

Section 107. — LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 Laws to be Observed. Follow the requirements of FAR Clause 52.236-7 Permits and Responsibilities.

Comply with all applicable laws, ordinances, safety codes, regulations, orders, and decrees. Protect and indemnify the County and its representatives against any claim or liability arising from or based on the alleged violation of the same.

Comply with all permits and agreements obtained by the County for performing the work that is included in the contract. Obtain all additional permits or agreements and modifications to County-obtained permits or agreements that are required by the Contractor's methods of operation. Furnish copies of all permits and agreements.

107.02 Protection and Restoration of Property and Landscape. Follow the requirements of FAR Clause 52.236-9 Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements.

Preserve public and private property, and protect monuments established for the purpose of perpetuating horizontal, vertical, cadastral, or boundary control. When necessary to destroy a monument, reestablish the monument according to applicable state statute or by the direction of the agency or individual who established the monument.

Do not disturb the area beyond the construction limits. Replace trees, shrubs, or vegetated areas damaged by construction operations as directed and at no cost to the County. Remove any damaged limbs of existing trees by an approved arborist.

Do not excavate, remove, damage, alter, or deface any archeological or paleontological remains or specimens. Control the actions of employees and subcontractors on the project to ensure that protected sites are not disturbed or damaged. Should any of these items be encountered, suspend operations at the discovery site, notify the CO, and continue operations in other areas. The CO will inform the Contractor when operations may resume at the discovery site.

When utilities are to be relocated or adjusted, the County will notify all utility owners affected by the relocations or adjustments. The relocations or adjustments will be performed by others or will be included in the contract work.

Before beginning work in an area, the Contractor shall have all utility owners locate their utilities. Protect utilities from construction operations. Cooperate with utility owners to expedite the relocation or adjustment of their utilities to minimize interruption of service and duplication of work.

If utility services are interrupted as a result of damage by the construction, immediately notify the utility owner, the CO, and other proper authorities. Cooperate with them until service is restored. Do not work around fire hydrants until provisions for continued service are made and approved by the local fire authority.

If utility adjustment work, not included in the contract, is required, compensation for the work will be provided under applicable clauses of the contract. Satisfactorily repair damage due to the fault or negligence of the Contractor at no cost to the County.

Repair of damage to underground utilities that were not shown on the plans or identified before construction, and not caused by the fault or negligence of the Contractor, will be paid for by the County.

107.03 Bulletin Board. Furnish a weatherproof bulletin board of suitable size and construction for continuous display of posters and other information required by the contract. Erect and maintain the bulletin board at a conspicuously accessible location on the project and remove and dispose of it after project final acceptance.

Display each of the following documents on the bulletin board:

- (a) "Equal Opportunity" poster, according to FAR Clause 52.222-26 Equal Opportunity;
- (b) "Notice" that the project is subject to Title 18, U.S. Criminal Code, Section 1020, FHWA Form 1022;
- (c) "Notice to Employees" poster, WH-1321, regarding proper pay;
- (d) "Right to Safe and Healthful Workplace" poster, according to Title 29, Code of Federal Regulations, Part 1903;
- (e) "General Wage Decision" contained in the contract; and
- (f) Company equal employment opportunity policy.

107.04 Railroad Protection. The County will obtain the necessary permits and agreements from the railroad for specified contract work for relocating railroads or for work at railroad crossings. Make arrangements for all other work that, due to the method of operation, may also impact the railroad. Furnish copies of all permits and agreements.

Conduct the work covered by the railroad permit or agreement in a manner satisfactory to the railroad. Do not interfere with railroad operations. If the construction damages railroad property, reimburse the railroad for all damages, or at the railroad's option, repair the damage at no cost to the County.

Do not cross railroad tracks, with vehicles or equipment, except at existing and open public grade crossings or railroad approved temporarily grade crossings. If there is a need for a temporarily grade crossing, make the necessary arrangements with the railroad for its construction, protection, and removal. Reimburse the railroad for all temporary grade crossing work or, at the railroad's option, perform the work.

The requirements of the railroad are as follows:

- (a) Indemnify and hold harmless the railroad according to Subsection 107.05. Carry insurance meeting the following minimums:

- (1) Worker's compensation insurance. Minimum required by law.

- (2) Bodily injury liability insurance. \$2,000,000 each occurrence.
- (3) Property damage liability insurance. \$2,000,000 aggregate coverage.
- (4) Railroad protective public liability and property damage liability insurance. \$2,000,000 each occurrence. \$6,000,000 aggregate coverage.

(b) Notify the railroad in writing not less than 1 week before beginning construction within the railroad right-of-way. Secure permission from the railroad before performing work within the railroad right-of-way. Confer with the railroad concerning clearance requirements, operations, and safety regulations.

(c) Reimburse the railroad for all flaggers and watchers provided by the railroad because of the work. The railroad generally requires 2 watchers or flaggers during construction operations that interfere with the railroad's tracks or traffic, that violate the railroad's operating clearances, or that involve a reasonable probability of accidental hazard to railroad traffic.

Flaggers are also furnished whenever, in the railroad's opinion, such protection is needed. Notify the railroad 36 hours in advance of required protective services.

(d) Railroad employees are paid the prevailing railroad hourly rate for regularly assigned 8-hour days for the work classification and overtime according to labor agreements and schedules in effect when the work is performed.

(e) Wage rates are subject to change by law or agreement between the railroad and employees and may be retroactive. If the wage rates change, reimburse the railroad based on the new rates.

(f) Reimburse the railroad monthly for the cost of all services performed by the railroad. Furnish satisfactory evidence that the railroad has received full reimbursement before final acceptance.

(g) Do not store any material, supplies, or equipment closer than 15 feet from the centerline of any railroad track.

(h) Upon completion of the work, remove all equipment and surplus material, and leave the railroad right-of-way in a neat condition satisfactory to the railroad.

107.05 Responsibility for Damage Claims. Indemnify and hold harmless the County, its employees, and its consultants from suits; actions; or claims brought for injuries or damage received or sustained by any person, persons, or property resulting from the construction operations or arising out of the negligent performance of the contract.

Procure and maintain until final acceptance of the contract, liability insurance of the types and limits specified below. Obtain insurance from companies authorized to do business in the appropriate state. The insurance shall cover all operations under the contract whether performed by the Contractor or by subcontractors.

Before work begins, furnish "*certificates of insurance*" certifying that the policies will not be changed or canceled until 30 days written notice has been given to the County. Insurance coverage in the minimum amounts set forth below shall not relieve the Contractor of liability in excess of the coverage.

