: plant site traffic flow, heavy equipment operation, personnel activities, vendor deliveries, stockpiling
   D. Observation of plant operators

II. Care and Maintenance
   A. Safety Procedure
   B. Routine inspections, servicing, lubricating, making necessary adjustments
   C. Help with plan repairs

III. Actual Plant Operation
   A. Run plant control room
   B. Create scale tickets/invoices for truck drivers
   C. Materials handling – coordinates loading of silos and ensure adequate supply of aggregates
   D. Coordinate ordering and unloading of AC and ensure adequate supply of AC
   E. Prepare necessary reports for payroll, accounting, environmental health and safety
   F. Quality control and quality assurance asphalt production

IV. Job Attitudes
   A. Safe work habits
   B. Quality control and quality assurance habits
   C. Dependability
   D. Cooperation with supervisor and other workers

PAVEMENT SEALANT INSTALLER

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. General health and safety
   B. Safety Procedures
   C. Observation of sealing activities: sealing site traffic flow, equipment operation, site joint preparation, personnel activities

II. Care and Maintenance
   A. Safety Procedure
   B. Routine inspections, servicing, lubricating, making necessary adjustments of product and equipment

III. Actual Surface Preparation of Joints
   A. Safe operation of sand blaster and compressed air to clean out joints
   B. Safe operating procedures

IV. Actual Operation of Equipment
   A. Set up equipment with sealing material – Neoprene, Cold Pour, and Hot Pour
   B. Safe operating procedures
   C. Installation of Neoprene, Cold Pour, and Hot Pour in joints

V. Job Attitudes
   A. Safe work habits
   B. Quality control and quality assurance habits
   C. Dependability
   D. Cooperation with supervisor and other workers

AUTOGRADE OPERATOR

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. General health and safety
   B. Safety Procedures
   C. Observation of paving activities: paving site traffic flow, heavy equipment operation, personnel activities
   D. Observation of autograde operations

II. Care and Maintenance
   A. Safety Procedure
   B. Routine inspections, servicing, lubricating, making necessary adjustments
   C. Help with autograde repairs & set-up/tear down

III. Actual Autograde Operations
   A. Operate autograde controls
   B. Safe operating procedures

IV. Job Attitudes
   A. Safe work habits
   B. Quality control and quality assurance habits
   C. Dependability
   D. Cooperation with supervisor and other workers

BEGINNING EQUIPMENT OPERATOR

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. General health and safety
   B. Safety Procedures
   C. Observation of paving activities: paving site traffic flow, heavy equipment operation, personnel activities

II. Care and Maintenance
   A. Safety Procedure
   B. Routine inspections, servicing, lubricating, making necessary adjustments of equipment

III. Actual Operation of Equipment
   A. Safety operating procedures
   B. Performs duties applicable to equipment being operated

IV. Training and Equipment
   A. The job supervisor will do the training
   B. Equipment the individual could be trained to operator: Water Wagon/Truck, Excavator, Scraper, Roller, Disc, Bulldozer, Tractor, Loader, and/or Grade Checker

V. Job Attitudes
   A. Safe work habits
   B. Quality control and quality assurance habits
   C. Dependability
   D. Cooperation with management and workers

BRIDGE CONSTRUCTION SPECIALIST

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Job Site Safety
   A. Observation of the various aspects of bridge construction
   B. Safety Procedures
   C. Jobsite layout & housekeeping

II. Applied Techniques of Bridge Construction
   A. Safety procedure for each phase
   B. Mobilization of equipment and materials
   C. Removal of existing structure
   D. Substructure Construction: including forming, reinforcing, pouring and stripping
   E. Beam and girder setting
   F. Deck forming and systems
   G. Reinforcing layout and placement
   H. Deck Pour
   I. Formwork stripping & salvage for re-use
   J. Rail Work

III. Blueprint or Construction Plan Reading and Application

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperate with supervisors and other workers

BULLDOZER OPERATOR

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observations
   - A. Safety Procedures
   - B. Observation (as a passenger) of machine in operation
   - C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   - A. Safety Procedures
   - B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   - A. Safe operating procedures
   - B. Movement and stockpiling of material
   - C. Pushing and rough grading
   - D. Clearing and grubbing
   - E. Finish grading
   - F. Special applications

IV. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

CARPENTER

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Safe Use of Tools of the Trade
   - A. Power and hand tools
   - B. Materials selection

II. Applied Techniques of Highway Construction Carpentry
   - A. Safety procedures
   - B. Pier, pile and cap formwork
   - C. Decking formwork
   - D. Parapet and hand railing formwork
   - E. Endwall formwork
   - F. Box culverts, inlets and headwall formwork
   - G. Diagrams or oral instructions
   - H. Saw lumber to blueprint dimension
   - I. Prepare layout using rule, framing square and calipers

