

**DIVISION II
CONSTRUCTION DETAILS**

**2021
Mobilization**

2021.1 DESCRIPTION

This item shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the Project site; for the establishment of all Contractor's offices and buildings or other facilities necessary for work on the Project.

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Based on the lump sum Contract price for mobilization, partial payments will be made as follows:

- (a) On the first partial estimate that shows work performed on at least one major Contract item or after 5% of the original Contract amount has been completed, exclusive of the Mobilization item, 50 percent of the amount bid for mobilization will be paid, but not to exceed 3 percent of the original Contract amount; or
- (b) When 15% of the original Contract amount has been completed, exclusive of the Mobilization item, 75 percent of the amount bid for Mobilization will be paid, but not to exceed 5 percent of the original Contract amount; or
- (c) On the first partial estimate that shows work performed on each and every major Contract item, 100 percent of the amount bid for mobilization will be paid; or
- (d) When any previous partial estimate shows that 25 percent or more of the original Contract amount has been earned, exclusive of mobilization payments, 100 percent of the amount bid for mobilization will be paid on the next partial estimate.

The original Contract amount shall be the total value of all Contract items, including the mobilization item. Major Contract items may be listed as such in the Special Provisions or Bid Schedule. In the absence of such listing, these items shall be any Contract item or items having an individual amount in excess of 5 percent of the original Contract amount.

When the amount bid for the mobilization item exceeds 5 percent of the total original Contract amount, the Department reserves the right to withhold (on any partial estimate) the portion in excess of 5 percent

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until 95 percent or more of the original Contract amount is earned.

The total sum of all payments shall not exceed the original Contract amount bid for the mobilization item, regardless of the fact that the Contractor may have, for any reason, shut down work on the Project or moved equipment away from the Project and then back again.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided by the Contract.

Item No. Item	Unit
2021.501 Mobilization	Lump Sum

2031

Field Office and Laboratory

2031.1 DESCRIPTION

This Specification covers the furnishing, maintaining, and removing field office and laboratory facilities for the exclusive use of Department personnel in making field tests and reports, for storage of records and equipment, and as field headquarters for the Engineer.

2031.2 GENERAL PROVISIONS

The Contractor shall furnish all field office and laboratory facilities in accordance with these provisions. The facilities shall remain the property of the Contractor. The Contractor shall furnish, maintain, and service the facilities with fuel, electrical power, sanitary services, access roads, and other required items. The Contractor shall provide telephone service to all field office and laboratory facilities. The phone service shall include a modular jack and a voice activated, beeperless, telephone recorder. The Contractor shall pay for the telephone installation, basic monthly phone service charges, and the removal of the telephone. The Contractor shall submit invoices for long distance telephone charges to the Engineer for payment.

The Contractor shall not place field offices, laboratories, equipment, or supplies within a distance of 8 m (**26 feet**) outside of the dripline of specimen trees or other vegetation designated to be preserved without approval of the Engineer. The Contractor shall also restrict traffic movement from this protected area. The Engineer may specify temporary fence and other protection measures according to 2572.

The Contractor shall locate, relocate, and maintain the facilities as approved by the Engineer unless the Contract specifies otherwise. The Contractor shall locate the field office and laboratory sites within the Right of Way whenever possible. If it is not possible within the Right of Way, the Contractor shall arrange for a site adjacent to the Right of way. If it is necessary to rent the site, the Contractor will receive compensation for rent costs as Extra Work. The Engineer will give the Contractor reasonable advance notice before any unit is to be delivered

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to the Project, readied for occupancy, and relocated or removed. The Contractor shall not relocate or remove any unit from the Project without the Engineer's consent. However, the Contractor shall remove the facilities from the Project when released by the Engineer.

The Engineer may utilize field office units for the full life of the Contract including periods of work suspension and until the Certificate of final acceptance has been executed.

The Engineer will release field laboratory units upon completion of all field inspection work and acceptance as provided for in 1516, unless otherwise specified in the Contract. The Engineer will not utilize the laboratory units during periods of authorized winter suspension without the Contractor's permission or unless such use is otherwise specified in the Contract.

The Engineer will decide all disputes concerning site selection, placement conditions, service needs, and other functional matters.

2031.3 REQUIREMENTS

A Basic Requirements

Each field office and laboratory shall be a separate mobile unit or building. The Engineer may approve other equivalent facilities. Separate quarters in stationary structures or combination trailer units will be accepted only if and when the location and mobility needs can be satisfied without appreciable inconvenience or loss of serviceability to the Department.

