



Iowa Department of Transportation

SPECIAL PROVISIONS FOR EXCAVATION FOR STRUCTURES IN LEVEE CRITICAL AREA

Pottawattamie County
IMN-80-1(366)4--0E-78

Effective Date
June 16, 2015

THE STANDARD SPECIFICATIONS, SERIES 2012, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

120320.01 DESCRIPTION.

The work under this contract is located adjacent to federally constructed levees along the Mosquito Creek and Missouri River. As such, no improvement shall be passed over, under, or through the levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the levees other than the construction under this contract and these special provisions without prior approval of the U.S. Army Corps of Engineers (USACE). The limits of the levee critical area are 300 feet riverward and 500 feet landward of the levee. The following construction elements fall within these limits: culvert construction, electrical conduit construction, and meter pole construction.

120320.02 WORK ZONE REQUIREMENTS.

Areas within these limits disturbed by excavation, other intrusions or disturbances of the soil shall be restored as described in this special provision. Any excavation within the levee critical area limits that is not directly related to culvert construction, electrical conduit construction, and meter pole construction shall not commence without prior approval of the Engineer and the USACE.

120320.03 CONSTRUCTION.

A. Culvert Construction.

Culvert construction shall be completed within the levee critical area as per the contract documents. Culvert construction within the levee critical area limits shall be by open excavation as follows:

1. Open excavation shall consist of 2 Horizontal: 1 Vertical side slopes.
2. Disturbed soils shall be excavated, sorted by soil type, classified and stockpiled.
3. Backfill shall be placed in the excavation as it was encountered in the initial excavation.

B. Electrical Conduit Construction.

Electrical conduit construction shall be completed within the levee critical area as per the contract documents. Electrical conduit construction within the levee critical area limits shall be by open excavation as follows:

1. Open excavation shall consist of 2 Horizontal: 1 Vertical side slopes.
2. Disturbed soils shall be excavated, sorted by soil type, classified and stockpiled.
3. Backfill shall be placed in the excavation as it was encountered in the initial excavation.

C. Meter Pole Construction.

Meter pole construction shall be completed within the levee critical area as per the contract documents. Electrical conduit construction within the levee critical area limits shall be by open excavation and meter pole construction shall be by open excavation or drilled excavation as follows:

1. Open Excavation.

- a. Open excavation shall consist of 2 Horizontal: 1 Vertical side slopes.
- b. Disturbed soils shall be excavated, sorted by soil type, classified and stockpiled.
- c. Backfill shall be placed in the excavation as it was encountered in the initial excavation.

2. Drilled Excavation.

Drilled excavations shall be backfilled with concrete.

D. Materials.

1. If borrow is needed to complete the backfill, it shall be comprised of lean clay (CL). Lean clay shall consist of cohesive materials having at least 50% passing the U.S. Standard 200 mesh sieve size, a Plasticity Index of 10 or greater, and falling between the "U" line and the "A" line on Figure 4 in ASTM D 2487 – Standard Tests for Classifications of Soils for Engineering Purposes, and a Liquid Limit less than 50.
2. Moisture and density control of the backfill shall be based on the standard Proctor compaction test (Materials I.M. 309). Cohesive materials shall be compacted to a density of at least 95% of the maximum dry density and be within -1% to +4% of the optimum moisture content at the time compactive effort is applied, which may require the addition of water or aeration of materials. Non-cohesive materials shall be placed in a moist condition and compacted with approved equipment to a density of at least 95% of the maximum dry density. Sampling backfill shall be in accordance with Materials I.M. 312. Testing of the backfill shall be performed for each 2 vertical feet of fill at a maximum horizontal spacing of 200 feet.

E. Quality Control Program.

1. Provide and maintain a Quality Control Program for construction of backfill. This is defined as process control sampling, testing, and inspection as described in Materials I.M. 540 for construction of embankments with moisture and density control.
2. Provide a Quality Control Technician who is responsible for all process control sampling, testing, and inspection. The Quality Control Technician shall obtain Soils Technician certification through the Iowa DOT Technical Training and Certification Program (TTCP).
3. Provide a laboratory facility and necessary calibrated equipment to perform required tests.

4. Notify the Engineer when a moisture content falls outside specified control limits or density falls below required minimum. If a moisture content falls outside control limits, fill material in this area will be considered unacceptable for compaction. Perform corrective action(s) to bring uncompacted fill material within control limits. If material has been compacted, disk it, bring to within control limits, and re-compact. When project has a density requirement, if an in-place density does not meet the requirements, compacted fill material in this area will be considered unacceptable. Perform corrective action(s) to material to meet density requirements. Compensation will not be allowed for delays resulting from moistening, disking, or re-compacting.

120320.04 METHOD OF MEASUREMENT.

Excavation for structures in levee critical area will not be measured for payment, but shall be incidental to the associated item of work.

120320.05 BASIS OF PAYMENT.

- A. All costs associated with the excavation and backfilling with moisture and density control for culvert construction will be incidental to the bid item Culvert, Corrugated Metal Roadway Pipe, for each diameter.
- B. All costs associated with the excavation and backfilling with moisture and density control for electrical conduit construction will be incidental to the bid item Electrical Circuits.
- C. All costs associated with the excavation and backfilling with moisture and density control for meter pole construction will be incidental to the bid item Meter Pole.
- D. Payment is full compensation for furnishing a Quality Control Technician, sampling and testing, process control inspection, drying material, furnishing and applying water, controlling moisture content of the materials, and compacting the materials, as specified.