III. Blueprint or Construction Plans Reading and Application

IV. Basic Form Design Familiarity
   - A. Safety Procedures

V. Stripping and Salvage of Forms for Re-Use
   - A. Remove shoring and bracing from forms
   - B. Oil metal forms

VI. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

CARPENTER, ROUGH

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Safe Use of Tools of the Trade
   A. Power and hand tools
   B. Materials selection
   C. Maintenance of work area

II. Applied Techniques of Highway Construction Carpentry
   A. Safety procedures
   B. Pier, pile and cap formwork
   C. Decking formwork
   D. Parapet and hand railing formwork
   E. Endwall formwork
   F. Box culverts, inlets and headwall formwork

III. Blueprint or Construction Plans Reading and Application

IV. Basic Form Design Familiarity
   A. Safety procedures

V. Stripping and Salvage of Forms for Re-Use
   A. Safety procedures

VI. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

CONCRETE FINISHING (PAVING)

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety Procedures
   B. Observation of use of straight edges and steel trowels
   C. Observation of forming and finishing of edges and joints

II. Care and Maintenance
   A. Safety procedures
   B. Routine cleaning work area and materials; holding materials, tool, and handling canvas belting or burlap strips

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Basic operation of tools
   C. Use of straight edges and steel trowels
   D. Forming and finishing edges, joints, curbs, and gutters

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

CRANE OR ANY MACHINE POWER SWING EQUIPMENT

Approximate training time: 30 weeks OR 1,200 hours

I. Orientation and Observation
   - A. Safety procedures
   - B. Observation (as a passenger) of machine in operation
   - C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   - A. Safety procedures
   - B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   - A. Safe operating procedures
   - B. Excavation for footings and removal of unsuitable materials
   - C. Loading and unloading materials
   - D. Trenching for pipe, etc.
   - E. Hoisting materials
   - F. Placement of beams, pipe, girders, piles, etc.
   - G. Charge hoppers with materials on asphalt and concrete plants

IV. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

FOREMAN/FOREWOMAN

Approximate training time: 30 weeks OR 1,200 hours

I. Job Site Safety
   A. Conduct weekly tool box safety meeting for crew
   B. Inspect tools and equipment to insure safe operating condition
   C. Insure that company safety policies are followed

II. Clerical
   A. Complete daily time sheets for crew
   B. Complete daily construction activity log, including subcontractors
   C. Complete weekly safety meeting form
   D. Document any problems or special conditions encountered

III. Construction
   A. Direct the daily construction activities for crew
   B. Direct the daily construction activities for the subcontractors
   C. Coordinate equipment and material deliveries
   D. Responsible for the engineering layout of the structure based on the line and grade hubs supplied by the project surveyor. This includes the use of both a transit and level and basic survey knowledge.
   E. Responsible for the production planning to insure that the project is completed on time and budget
   F. Responsible for the quality assurance of construction activities

FORM SETTER
(Concrete Pavement and Curb and Gutter)

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of placing of forms
   C. Observation of form removal

II. Care and Maintenance
   A. Safety procedures
   B. Help strip forms and clean work areas

III. Actual Operation of Form Setting
   A. Safe operating procedures
   B. Help set and align forms
   C. Check form alignment for grade and line

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

FORM SETTER (STRUCTURES)

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of placing forms
   C. Observation of form stripping and setting precast concrete

II. Care and Maintenance
   A. Safety procedures
   B. Help strip forms and clean work areas

III. Actual Operation of Form Setting
   A. Safe operating procedures
   B. Hold and help align forms. Drive stakes for braces, and help erect scaffolding
   C. Observe and assist in setting precast concrete
   D. Measure space between forms, fit together, line, plumb vertically, set to elevation
   E. Check forms while concrete is being poured

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

HEAVY EQUIPMENT MECHANIC

Approximate training time: 1,200 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation
   C. Observation of machine in operation (as bystander)
   D. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Fuel equipment
   B. Lubricate, change fuel and oil filters, change oil, add oil, check coolant, check hydraulic system – on all types of equipment
   C. Take oil samples for analysis
   D. Inspect equipment for oil leaks, loose bolts, unusual wear or damage to equipment
   E. Learn to recognize tire problems and hot to change tires in the field
   F. Operate steam cleaner
   G. Observe problem solving (with mechanic) for various types of equipment
   H. Perform problem solving on equipment under direction of mechanic
   I. Make minor adjustments and repairs as skills improve
   J. Increase types of adjustments and repairs as skills improve
   K. Keep daily reports for equipment information system
   L. Assist mechanic in cleaning of equipment, washing parts
   M. Rotate to different types of equipment for repair and maintenance

III. Operation of Equipment
   A. Safe operating of equipment
   B. Operate to move, load or unload machines
   C. Special application and functions

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

HEAVY SINGLE AXLE TRUCK DRIVER

Approximate training time: 15 weeks OR 600 hours

Trainees will be paid at least 60% of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, at least 75% for the third quarter of the training period and at least 90% for the fourth quarter of the training period.