Each field office or laboratory unit shall be constructed and equipped to meet the following basic requirements:

- (1) Weatherproof thermal resistant construction with finished interior walls, ceiling, and floor, capable of being easily maintained and cleaned.
- (2) Exterior width of 2.4 m (**8 feet**) or more, and a floor to ceiling height of not less than 2.1 m (**7 feet**).
- (3) Two or more entrance doors with inside latches, at least one of which shall be an exterior door equipped with an outside lock and an opening of not less than 750 x 1930 mm (**30 x 76 inches**).
- (4) Commercial type windows of normal number and size, with a total window area not less than 20 percent of the unit floor area, and with inside latches on all vent windows.
- (5) Ceiling ventilator or exhaust fan, insect-proof screening on each exterior door and all vent windows, and Venetian blinds or effective awnings over all windows.
- (6) Artificial lighting system with fixtures providing adequate illumination over each desk and all work areas.
- (7) Portable or wall mounted plans rack.

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- (8) One or more multipurpose fire extinguishers that comply with applicable Federal and State safety and health regulations.
- (9) Electric heating system capable of maintaining a reasonably uniform temperature of 22°C (70°F) or more throughout the interior in all zones.
- (10) Minimum floor area, based on exterior dimensions, of not less than 21 m² (230 square feet) for the field office or 14 m² (150 square feet) for the field laboratory.

The exterior doors shall provide convenient and safe egress from the ends of the unit. Dimensions of the main door shall be not less than 750 x 1930 mm. (30 x 76 inches). A smaller auxiliary door may be allowed on laboratory units, at the discretion of the Engineer, provided it fulfills the basic needs for an emergency exit. The doors and passageways shall provide easy access to all areas of the unit.

B Specific Requirements

The interior layout of each unit shall be designed or arranged to make the furnishings easy to use, accommodate the use and storage of ordinary office machines and testing apparatus, and provide a reasonably modern and universally acceptable facility. Built-in furnishings and fixtures shall meet conventional standards. All desk, table, and work top surfaces shall be surfaced or finished with mar resistant materials.

All appliance installations, sanitary facilities, electrical circuitry, waste and water supply systems, venting, and safety features, shall meet Federal, State, and local regulations.

The field office or laboratory shall also be equipped to meet the following specific requirements:

- B1 Field Office Furnishings
 - B1a Two or more pedestal type desks with supply drawers, and a top width of at least 750 mm (30 inches). The desks may be either the portable or built-in type, having a top length of at least 1500 mm (60 inches). If one or both ends of the desk are mounted flush with a wall, however, the top length shall be at least 1800 mm (72 inches). Vacant wall space shall be provided for placement of a Department-furnished stenographic desk if one is not furnished.
 - B1b Three or more letter or legal size file drawers, either of the built-in or portable cabinet type, located for convenient access.
 - B1c One drafting desk with plan sheet and pencil drawer and with top dimensions not less than 900 x 1800 mm (36 x 72 inches). It shall be a commercially built, tilt or slant top desk of the wall mounted, pedestal, or cabinet style, but neither end shall be mounted flush with a wall.

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- B1d An enclosed storage cabinet or closet with adequate space for the usual outdoor garments, office supplies, and other materials not separately stored on open shelves or in desk drawers.
- B1e At least 6 m (**20 linear feet**) of open shelving not less than 300 mm (**12 inches**) wide above desks or at other convenient locations.
- B1f One drafting stool and sufficient desk chairs, preferably of a swivel type, for all desks and for at least two additional persons.
- B2 Field Laboratory Furnishings
- B2a One sturdily built workbench situated along a side wall, with a work top not less than 3 m x 600 mm (**10 feet x 24 inches**), and with open space below for placement of a curing tank or other needed equipment.
- B2b One 300 mm (**12 inches**) deep service sink located near one end of the workbench and with a capacity of not less than 75 L (**20 gallons**). The sink shall be recessed into the workbench and have a water supply, faucet, and an outside drain.
- B2c An enclosed storage cabinet or closet with adequate space for the usual outdoor garments, standard supplies, and other miscellaneous equipment or apparatus that would ordinarily be stored for convenience or protection.
- B2d One desk or table with a suitable work top not less than 750 x 1500 mm (**30 x 60 inches**) located conveniently for clerical use and plans reviewing.
- B2e Two or more letter or legal size file drawers, either of the built-in or portable cabinet type, located for convenient access.
- B2f Two or more stools or chairs of suitable height to provide seating at both workbench and clerical desk.
- B2g At least 3600 mm (**12 linear feet**) of open shelving not less than 300 mm (**12 inches**) wide above the workbench or at other convenient locations.
- B2h One electric kitchen stove with four heating plates and electric oven. Separate heating plates may be substituted only with approval by the Engineer.
- B2i Blank
- B2j An electric exhaust fan or other approved mechanical means of achieving satisfactory air circulation and of exhausting air pollution.
- C Special Requirements**

All units shall be leveled and supported at the site as necessary for satisfactory placement. Unless other means are provided for acceptable

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weigh scale support, the field laboratory shall be rigidly supported to eliminate floor and work bench vibrations to an acceptable degree for accurate weighing on a bench-supported scale.