Carry insurance meeting the following minimums:

- (a) Worker's compensation insurance. Minimum required by law.
- (b) Comprehensive or commercial general liability insurance.
 - (1) Personal injury and property damage coverage;
 - (2) Contractual liability coverage;
 - (3) Completed operations liability coverage;
 - (4) \$1,000,000 combined single limit for each occurrence; and
 - (5) \$2,000,000 general aggregate limit.
- (c) Automobile Liability Insurance. \$1,000,000 combined single limit for each occurrence.

107.06 Contractor's Responsibility for Work. Assume responsibility for all work until final acceptance except as provided in Subsection 106.07. This includes periods of suspended work. Protect the work against injury, loss, or damage from all causes whether arising from the execution or non-execution of the work.

Maintain public traffic. Rebuild, repair, restore, and make good all losses, injuries, or damages to any portion of the work. This includes losses, injuries, or damages caused by vandalism, theft, accommodation of public traffic, and weather that occurs during the contract.

The County will only be responsible for losses, injuries, and damages to work put in place that was caused by declared enemies and terrorists of the Nation and cataclysmic natural phenomenon such as tornadoes, earthquakes, major floods, and other officially declared natural disasters. The County will only be responsible for costs attributable to repairing or replacing damaged work. The County will not be responsible for delay costs, impact costs, or extended overhead costs.

107.07 Furnishing Right-of-Way. The County will obtain all right-of-way.

107.08 Sanitation, Health, and Safety. Follow the requirements of FAR Clause 52.236-13 Accident Prevention.

Observe rules and regulations of Federal, State, and local health officials. Do not permit any worker to work in surroundings or under conditions that are unsanitary, hazardous, or dangerous.

Admit any OSHA inspector or other legally responsible official involved in safety and health administration to the project work site upon presentation of proper credentials.

Report accidents on forms used to report accidents to other agencies or insurance carriers. Maintain a "Log of Work Related Injuries and Illnesses," OSHA Form 300, and make it available for inspection.

Install a reverse signal alarm audible above the surrounding noise level on all motorized vehicles having an obstructed view and on all earth-moving and compaction equipment.

107.09 Legal Relationship of the Parties. In the performance of the contract, the Contractor is an independent contractor and neither the Contractor nor anyone used or employed by the Contractor shall be an agent, employee, servant, or representative of the County. The Contractor's independent contractor status does not limit the County's general rights under the contract.

107.10 Environmental Protection. Do not operate mechanized equipment or discharge or otherwise place any material within the wetted perimeter of any waters of the U.S. within the scope of the Clean Water Act (33 USC § 1251 et seq.). This includes wetlands unless authorized by a permit issued by the U.S. Army Corps of Engineers according to 33 USC § 1344, and, if required, by any State agency having jurisdiction over the discharge of material into the waters of the U.S. In the event of an unauthorized discharge:

- (a) Immediately prevent further contamination;
- (b) Immediately notify appropriate authorities; and
- (c) Mitigate damages as required.

Comply with the terms and conditions of any permits that are issued for the performance of work within the wetted perimeter of the waters of the U.S.

Separate work areas, including material sources, by the use of a dike or other suitable barrier that prevents sediment, petroleum products, chemicals, or other liquid or solid material from entering the waters of the U.S. Use care in constructing and removing the barriers to avoid any discharge of material into, or the siltation of, the water. Remove and properly dispose of the sediment or other material collected by the barrier.

Repair leaks on equipment immediately. Do not use equipment that is leaking. Keep a supply of acceptable absorbent materials at the job site in the event of spills. Acceptable absorbent materials are those that are manufactured specifically for the containment and clean up of hazardous materials.

107.11 Protection of Forests, Parks, and Public Lands. Comply with all regulations of the State fire marshal, conservation commission, Forest Service, National Park Service, Bureau of Land Management, Fish & Wildlife Service, Bureau of Indian Affairs, or other authority having jurisdiction governing the protection of land including or adjacent to the project.

107.12 Contractor's Responsibility for Utilities. At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, and power

companies or are adjacent to other property, damage to which might result in considerable expense, loss or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, the duplication or rearrangement work may be reduced to a minimum and that services rendered by those parties will not be necessarily interrupted. In the event of interruption to water or utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the said authority in the restoration of service. If utility service is interrupted cooperation will be required until the service is restored. No work shall be undertaken around fire hydrants until provisions for continued service have been approved by the local fire authority. Any damage to underground utilities not shown on the plans, due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor, shall be repaired by the Contractor, if so directed by the Contracting Officer, and payment will be made in accordance with an approved contract modification.

Section 108. — PROSECUTION AND PROGRESS

108.01 Commencement, Prosecution, and Completion of Work. Follow the requirements of FAR Clause 52.211-10 Commencement, Prosecution, and Completion of Work.

A preconstruction conference will be held after the contract is awarded and before beginning work. Seven days before the preconstruction conference, furnish three copies of the preliminary construction schedule according to Section 155.

108.02 Subcontracting. Follow the requirements of FAR Clauses 52.219-14 Limitations on Subcontracting, 52.222-11 — Subcontracts (Labor Standards), and 52.236-1 Performance of Work by the Contractor.

Subcontracting does not relieve the Contractor of liability and responsibility under the contract and does not create any contractual relation between subcontractors and the County. The Contractor is liable and responsible for any action or lack of action of subcontractors.

Within 14 days of subcontract award, submit an SF 1413 with Part I completed. Complete other forms that may be provided by the County to clearly show the work subcontracted and the total dollar amount of the subcontract. For subcontracts involving on-site labor, require the subcontractor to complete Part II of the SF 1413 and complete other forms that may be provided by the County. Submit a separate statement documenting the cumulative amount of all on-site subcontracts to date as a percentage of the original contract amount. Furnish this information on all subcontracts at lower tiers.

In FAR Clauses 52.2 19-8 Utilization of Small Business Concerns and 52.232-27 Prompt Payment for Construction Contracts, the subcontracts include both on-site and off-site work and supply contracts. In FAR Clause 52.219-14 Limitations on Subcontracting or in FAR Clause 52.236-1 Performance of Work by the Contractor, the percentage of work performed on-site by the Contractor will be computed as 100 percent less the combined initial dollar amount of all subcontracts involving on-site labor as a percent of the original dollar amount of the contract.

108.03 Determination and Extension of Contract Time. Follow the requirements of FAR Clause 52.211-10 Commencement, Prosecution, and Completion of Work.