Wages after successful completion of training program: "Equal to or greater than the prevailing wage in the area of the state where employed."

I. Orientation and Observation
   - A. General health and safety
   - B. Safety procedures regarding jobsites
   - C. Observation of loading, securing load, routing, pick-up and delivery of materials/supplies – using flatbed truck
   - D. Observation of loading, securing load, routing, pick-up and delivery of materials/supplies – using tank wagon & pickup

II. Care and Maintenance
   - A. Safety procedures for various deliveries to work areas
   - B. Truck maintenance and cleaning – flatbed truck
   - C. Truck maintenance and cleaning – flatbed wagon

III. Actual Operation of Single Axle Truck Operations
   - A. Safe and defensive operating procedures – flatbed
   - B. Safe and defensive operating procedures – tank wagon
   - C. Deliver parts/misc. to production areas
   - D. Pulling trailer and maneuvering work area
   - E. Load & secure parts/materials – flatbed
   - F. Load & secure parts/materials – tank wagon & pickup
   - G. Maneuvering through project work areas

IV. Job Attitudes
   - A. Safe work habits
   - B. Quality control and quality assurance habits
   - C. Dependability
   - D. Cooperation with supervisor and other workers

MOTOR GRADER OPERATOR

Approximate training time: 30 weeks OR 1,200 hours

I. Orientation and Observation
   - A. Safety procedures
   - B. Observation (as a passenger) of machine in operation
   - C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   - A. Safety procedures
   - B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   - A. Safe operating procedures
   - B. Scraping and leveling dirt on roadway
   - C. Spreading and mixing materials on roadway
   - D. Shaping and blading subgrades
   - E. Balancing and rough shaping base course materials
   - F. Fine grading and dressing of shoulders and slopes

IV. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

OFF-ROAD TRUCK OPERATOR
(CAT/EUCLID)

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubricating, and servicing

III. Actual Operations of Equipment
   A. Safe operating procedures
   B. Loading procedures
   C. Dumping/spreading material
   D. Haul road right-of-way

IV. Job Attitude
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

PAVING EQUIPMENT OPERATOR

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubrication and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Screed regulation indoctrination and operation
   C. Operation of machine

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

PILE DRIVER/OPERATOR

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routing fueling, lubricating and servicing

III. Actual Operation of Equipment'
   A. Safe operating procedures
   B. Basic operation of crane or pile driving rig in hoisting and moving
   C. Placement of pile in preparation for driving
   D. Seating of pile hammer on pile in preparation for driving

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

PIPELAYER
(Sanitary Sewer and Waterline)

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of grade control and laying of pipe
   C. Study of various types of pipe and related materials

II. Care and Maintenance
   A. Safety procedures
   B. Ditch preparation, handle materials and tools

III. Actual Handling of Pipe and Tools
   A. Ditch grading with compressed air driven or hand spade
   B. Handle materials, assist in lowering pipe
   C. Work with pipelayer in laying all types of pipe and duct. Adjust pipe to elevation, insert spigot end of pipe into bell end of last laid pipe.

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

QUALITY CONTROL TECHNICIAN

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. Safety procedures
   B. Introduction of equipment and how to service

II. Perform Cement Treated base Sampling and Testing
   A. Aggregate sampling methods and procedures
   B. Sample splitting and sieve analysis procedures
   C. Mix sampling methods and procedures
   D. Fabrication of test specimens
   E. Curing and handling of test specimens
   F. Observance and understanding of strength and density testing

III. Perform Portland Cement Concrete Sampling and Testing
   A. Coarse and fine aggregate sampling methods and procedures
   B. Sample splitting and sieve analysis procedures
   C. Plastic concrete sampling and procedures
   D. Performance of plastic tests
   E. Fabrication of strength specimens
   F. Curing and handling of specimens
   G. Cover meter use and testing procedures

IV. Cement Treated Base and Portland Cement Concrete Data Analysis and Interpretation Following QC/QA Special Provisions

V. Care and Maintenance
   A. Equipment cleaning, maintenance and calibration
   B. Recording, reporting and filing of data

VI. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisors, inspectors and other workers

REINFORCING STEEL SETTER (STRUCTURES)

Approximate training time: 20 weeks OR 800 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of steel being set and welding or tying of rods

II. Care and Maintenance
   A. Safety procedures
   B. Steel bar placement

III. Actual Steel Setting
   A. Rod fastening
   B. Rod cutting
   C. Rod welding or tying
   D. Rod placement
   E. Fabrication of reinforcement assembly