A curing tank shall be furnished by the Contractor for concrete test cylinder curing when the construction work involves casting of standard concrete test cylinders. The tank shall have adequate capacity and have dimensions that permit its installation below a laboratory workbench. The Engineer may authorize outside placement of the tank when it is to be used at the site of a field office.

The field office or laboratory shall also be equipped with the following special services, as indicated for the Type specified.

C1 Type A Service

Water supply of sufficient capacity to serve all needs for materials testing and test cylinder curing, as required for the work in progress. A storage tank with a capacity of 180 L (**50 gallons**) or more shall be furnished and installed at each field laboratory site where a pressurized water supply is not provided. The tank installation shall provide sufficient gravity pressure to maintain constant flow through the sink faucet.

C2 Type B Service

All Type A services, together with toilet and lavatory facilities, drinking water facilities, and trash disposal service. Detached portable toilets shall be conveniently located. A closed, faucet equipped, drinking water container or cooler with adequate supply of potable water shall be furnished when a potable pressure water system is not provided. Suitable trash containers shall be furnished and the accumulated trash shall be regularly removed from the premises. All of these facilities and services shall be provided to the satisfaction of the Engineer.

C3 Type C Service

All Type B services, together with electrical power supply and fixtures, including duplex outlet receptacles capable of providing adequate amperage for electric lighting and other appliance needs.

An electrically powered mechanical sieving apparatus shall also be furnished for determining particle size distribution of fine aggregate (minus 4.75 mm (#4) sieve). The apparatus shall accommodate six full height 200 mm (**4 inch**) round sieves with pan and cover (which will be furnished by the Department). The apparatus shall be equipped with an automatic timing device of at least 15 minutes duration. The complete apparatus must be approved by the Materials Engineer, by verification of sieving sufficiency in accordance with AASHTO T-27, before its acceptance.

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C4 Type D Service

All Type C services, together with a thermostatically controlled heating and cooling system capable of maintaining a uniform temperature between 22 and 29°C (72 and 85°F) in all zones. Separate systems may be provided.

C5 Type X Service

Type X Service shall apply only to field laboratory units, and then only in combination with one of the above described Types. When Type AX, BX, CX, or DX Service is specified, the Engineer shall have the right to utilize the prescribed laboratory unit as a combination office-laboratory facility for the full life of the Contract, including periods of work suspension and until the Certificate of Final Contract Acceptance has been executed according to 1516. Otherwise, the service requirements shall be as indicated for the first "letter" of the type designation.

2031.4 METHOD OF MEASUREMENT

The accepted field office and field laboratory units will be measured separately by the number and type furnished and utilized in accordance with the provisions of the Contract, regardless of the duration of its use at any one or different locations.

2031.5 BASIS OF PAYMENT

Payment for field office or field laboratory units of each type at the Contract bid price, or at any adjusted price provided for in the Contract, shall include full compensation for all costs of furnishing, placing, relocating, maintaining, and servicing the complete facility as required, including any removal and relocation costs incurred, but not including any costs incurred for public utility connections made necessary as the result of relocating the unit at the Engineer's direction, after its initial placement. Once the initial public utility connections have been made at the original site, any charges for utility connections will be at the Department's expense, unless the move is made by request of the Contractor. No extra compensation will be made for ordinary relocation expenses not involving public utility changes.

No payment will be made for field office or field laboratory units if the facility is not for the exclusive use of Department personnel for the contracted Project.

Payment for field office and laboratory facilities will be made on the basis of the following schedule:

Item No.	Item	Unit
2031.501	Field Office, Type ____	Each
2031.503	Field Laboratory, Type ____	Each

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Maintenance and Restoration of Haul Roads

2051.1 DESCRIPTION

This work shall consist of the maintenance, repair, and restoration of designated haul roads over which materials of the kinds and for the purposes named are hauled for the work covered by the Contract.

2051.2 DEFINITIONS

For the purpose of this Specification, the term "designated haul road" means any public road or street officially designated as a "haul road" (except a Minnesota trunk highway or road which has been officially designated by the Commissioner as a detour around a construction Project), over which materials from any source, of the kinds and for the purposes listed below are hauled. The hauling may be to points within the geographic limits of the Project or to points outside those limits if use of the material outside such limits is required.

- (a) Soil or other material for embankment construction.
- (b) Sand, gravel, or other material for backfill.
- (c) Sand, gravel, or crushed rock for base or surfacing courses.
- (d) Aggregates for bituminous surfacing, including the hauling of bituminous mixtures from the mixing plant.
- (e) Aggregates for concrete base or pavement, including the hauling of concrete batches from batch plants.
- (f) Bituminous materials and Portland cement for paving mixtures.