Only delays or modifications that affect critical activities or cause non-critical activities to become critical will be considered for time extensions.

When Critical Path Method schedules are used, no time extension will be made for delays or modifications that use available float time as shown in the current construction schedule required by Section 155.

Time will not be extended for a claim that states insufficient time was provided in the contract.

When requesting a time extension, follow the applicable contract clauses. Make the request in writing and include the following:

- (a) Contract clause(s) under which the request is being made.
- (b) Detailed narrative description of the reasons for the requested contract time adjustment including the following:
 - (1) Cause of the impact affecting time;
 - (2) Start date of the impact;
 - (3) Duration of the impact;
 - (4) Activities affected; and
 - (5) Methods to be employed to mitigate the impact.
- (c) Suggested new completion date or number of days supported by current and revised construction schedules according to Section 155.

108.04 Failure to Complete Work on Time. Follow the requirements of FAR Clause 52.211-12 Liquidated Damages — Construction.

Liquidated damages in the amount specified in Table 108-1 will be assessed for each day beyond the time allowed to complete the contract until substantial completion of the work.

If a winter shutdown occurs during this period, liquidated damages in an amount equal to 10 percent of the amount specified in Table 108-1 will be assessed for each day until work resumes at which time full liquidated damages will be assessed.

Liquidated damages in an amount equal to 20 percent of the amount specified in Table 108-1 will be assessed for each day beyond the time allowed to complete the contract beginning with the day after substantial completion and ending with the date of final completion and acceptance.

Liquidated damages will not be assessed for the following:

- (a) The day of the final inspection;
- (b) Days required to perform work added to the contract after substantial completion including items identified during the final inspection that were not required before that time; or
- (c) Delays by the County after all work is complete and before a formal acceptance is executed.
- (d) Periods of time when all work is complete but acceptance is delayed pending the plant establishment period or similar warranty period.

**Table 108-1
Charge for Liquidated Damages for Each Day
Work Is Not Substantially Completed**

Original Contract Price		Daily Charge
From More Than —	To and Including —	
\$ 0	\$ 1,000,000	\$500
1,000,000	2,000,000	1,100
2,000,000	5,000,000	2,200
5,000,000	10,000,000	2,700
10,000,000	and more	3,300

108.05 Stop Order. The CO may order the performance of the work to be stopped, either in whole or in part, for such periods deemed necessary due to the following:

- (a) Weather or soil conditions considered unsuitable for prosecution of the work; or
- (b) Failure of the Contractor to:
 - (1) Correct conditions unsafe for the workers or the general public;
 - (2) Carry out written orders given by the CO; or
 - (3) Perform any provision of the contract.

No adjustment in contract time or amount will be made for stop orders issued under (a) or (b) above except an adjustment in contract time, as provided by FAR Clause 52.249-10 Default (Fixed-Price Construction), may be made when the Contractor is able to demonstrate that the weather was unusually severe based on the most recent 10 years of historical data.

108.06 Methods and Equipment. All equipment used on the Project shall be of sufficient size and mechanical condition to meet the requirements of the work and to produce a satisfactory quality of work. Equipment used shall not cause injury to the roadway, adjacent property, or other highways.

When the methods and equipment to be used are specified, other methods and equipment shall not be used unless requested in writing and approved by the County. The request shall include a description of the methods and equipment proposed and the reasons for making the change. If approval is given, the Contractor shall be responsible for producing work meeting the Contract requirements. If the Contracting Officer's Representative determines that the work produced does not meet Contract requirements, the use of the substitute methods or equipment shall be discontinued and the remaining

work shall be completed with the specified methods and equipment. Deficient work shall be removed and replaced or repaired to the specified quality by and at the Contractor's expense. No change will be made in the basis of payment for the construction items involved nor in Contract time as a result of approving a change in methods or equipment.

Section 108. — LIMITATION OF OPERATIONS

These Special Provisions amend and where in conflict, supersede applicable sections of the 2009 Standard Specifications for Highway Construction, English and Metric and applicable FAR Clauses.

108.12 Limitation of Operations

- (a) **General.** The following items set forth the lane rental fees for lane restrictions. Situations resulting from conditions not controlled by the Contractor causing lost time such as natural disasters, utility conflicts, or unusually severe weather will not be considered a basis for assessment of lane rental fees when the delay occurs after the lane restriction has been set. Waiver of lane rental due to conditions not controlled by the Contractor will only be considered when the Contractor re-opens the lane(s) within thirty (30) minutes of the onset or discovery of these conditions.

If necessary, the Contractor shall be responsible for signing a detour route at no additional cost to the Owner.

- (b) **Traffic Control Plan.** The Contractor shall submit a detailed Traffic Control Plan (TCP), compiled by an ATSSA Certified Worksite Supervisor, for the Engineer's approval. The TCP shall include, but is not limited to: the dates and times for lane restrictions, ramp closures, traffic stoppages, law enforcement surveillance, alternate routes, additional signing, portable changeable message boards, the use of Type 'C' Advanced Warning Devices, and the use of flagmen. The Plan shall contain provisions for temporarily reopening all lanes in emergency situations. The Contractor shall submit a detailed sequence of operation which corresponds to the TCP for this project. Failure to receive formal approval of the TCP prior to the implementation shall justify assessment of lane rental.

(c) **I-44**

- (1) **General.** The Contractor will not be allowed to close any through lanes of I-44 except as shown in the approved Traffic Control Plan or approved by the Engineer, with concurrence of the OTA Construction Engineer. Any

closure of a through traffic lane outside the allowed time extents will be assessed a lane rental fee of \$5,000 per lane per hour. Total closure in either direction of I-44 will not be permitted. Any occurrence of total closure will be assessed a lane rental of \$50,000 per direction per hour.

(2) **Holidays.** No work will be allowed within the Clear Zone (30 feet from the travelled edge) on I-44 during the holiday periods listed below.

- New Year's Day
- Memorial Day
- 4th of July
- Labor Day
- Thanksgiving
- Christmas Day

Holiday Day of Week	Holiday Period Lane Closures Prohibited
Monday	Friday, Saturday, Sunday, Monday
Tuesday	Saturday, Sunday, Monday, Tuesday
Wednesday	Tuesday, Wednesday, Thursday
Thursday	Wednesday, Thursday, Friday, Saturday, Sunday
Friday	Thursday, Friday, Saturday, Sunday
Saturday	Friday, Saturday, Sunday
Sunday	Friday, Saturday, Sunday

Section 109. — MEASUREMENT AND PAYMENT

109.01 Measurement of Work. The Contractor shall take and record measurements and perform calculations to determine pay quantities for invoicing work performed. Take or convert all measurements of work according to United States customary measure.