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

ROLLER OR COMPACTOR OPERATOR
(Self-Propelled)

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation

II. Care and Maintenance
   A. Safety procedures
   B. Routing fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Roll base course to desired compaction
   C. Roll asphalt surfaces to desired compaction and smoothness and assure proper sealing of joints

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

ROLLER OPERATOR
(Finish Operator)

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Roll base course to desired compaction
   C. Roll asphalt surfaces to desired compaction and smoothness and assure proper sealing of joints

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

SCRAPER OPERATOR

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routing fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Loading
   C. Spreading material
   D. Rough roadway grading
   E. Compaction of embankment

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

SERVICE PERSON (Equipment)

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   - A. Safety procedures
   - B. Observation (as a passenger) of machine in operation
   - C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   - A. Fuel equipment
   - B. Lubricate, change fuel and oil filters, change oil, add oil, check coolant, check hydraulic system – on all types of equipment
   - C. Take oil samples for analysis
   - D. Inspect equipment for oil leaks, loose bolts, unusual wear or damage to equipment
   - E. Learn to recognize tire problems and how to change tires in the field
   - F. Operate steam cleaner
   - G. Keep daily reports for equipment information system
   - H. Assist mechanics in cleaning of equipment, washing of parts and field repair work
   - I. Make minor adjustments and repairs to equipment

III. Operation of Equipment
   - A. Safe operating of equipment
   - B. Operate to move, load or unload machines
   - C. Special application and functions

IV. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

STEEL WORKER (Structural)

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of steel work

II. Care and Maintenance
   A. Safety procedures
   B. Tool review

III. Operating with Steel Workers
   A. Raise and place fabricated structural steel
   B. Emphasis on girders, plates and columns
   C. Fasten steel members together by welding, bolting and riveting
   D. Heat rivets, signal erection crane, splice cable
   E. Rig equipment

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

STRINGLINE PERSON/GRADE CHECKER

Approximate training time: 750 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation of setting stringline or stakes to grade

II. Applied Techniques of Highway Construction Stringline Setter or Grade Checker
   A. Handling of stringline tools
   B. Set-up and operation of level and grade rod
   C. Planning stringline set-up
   D. Setting stringline to graded hubs
   E. Reading slope stakes
   F. Setting blue tops or lathe to grade with level

III. Blueprint or Construction Plan Reading and Application

IV. Orientation to Stringline Controlled Equipment and/or Finish Grading Equipment
   A. Purpose of stringline
   B. Stringline sensing equipment
   C. Finish grading equipment

V. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

SURVEYING TECHNICIAN

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety
   B. Introduction of new and review of all equipment used and the services performed by that equipment
   C. Protection of work already performed

II. Applied Techniques Toward Construction Surveying
   A. Plan reading- should become familiar with different aspects of plans
   B. Record keeping- learn to keep distances and elevation in field books
   C. Learn to compute information to be written on stakes

III. Operation of Equipment
   A. Learn to write up earthwork and paving stakes, as well as learn to set grade stakes
   B. Review the use of a rod and range pole
   C. Learn to set up and read a level
   D. Transit- learn to set up and adjust to get a straight line and turn correct angles

IV. Care and Maintenance
   A. Equipment- routine cleaning, lubricating and servicing
   B. Protection of work already performed

V. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

**Direct supervision is vital in all aspects of this job until the individual is capable of performing each task accurately.

TRACTOR – OVER 80 HP
TRACTOR, BACKHOE AND/OR FRONT END LOADER

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   - A. Safety procedures
   - B. Observation (as a passenger) of machine in operation
   - C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   - A. Safety procedures
   - B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   - A. Safe operating procedures
   - B. Loading materials
   - C. Excavation
   - D. Special applications

IV. Job Attitudes
   - A. Dependability
   - B. Safe work habits
   - C. Cooperation with supervisor and other workers

TRACTOR OPERATOR – 80 HP AND LESS
TRACTOR, BACKHOE AND/OR FRONT END LOADER

Approximate training time: 15 weeks OR 600 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Loading materials
   C. Excavating
   D. Charge hoppers with materials on asphalt and concrete plants
   E. Special applications

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers

TRENCHING MACHINE

Approximate training time: 25 weeks OR 1,000 hours

I. Orientation and Observation
   A. Safety procedures
   B. Observation (as a passenger) of machine in operation
   C. Starting and manipulating levers for moving equipment and attachments

II. Care and Maintenance
   A. Safety procedures
   B. Routine fueling, lubricating and servicing

III. Actual Operation of Equipment
   A. Safe operating procedures
   B. Excavating for footings and removal of unsuitable materials
   C. Loading and unloading equipment
   D. Trenching for pipe, etc.

IV. Job Attitudes
   A. Dependability
   B. Safe work habits
   C. Cooperation with supervisor and other workers