2051.3 DESIGNATION AND USE OF HAUL ROADS

Where Maintenance and Restoration of Haul Roads is a bid item under the Contract, material of the kinds and for the purposes described above shall not be hauled from any source until the haul road from that source has been officially designated as a haul road. Thereafter, all materials hauled from that source shall be hauled over that road.

All vehicle trips, either loaded or unloaded, between material source(s) and the Project for the purpose of hauling materials described above shall be made only on a designated haul road.

If the Contract is with the Minnesota Department of Transportation for State Trunk Highway Projects, the Contractor shall select a haul road (or roads) to haul the materials previously described, and notify the Engineer as to the road (or roads) so selected. Within 15 calendar days after being notified of the haul road selection, the Commissioner will determine if the selected road (or roads) is an acceptable route. If the route is acceptable, the Commissioner will designate that road as a temporary trunk highway haul road.

If the Contract is with or for a governmental agency other than the Minnesota Department of Transportation, the Contractor shall select a haul road (or roads) to haul the materials, as previously described, and

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notify the Engineer representing that governmental agency as to the road (or roads) so selected. Within 15 calendar days after being notified of the haul road selection, the Engineer will determine if the selected road (or roads) is an acceptable route. If the route is acceptable, the Engineer will approve that road as a designated haul road.

After a haul road has been officially designated, the Contractor may select a different road for official designation under the same conditions as previously stated. However, any changes made in haul road designation shall not relieve the Contractor of the obligation to restore the previously designated haul road if any of the above described materials were hauled over that road.

The Contractor will be required to reimburse the local government agency(s) for its haul road use on certain bituminous roadways as set forth below.

The Contractor shall verify spring load capacities of proposed haul roads with the local government agency(s). Reimbursement to local government agency(s) for concrete surfaced roadways is not required.

When a designated haul road has a bituminous surface and a spring load capacity of less than nine (9) **tons**, reimbursement to the local government agency(s) for haul road use shall be made at the rates as follows: \$0.007/metric ton of material per kilometer (**\$0.01/ton of material hauled per mile**).

The contractor shall make full payment to the local government agency(s) upon receiving notice of payment due and computations from the Engineer. The contractor shall provide the Engineer with confirmation of payment to the local agency(s). Should the amount due an individual local government agency be less than \$500.00, no payment will be required.

2051.4 MAINTENANCE AND RESTORATION

While hauling operations are in progress, the Contractor shall maintain the haul road in a condition satisfactory to the Engineer. This work shall include application of water, bituminous material, or calcium chloride to the road surface as may be necessary to alleviate dust nuisance and eliminate traffic hazards.

When hauling operations over any haul road are completed, the Contractor shall either:

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- (a) Restore that haul road to a condition at least equal to that which existed at the time the hauling operations were started, or
- (b) Compensate the local road authority in an amount satisfactory to that road authority and concurred in by the Engineer for the restoration of that haul road by the local authority.

The fact that other traffic has used the haul road concurrently with the hauling of the above described materials shall not relieve the Contractor of the obligation to maintain and restore the haul road as above provided, except that, if any other contractor (or contractors) engaged in highway construction under a contract with the same governmental agency also has materials of the kinds and for the purposes described above hauled over that road concurrently with the hauling of materials for the Contract work, the Engineer will determine the amount of maintenance and restoration obligation to be shared by each.

The Engineer's determination as to the kind and amount of maintenance and restoration work required to restore the haul road to a condition equal to that which existed at the time the hauling operations were started shall be final, binding, and conclusive.

When hauling over any designated haul road has been completed and the Contractor has restored that road or has compensated for that restoration as required, the Engineer will accept such restoration or concur in such financial settlement for the restoration of the haul road in writing, and such acceptance will relieve the Contractor of any additional obligation in connection with the restoration of that road.

2051.5 BASIS OF PAYMENT

Payment for the Item, Maintenance and Restoration of Haul Roads, at the Contract lump sum shall be considered compensation in full for all costs of maintenance, restoration and the reimbursement to local government agency(s) as specified for use of haul roads officially designated and used in conjunction with the Contract work.

No payment will be made under these provisions unless one or more haul roads have been both officially designated and used for hauling materials of the kinds and for the purposes described. When these two conditions are met, payment will be made at the lump sum Contract price regardless of the amount of maintenance and restoration work required, provided work has been completed acceptably or receipt of payment for such restoration has been certified by the local road authority.

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If the Contractor fails or refuses to perform haul road restoration or to make satisfactory financial settlement for such restoration as required within the period specified in a written notice by the Engineer, the Department will cause the restoration work to be done and deduct the costs from any moneys that are or may become due the Contractor or require reimbursement from the Contractor's Surety.

Payment for maintenance and restoration of haul roads will be made on the basis of the following schedule:

Item No.	Item	Unit
2051.501	Maintenance and Restoration of Haul Roads.....	Lump Sum