Unless otherwise specified, measure when the work is in place, complete, and accepted. Measure the actual work performed, except do not measure work outside the design limits or other adjusted or specified limits (staked limits). Measure structures to the lines shown on the plans or to approved lines adjusted to fit field conditions.

Take measurements as described in Subsection 109.02 unless otherwise modified by the Method of Measurement Subsection of the Section controlling the work being performed.

Remeasure quantities if it has been determined that any portion of the work is acceptable but has not been completed to the lines, grades, and dimensions shown on the plans or established by the CO.

Submit measurement notes to the CO within 24 hours of completing the work. For on-going work, submit measurement notes weekly. When work is not complete, identify the measurement as being an interim measurement. Submit the final measurement when the installation is completed. Measurement notes form the basis of the County's receiving report (see Subsection 109.08(d)). For lump sum items, submit documentation to support invoiced progress payment on a monthly basis.

Use an acceptable format for measurement records. As a minimum, include the following information in all records of measurement:

- (a) Project name and number;
- (b) Contract item number;
- (c) Date the work was performed;
- (d) Location of the work;
- (e) Measured quantity;
- (f) Calculations made to arrive at the quantity;
- (g) Supporting sketch and details as needed to clearly define the work performed and the quantity measured;
- (h) Names of persons measuring the work;
- (i) Identification as to whether the measurement is interim or final; and
- (j) Signed certification statement by the persons taking the measurements, performing the calculations, and submitting them for payment that the measurement and calculations are correct to the best of their knowledge and that the quantity being measured is subject to direct payment for the identified item under the contract.

109.02 Measurement Terms and Definitions. Unless otherwise specified, the following terms are defined as follows:

(a) **Acre.** 43,560 square feet. Make longitudinal and transverse measurements for area computations horizontally unless specified on the ground surface. Do not make deductions from the area computation for individual fixtures having an area of 500 square feet or less.

(b) **Contract Quantity.** The quantity to be paid is the quantity shown in the bid schedule. The contract quantity will be adjusted for authorized changes that affect the quantity or for errors made in computing this quantity. If there is evidence that a quantity specified as a contract quantity is incorrect, submit calculations, drawings, or other evidence indicating why the quantity is in error and request, in writing, that the quantity be adjusted.

(c) **Cubic Yard.**

(1) **Cubic Yard in Place.** Measure solid volumes by a method approved by the CO or by the average end area method as follows:

- (a) Take cross-sections of the original ground and use with design or staked templates or take other comparable measurements to determine the end areas. Do not measure work outside of the established lines or slopes.
- (b) If any portion of the work is acceptable but is not completed to the established lines and slopes, retake cross-sections or comparable measurements of that portion of the work. Deduct any quantity outside the designated or staked limits. Use these measurements to calculate new end areas.
- (c) Compute the quantity using the average end areas multiplied by the horizontal distance along a centerline or reference line between the end areas. Deduct any quantity outside the designed or staked limits.

(2) **Cubic Yard in the Hauling Vehicle.** Measure the cubic yard volume in the hauling vehicle using three-dimensional measurements at the point of delivery. Use vehicles bearing a legible identification mark with the body shaped so the actual contents may be readily and accurately determined. Before use, mutually agree in writing on the volume of material to be hauled by each vehicle. Vehicles carrying less than the agreed volume may be rejected or accepted at the reduced volume.

Level selected loads. If leveling reveals the vehicle was hauling less than the approved volume, reduce the quantity of all material received since the last leveled load by the same ratio as the current leveled load volume is to the agreed volume. Payment will not be made for material in excess of the agreed volume.

Material measured in the hauling vehicle may be weighed and converted to cubic yards for payment purposes if the conversion factors are mutually agreed to in writing.

(3) Cubic Yard in the Structure. Measure according to the lines of the structure as shown on the plans except as altered by the CO to fit field conditions. Make no deduction for the volume occupied by reinforcing steel, anchors, weep holes, piling, or pipes less than 8 inches in diameter.

(4) Cubic Yard by Metering. Use an approved metering system.

(d) Each. One entire unit. The quantity is the actual number of units completed and accepted.

(e) Gallon. The quantity may be measured by any of the following methods:

(1) Measured volume container.

(2) Metered volume. Use an approved metering system.

(3) Commercially-packaged volumes.

When asphalt material is measured by the gallon, measure the volume at 60 °F or correct the volume to 60 °F using recognized standard correction factors.

(f) Hour. Measure the actual number of hours ordered by the CO and performed by the Contractor.

(g) Linear Foot. 12 linear inches. As applicable, measure the work along its length from end-to-end; parallel to the base or foundation; along the top; along the front face; or along the invert. Do not measure overlaps.

(h) Lump Sum. Do not measure directly. The bid amount is complete payment for all work described in the contract and necessary to complete the work for that item. The quantity is designated as "All" Estimated quantities of lump sum work shown in the contract are approximate.

(i) M-gallon. 1,000 gallons. Measure according to (e) above.

(j) Mile. 5,280 linear feet. Measure horizontally along the centerline of each roadway, approach road, or ramp.

(k) Pound. Measure according to Subsection 109.03. If sacked or packaged material is furnished, the net weight as packed by the manufacturer may be used.

(l) Square foot. 144 square inches. Measure on a plane parallel to the surface being measured.

(m) Square yard. 9 square feet. Longitudinal and transverse measurements for area

computations will be made horizontally. No deductions from the area computation will be made for individual fixtures having area of 9 square feet or less.

(n) Station. 100 linear feet. Measure horizontally along centerline or reference line of each roadway, approach road, or ramp.

(o) Ton. 2,000 pounds avoirdupois. Measure according to Subsection 109.03.

No adjustment in a contract unit price will be made for variations in quantity due to differences in the specific gravity or moisture content.

Use net-certified scale masses, or masses based on certified volumes in the case of rail shipments as a basis of measurement subject to correction when asphalt material is lost from the car or the distributor, wasted, or otherwise not incorporated in the work. When asphalt material is shipped by truck or transport, net-certified masses, subject to correction for loss or foaming, may be used for computing quantities.

When emulsified asphalt is converted from volume to mass, use a factor of 240 gallons per ton regardless of temperature.

109.03 Weighing Procedures and Devices. Batch masses may be acceptable for determination of pay quantities when an approved automatic weighing, cycling, and monitoring system is included as part of the batching equipment.

When a weighing device is determined to indicate less than true mass, no additional payment will be made for material previously weighed and recorded. When a weighing device is determined to indicate more than true mass, all material received after the last previously correct weighing accuracy test will be reduced by the percentage of error in excess of 0.5 percent.

When material is proportioned or measured and paid for by mass, provide one of the following:

(a) Commercial Weighing System. Use permanently-installed and certified commercial scales.

(b) Invoices. If bulk material is shipped by truck or rail and is not passed through a mixing plant, furnish a supplier's invoice with net mass or volume converted to mass. Periodic check weighing may be required.

(c) Project Weighing System. Furnish, erect, and maintain acceptable automatic digital scales. Provide scales that record mass at least to the nearest 100 pounds. Maintain the scale accuracy to within 0.5 percent of the correct mass throughout the range of use.

Do not use spring balances.

Install and maintain platform scales with the platform level with rigid bulkheads at

each end. Make the platform of sufficient length to permit simultaneous weighing of all axle loads of the hauling vehicle. Coupled vehicles may be weighed separately or together according to Section 2.20 paragraph HR 3.3 of *NIST Handbook 44*.

Install and maintain belt-conveyor scales according to Section 2.21 of *NIST Handbook 44*.

Before production on the project, after relocation, and at least once per year, have the weighing portion of the system checked and certified by the State Bureau of Weights and Measures or a private scale service certified by the Bureau of Weights and Measures. Seal the system to prevent tampering or other adjustment after certification.

Attach an automatic printer to the scale that is programmed or otherwise equipped to prevent manual override of all mass information. For weighed pay quantities, program the printer to provide the following information for each weighing:

- (1) Project number;
- (2) Item number and description;
- (3) Date;
- (4) Time;
- (5) Ticket number;
- (6) Haul unit number;
- (7) Net mass in load at least to the nearest 100 pounds;
- (8) Subtotal net mass for each haul unit since the beginning of the shift; and
- (9) Accumulated total net mass for all haul units since the beginning of the shift.

If a printer malfunctions or breaks down, the Contractor may manually weigh and record masses for up to 48 hours provided the method of weighing meets all other contract requirements.

Furnish competent scale operators to operate the system.

When platform scales are used, randomly weigh the empty haul units at least twice per shift.

Use an approved format for the mass records. Furnish the original record(s) and a written certification as to the accuracy of the masses at the end of each shift.

109.04 Receiving Procedures. When the method of measurement requires weighing or volume measurement in the hauling vehicle, furnish a person to direct the spreading and distribution of material and to record the location and placement of the material on the project. During the placement, maintain a record of each delivery and document it in an acceptable manner. Include the following information as applicable:

- (a) Project identification;

- (b) Contract pay item number and description;
- (c) Location where placed;
- (d) Date;
- (e) Load number;
- (f) Truck identification;
- (g) Time of arrival;
- (h) Mass or volume; and
- (i) Spread person's signature.

Use an approved format for the delivery record(s). Furnish the original record(s) and a written certification of the delivery of the material at the end of each shift.

109.05 Scope of Payment. Payment for all contract work is provided, either directly or indirectly, under the pay items shown in the bid schedule.

(a) Direct Payment. Payment is provided directly under a pay item shown in the bid schedule when one of the following applies:

- (1) The work is measured in the Method of Measurement Subsection of the Section ordering the work, and the bid schedule contains a pay item for the work from the Section ordering the work.
- (2) The Method of Measurement Subsection or Basis of Payment Subsection, of the Section ordering the work, references another Section for measuring the work and the bid schedule contains a pay item for the work from the referenced Section.

(b) Indirect Payment. Work for which direct payment is not provided is a subsidiary obligation of the Contractor. Payment for such work is indirectly included under other pay items shown in the bid schedule. This includes instances when the Section ordering the work references another Section for performing the work and the work is not referenced in the Method of Measurement Subsection of the Section ordering the work.

Compensation provided by the pay items included in the contract bid schedule is full payment for performing all contract work in a complete and acceptable manner. All risk, loss, damage, or expense arising out of the nature or prosecution of the work is included in the compensation provided by the contract pay items.

Work measured and paid for under one pay item will not be paid for under any other pay item.

The quantities shown in the bid schedule are approximate unless designated as a contract quantity. Limit pay quantities to the quantities staked, ordered, or otherwise authorized before performing the work. Payment will be made for the actual quantities of work

performed and accepted or material furnished according to the contract. No payment will be made for work performed in excess of that staked, ordered, or otherwise authorized.

109.06 Pricing of Adjustments. Determine all costs according to the contract cost principles and procedures of FAR Part 31.105. Follow the requirements of all FAR clauses providing for an equitable price adjustment.

If agreement on price cannot be reached, the CO may determine the price unilaterally.

If the work will delay contract completion, request a time extension according to Subsection 108.03.

(a) Proposal.

(1) General. Submit a written proposal for each line item of the work or a lump sum for the total work. Identify the major elements of the work, the quantity of the element, and its contribution to the proposed price. Provide further breakdowns if requested by the CO.

When price is based on actual costs (e.g., cost-plus-fixed-fee), profit is based on the estimated cost of the work and may not exceed the statutory limit of 10 percent of the total cost. Due to the limited risk in this type of pricing arrangement, a lower profit percentage may be indicated.

(2) Data. Submit information as requested by the CO to the extent necessary to permit the CO to determine the reasonableness of the proposed price.

(3) Cost or Pricing Data. When the contract modification exceeds the amount indicated in FAR Clause 52.214-27 Price Reduction for Defective Cost or Pricing Data - Modifications - Sealed Bidding, or FAR Clause 52.215-11 Price Reduction for Defective Cost or Pricing Data - Modifications, submit cost or pricing data.

Provide cost or pricing data, broken down by individual work item, for the Contractor and each major subcontractor. Include the information required by (b)(1) and (b)(2) below. When cost or pricing data is submitted before all or most of the work is performed, submit material and subcontractor quotes, anticipated labor and equipment usage, and anticipated production rates. Provide data for all proposed increases or decreases to the contract price.

Submit with the cost or pricing data a written proposal for pricing the work according to (1) above. See Table 15-2 following FAR Subpart 15.4 for guidance.

Upon completion of negotiations, certify the cost or pricing data as being accurate, complete, and current as of the date the agreement was reached.

(b) Postwork Pricing. When negotiating the price of additional or changed work after all or most of the work has been performed, furnish the following:

(1) Direct Costs.

(a) Material. Furnish invoices showing the cost of material delivered to the work.

(b) Labor. Show basic hourly wage rates, fringe benefits, applicable payroll costs (i.e., FICA, FUTA, worker's compensation, insurance, and tax levies), paid subsistence, and travel costs for each labor classification and foreman employed in the adjusted work.

(c) Equipment. Provide a complete descriptive listing of equipment including make, model, and year of manufacture. Support rented or leased equipment costs with invoices. Determine allowable ownership and operating costs for Contractor- and subcontractor-owned equipment as follows:

(1) Use actual equipment cost data when such data can be acceptably determined from the Contractor's or subcontractor's ownership and operating cost records.

(2) When actual costs cannot be determined, use the rates shown in *Construction Equipment Ownership and Operating Expense Schedules (CEOES)* published by the U.S. Army Corps of Engineers for the area where costs are incurred. This document is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402-9325. Adjust the rates for used equipment and for other variable parameters used in the schedules.

(3) Compute proposed standby costs from acceptable ownership records or when actual costs cannot be determined, according to *CEOES*. Do not exceed 8 hours in any 24-hour period or 40 hours in any calendar week. Do not include standby for periods when the equipment would have otherwise been in an idle status or for equipment that was not in operational condition.

(d) Other direct costs. Furnish documentation or invoices to support any other direct costs incurred that are not included above (e.g., bonds, mobilization, demobilization, permits, royalties, etc).

(e) Production rates. Provide actual hours of performance, on a daily basis, for each labor classification and for each piece of equipment.

(f) Subcontract costs. Provide supporting data as required above.

(2) Overhead. Identify overhead rate(s) and provide supporting data, which justifies the rate(s). List the types of costs, which are included in overhead. Identify the cost pool(s) to which overhead is applied. Apply the overhead to the appropriate pool.

Limit Contractor overhead applied to subcontractor payments to 5 percent of such payments unless a higher percentage is justified.

(3) Profit. Except when precluded by the FAR, include a reasonable profit reflecting the efficiency and economy of the Contractor and subcontractors in performing the work, the contract risk type, the work difficulty, and management effectiveness and diversity.

For work priced after all or most of the work is performed, profit is limited by statute to 10 percent of the total cost. Due to the limited risk in post-work pricing, a lower profit percentage may be indicated.

109.07 Eliminated Work. Follow the requirements of FAR Clause 52.243-4 Changes.

Work may be eliminated from the contract without invalidating the contract. The Contractor is entitled to compensation for all direct costs incurred before the date of elimination of work plus profit and overhead on the direct incurred costs. Anticipated profit and overhead expense on the eliminated work will not be compensated.

109.08 Progress Payments. Follow the requirements of FAR Clauses 52.232-5 Payments under Fixed-Price Construction Contracts and 52.232-27 — Prompt Payment for Construction Contracts.

(a) General. Only invoice payments will be made under this contract. Invoice payments include progress payments made monthly as work is accomplished and the final payment made upon final acceptance. Only one progress payment will be made each month. No progress payment will be made in a month in which the work accomplished results in a net payment of less than \$1,000. Full or partial progress payment will be withheld until a construction schedule or schedule update is submitted to, and accepted by, the CO.

(b) Closing Date and Invoice Submittal Date. The closing date for progress payments will be designated by the CO. Include work performed after the closing date in the following month's invoice. Submit invoices to the designated billing office.

(c) Invoice Requirements. Submit the invoice to the County's designated billing office. Include the following items in the invoice:

(1) The information required in FAR Clause 52.232-27(a)(2)(i) through (a)(2)(xi).

(2) A tabulation of total quantities and unit prices of work accomplished or completed on each pay item as of the monthly closing date. Do not include any quantities unless field note documentation for those quantities was submitted by the closing date. Do not include quantities of work involving material for which test reports required under Sections 153 or 154 or certifications required by

Subsection 106.03 are, or will be, past due as of the closing date.

(3) The certification required by FAR Clause 52.232-5(c) and, if applicable, the notice required by FAR Clause 52.232-5(d). Provide an original signature on the certification. Facsimiles are not acceptable.

(4) If applicable, a copy of the notices that are required by FAR Clause 52.232-27(e)(5) and (g).

(5) The amount included for work performed by each subcontractor under the contract.

(6) The total amount of each subcontract under the contract.

(7) The amounts previously paid to each subcontractor under the contract.

(8) Adjustments to the proposed total payment that relate to the quantity and quality of individual items of work. Adjustments for the following may be made by the County after validation of the invoice:

- (a) Retent resulting from a failure to maintain acceptable progress;
- (b) Retent resulting from violations of the labor provisions;
- (c) Retent pending completion of incomplete work, other "no pay" work, and verification of final quantities;
- (d) Obligations to the County such as excess testing cost or the cost of corrective work pursuant to FAR Clause 52.246-12(g); or
- (e) Liquidated damages for failure to complete work on time.

(d) County's Receiving Report. The County's receiving report will be developed using the measurement notes received by the CO and determined acceptable. Within 7 days after the closing date, the CO will be available by appointment at the County's designated billing office to advise the Contractor of quantities and unit prices appearing on the County's receiving report.

(e) Processing Progress Payment Requests. No payment will be made for work unless field note documentation for the work was provided by the closing date.

(1) Proper Invoices. If the invoice meets the requirements of Subsection 109.08(c), and the quantities and unit prices shown on the Contractor's invoice agree with the corresponding quantities and unit prices shown on the County's receiving report, the invoice will be paid.

(2) Defective Invoices. If the invoice does not meet the requirements of Subsection 109.08(c), or if any of the quantities or unit prices shown on the Contractor's invoice exceed the corresponding quantities and unit prices shown

on the County's receiving report, the invoice is defective, and the Contractor will be notified according to FAR Clause 52.232-27(a)(2). Defective invoices will be returned to the Contractor within 7 days after receipt by the County's designated billing office. Correct and resubmit returned invoices. If the defects are minor, the Contractor may elect, in writing, to accept the quantities and unit prices shown on the County's receiving report for payment.

(f) Partial Payments. Progress payments may include partial payment for material to be incorporated in the work, provided the material meets the requirements of the contract and is delivered on, or in the vicinity of, the project site or stored in acceptable storage places.

Partial payment for material does not constitute acceptance of such material for use in completing items of work. Partial payments will not be made for living or perishable material until incorporated into the project.

Partial payments for material will not exceed the lesser of:

- (1) 80 percent of the contract bid price for the item; or
- (2) 100 percent of amount supported by copies of invoices submitted.

The quantity paid will not exceed the corresponding quantity estimated in the contract.

109.09 Final Payment. Follow the requirements of FAR Clause 52.232-5 Payment under Fixed-Price Construction Contracts and FAR Clause 52.232-27 Prompt Payment for Construction.

Upon final acceptance and verification of final pay records, the County will send, by certified mail, a final voucher (SF 1034) and a release of claims document. Execute both the voucher and the release of claims, and return the documents to the County for payment. The date of approval by the County of the final voucher for payment constitutes the date of final settlement of the contract.

If unresolved claims exist or claims are proposed, reserve the right to the claims by listing a description of each claim and the amount being claimed on the release of claims document.

Failure to execute and return the voucher and release of claims document within 90 days after receipt shall constitute and be deemed execution of the documents and the release of all claims against the County arising by virtue of the contract. In this event, the day after 90 days from receipt constitutes the date of final settlement of the contract.

Section 153. — CONTRACTOR QUALITY CONTROL

153.01 Description. This work consists of obtaining samples for Contractor quality control testing, performing tests for Contractor quality control, providing inspection, and exercising management control to ensure that work conforms to the contract requirements. See FAR Clause 52.246-12 Inspection of Construction.

Construction Requirements

153.02 Contractor Quality Control Plan. Before the start of the work, submit a written quality control plan for acceptance. With prior approval, submission of a quality control plan for items of work not immediately scheduled to begin may be deferred.

Submit the following with the quality control plan:

(a) **Process Control Testing.** List the material to be tested by pay item, tests to be conducted, the location of sampling, and the frequency of testing.

(b) **Inspection/Control Procedures.** Address each of the following subjects in each phase of construction:

(1) Preparatory Phase.

- (a) Review all contract requirements.
- (b) Ensure compliance of component material to the contract requirements.
- (c) Coordinate all submittals including certifications.
- (d) Ensure capability of equipment and personnel to comply with the contract requirements.
- (e) Ensure preliminary testing is accomplished.
- (f) Coordinate surveying and staking of the work.

(2) Start-up Phase.

- (a) Review the contract requirements with personnel performing the work.
- (b) Inspect start-up of work.
- (c) Establish standards of workmanship.
- (d) Provide training as necessary.
- (e) Establish detailed testing schedule based on the production schedule.

(3) Production Phase.

- (a) Conduct intermittent or continuous inspection during construction to identify and correct deficiencies.
- (b) Inspect completed work before requesting County inspection

acceptance.

(c) Provide feedback and system changes to prevent repeated deficiencies.

(c) **Description of Records.** List the records to be maintained.

(d) **Personnel Qualifications.**

- (1) Document the name, authority, relevant experience, and qualifications of person with overall responsibility for the inspection system.
- (2) Document the names, authority, and relevant experience of all personnel directly responsible for inspection and testing.

(e) **Subcontractors.** Include the work of all subcontractors. If a subcontractor is to perform work under this Section, detail how that subcontractor will interface with the Contractor's and other subcontractor's organizations.

Modifications or additions may be required to any part of the plan that is not adequately covered. Acceptance of the quality control plan will be based on the inclusion of the required information. Acceptance does not imply any warranty by the County that the plan will result in consistent contract compliance. It remains the responsibility of the Contractor to demonstrate such compliance.

Do not begin the work until the quality control plan covering that work is accepted.

Supplement the plan as work progresses and whenever quality control or quality control personnel changes are made.

153.03 Testing. Perform testing according to the accepted quality control plan. Keep laboratory facilities clean and maintain all equipment in proper working condition. Allow unrestricted access for inspection and review of the facility.

153.04 Records. Maintain complete testing and inspection records by pay item number and make them accessible to the CO.

For each day of work, prepare an "*Inspector's Daily Record of Construction Operations*" (Form FHWA 1413) or an approved alternate form. Detail inspection results including deficiencies observed and corrective actions taken. Include the following certification signed by the person with overall responsibility for the inspection system:

"It is hereby certified that the information contained in this record is accurate and that all work documented herein complies with the requirements of the contract. Any exceptions to this certification are documented as a part of this record."

Submit the record and certification within one working day of the work being performed. If the record is incomplete, in error, or otherwise misleading, a copy of the record will be returned with corrections noted. When chronic errors or omissions occur, correct the procedures by which the records are produced.

Maintain linear control charts that identify the project number, pay item number, test number, each test parameter, the upper and lower specification limit applicable to each test parameter, and the test results. Use the control charts as part of the quality control system to document the variability of the process and to identify production and equipment problems, and to identify potential pay factor adjustments.

Post control charts in an accessible location and keep them up-to-date. Cease production and make corrections to the process when problems are evident.

153.05 Acceptance. The Contractors quality control system will be evaluated under Subsection 106.02 based on the demonstrated ability of the quality control system to result in work meeting the contract requirements.

If the County's testing and inspection indicate that the Contractors quality control system is ineffective, make immediate improvements to the system to correct these inadequacies. Furnish notification in writing of improvements and modifications to the system.

153.06 Measurement and Payment. Do not measure Contractor Quality Control for payment.

Section 154. — CONTRACTOR SAMPLING AND TESTING

154.01 Description. This work consists of obtaining samples for testing and reporting required test results. It does not include Contractor quality control testing required under Section 153. However, include the work required under this Section in the Section 153 quality control plan.

Construction Requirements

154.02 Sampling. Sample material to be tested according to the Minimum Sampling and Testing schedule in Division II. The sampling schedules and times will be provided by the CO using a random number system. In addition, sample any material that appears defective or inconsistent with similar material being produced unless such material is voluntarily removed and replaced or corrected.

Sample and split samples according to AASHTO or other acceptable procedures. Allow the CO the opportunity to witness all sampling. Immediately perform splits when required. Deliver the County's portion of the sample or split sample in an acceptable container suitable for shipment. Label all samples with the following information:

- (a) Project number;
- (b) Source of material;
- (c) Pay item number;
- (d) Sample number;
- (e) Date sampled;
- (f) Time sampled;
- (g) Location sample taken;
- (h) Name of person sampling;
- (i) Name of person witnessing sampling; and
- (j) Type of test required on sample.

154.03 Testing. When there is a contract pay item for Contractor testing included in the bid schedule, perform all tests required by the Sampling and Testing Requirements tables at the end of each section. Allow the CO the opportunity to witness all testing. Testing of trial samples may be required to demonstrate testing competence.

154.04 Records. Report test results on forms containing all sample information required by Subsection 154.02. Label clearly all interim measurements used to determine the results. Attach work sheets used to determine test values to the test result forms when submitted. When tests are on material being incorporated in the work, report test results within 24 hours except as specified in the Sampling and Testing Requirements tables. Payment for work may be delayed or the work suspended until test results are provided.

154.05 Acceptance. Contractor sampling and testing will be evaluated under Subsections 106.02 and 106.04 based on County verification testing.

154.06 Measurement. Measure the Section 154 items listed in the bid schedule according to Subsection 109.02.

154.07 Payment. The accepted quantities will be paid at the contract price per unit of measurement for the Section 154 pay item listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Progress payments for Contractor testing will be paid as follows:

- (a) 25 percent of the item amount, not to exceed 0.5 percent of the original contract amount, will be paid after all the testing facilities are in place, qualified sampling and testing personnel are identified, and the work being tested has started.
- (b) Payment for the remaining portion of the item amount will be prorated based on the total work completed.

Payment for all or part of this item may be retained if County verification testing invalidates the Contractor testing.

Section 155. — SCHEDULES FOR CONSTRUCTION CONTRACTS

155.01 Description. This work consists of scheduling and monitoring all construction activities. See FAR Clause 52.236-15 Schedules for Construction Contracts.

Construction Requirements

155.02 General. Submit 3 copies of a preliminary construction schedule at least 7 days before the preconstruction conference.

A preliminary construction schedule is a written narrative with a detailed breakdown of all contract activities for the first 45 days after the notice to proceed is issued. Within 7 days after the preconstruction conference, the preliminary construction schedule will be accepted or rejected. If rejected, submit a revised schedule within 3 days. Do not begin work, except mobilization and traffic control, without an accepted preliminary construction schedule.

Use either the Bar Chart Method (BCM) or the Critical Path Method (CPM) described below to develop the construction schedule for the total contract work. Preface each construction schedule as follows:

- (a) Project name;
- (b) Contract number;
- (c) Contractor;
- (d) Original contract time allowed or completion date;
- (e) Type of construction schedule (initial or update);
- (f) Effective date of the schedule;
- (g) Percent work complete; and
- (h) Percent time used.

Submit 3 copies of the construction schedule within 30 days after the notice to proceed is issued. Allow 14 days for acceptance or rejection of the construction schedule or a revised schedule. If rejected, submit a revised schedule within 7 days. No progress payment will be made for any work until a construction schedule is submitted to the CO and accepted by the CO.

Do not show conflicts with any scheduled activities, limits on operations, order of work requirements, interim or final completion dates, or other contract restrictions.

Show completion of the work within the contract time.

155.03 Bar Chart Method (BCM). The BCM construction schedule consists of a progress bar chart and a written narrative.

- (a) **Progress Bar Chart.** The following applies to the initial submission and all

updates:

- (1) Use a time scale to graphically show the percentage of work scheduled for completion during the contract time.
- (2) Define and relate activities to the contract pay items.
- (3) Show all activities in the order the work is to be performed including submittals, submittal reviews, fabrication, and delivery.
- (4) Show all critical (major) activities that are controlling factors in the completion of the work.
- (5) Show the time needed to perform each activity and its relationship in time to other activities.
- (6) Show the total expected time to complete all work.
- (7) Provide enough space for each activity to permit 2 additional plots parallel to the original time span plot. Use one space for revision of the planned time span, and one for showing actual time span achieved.

(b) Written Narrative. Furnish a written narrative of the activities displayed in the progress bar chart.

155.04 Critical Path Method (CPM). The CPM construction schedule consists of a diagram, a tabulated schedule, and a written narrative.

(a) Diagram. Use the "*activity-on-arrow*" format for the arrow diagrams or the "*activity-on-node*" format for precedence diagrams. The following applies to the initial submission and all updates:

- (1) Use a time scale to graphically show the percent of work scheduled for completion by any given date during the contract time.
- (2) Define and relate activities to the contract pay items.
- (3) Show the sequence and interdependence of all activities including submittals, submittal reviews, fabrication, and deliveries.
- (4) Show all activity nodes, activity descriptions, and durations.
- (5) Show all network dummies (for arrow diagrams only).
- (6) Identify the critical path.

(b) Tabulated Schedule. The following requirements apply to the tabulated schedule:

- (1) For arrow diagrams, show activity beginning and ending node numbers. For precedence diagrams, list activities and show lead or lag times.
- (2) Show activity durations.

- (3) Show activity descriptions.
- (4) Show early start and finish dates.
- (5) Show late start and finish dates.
- (6) Show status (critical or not).
- (7) Show total float.

(c) **Written Narrative.** Furnish a written narrative of the activities displayed in the schedule diagram.

155.05 Written Narrative. The following applies to the written narrative:

- (a) Estimate starting and completion dates of each activity.
- (b) Describe work to be done within each activity including the type and quantity of equipment, labor, and material to be used.
- (c) Describe the location on the project where each activity occurs.
- (d) Describe planned production rates by pay item quantities (e.g., cubic yards of excavation per day/week).
- (e) Describe work days per week, holidays, number of shifts per day, and number of hours per shift.
- (f) Estimate any periods during which an activity is idle or partially idle. Show the beginning and end dates for reduced production or idle time.
- (g) Describe expected and critical delivery dates for equipment or material that can affect timely completion of the project.
- (h) Describe critical completion dates for maintaining the construction schedule.
- (i) Identify the vendor, supplier, or subcontractor to perform the activity. State all assumptions made in the scheduling of the subcontractor's or supplier's work.

155.06 Schedule Updates. Review the construction schedule to verify finish dates of completed activities, remaining duration of uncompleted activities, any proposed logic, and time estimate revisions. Keep the CO informed of the current construction schedule and all logic changes.

Submit 3 copies of an updated construction schedule for acceptance at least every 8 weeks or when:

- (a) A delay occurs in the completion of a critical (major) activity;
- (b) A delay occurs which causes a change in the critical path for CPM schedules or a change in a critical activity for BCM schedules;
- (c) The actual prosecution of the work is different from that represented on the current construction schedule;

(d) There is an addition, deletion, or revision of activities caused by a contract modification; or

(e) There is a change in the schedule logic.

Allow 7 days after receipt for acceptance of the updated construction schedule or a return for revisions.

No progress payment will be made for any work until an updated construction schedule has been submitted to, and accepted by, the CO.

155.07 Acceptance. Construction schedules will be evaluated under Subsection 106.02.