STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

SUPPLEMENTAL SPECIFICATION 878
INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS

April 19, 2013

878.01 Description
This work consists of performing inspection, compaction testing and documentation for Items 203, 204, 205, 206, 304, 411, 503, 611, 840 and other items as specified.

878.02 Qualifications
At least seven days before beginning work, submit a list of proposed personnel that meet the qualification requirements listed below. Submit the list to the Engineer for review and acceptance.

Provide a Registered Engineer to supervise technicians’ work and act as liaison with Department personnel. Have the Registered Engineer available to discuss questions and problems which arise relative to construction, inspection and compaction testing and be available at bimonthly progress meetings.

Provide at least one lead technician with NICET Level II, Construction Materials Testing – subfield Soils certification and 5 years relevant experience.

Provide technicians with NICET Level II, Construction Materials Testing – subfield Soils certification, and 2 years relevant experience, at all times for every operation requiring inspection, compaction testing and documentation. At a minimum, provide full time inspection and documentation when unbound material is being placed.

878.03 Equipment
Provide equipment according to Supplement 1015. Also furnish the serial number, manufacturer, model number, calibration data, and frequency of calibrations for nuclear density/moisture gages. Include results from the three block calibrations (performed at least every 18 months), leak tests (performed at least every 6 months), and stability tests (performed at least once for every project) for each gage.

Define the procedure for performing a stability check on nuclear gages which are not within the tolerance range after the standard count and during the interval between calibrations. Standard counts derived during the stability check for stable gages may be used instead of the manufacturer’s standards. Do not use gages found to be unstable until repaired and calibrated.
878.04 Field Testing and Inspection. Perform compaction testing according to Supplement 1015. Perform inspection to ensure the placement and compaction of unbound materials conform with Contract Documents.

At the start of field testing, the Department may perform in-place density and moisture content tests at the same location as the Contractor. The two wet density readings must be within 1.0 lb/ft³ (16 kg/m³) and the two moisture content readings must be within 1.2 percent for acceptance.

Immediately notify the Engineer and the Contractor when field testing or inspection indicate nonconformance.

878.05 Forms and Weekly Reports. Provide accurate inspection information, tests, and calculations. Report the inspection and compaction tests on Department forms described in Supplement 1015. Furnish the inspections, compaction test results and measurements to the Engineer daily. Also furnish a weekly summary that includes all inspections, measurements and compaction test results and note any failing lots or other nonconformance. Have the Registered Engineer sign the weekly report and certify that all the inspections and compaction tests meet all contract requirements.

878.06 Quality Assurance Testing. The Department will perform quality assurance (QA) tests to verify that the inspections and compaction testing conform to the Contract Documents. The Department will test one out every five lots for acceptance. The Engineer will determine the test lot at random. If the material does not require a compaction test, such as rock or durable shale, and it is being placed according to the specifications then the material will not be QA tested.

If the quality assurance test lot fails, the Department will test one additional lot of the original five. If only the original lot fails, recompact the failed lot. If the original and second lot fails, recompact all five lots represented by the original quality assurance lot tests. Notify the Engineer when any recompacted lot is ready for quality assurance verification.

After recompaction, the Department will either test all five lots for acceptance or witness the testing and documentation by the Contractor’s personnel. If any lot fails again the Engineer will stop construction until the lead technician determines and resolves the problem and the Contractor submits a plan to prevent future problems.

878.07 Basis of Payment. The Department will pay lump sum for all work as follows:

- Upon approval of the project personnel: 10%
- Uniform monthly progress payments: 80%
- Upon acceptance of the final weekly report: 10%

If all the work under this specification is performed on MSE wall select granular backfill, then the Department will pay for the work under the 840 pay item, SGB Inspection and Compaction Testing. If the work under this specification is performed under 611 then payment for the inspection and compaction testing is included in the contract unit price for the corresponding 611 pay item.
The Department will pay for accepted quantities at the contract prices as follows:

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<tr>
<th>Item</th>
<th>Unit</th>
<th>Description</th>
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<tbody>
<tr>
<td>878</td>
<td>Lump Sum</td>
<td>Inspection and Compaction Testing of Unbound Materials</td>
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**Designer Note:** Use this specification when the District wants the Contractor to provide full time inspection and compaction testing for the work. Contact the District Construction Administrator before incorporating this specification into the plans.

SS 878 and 879 are very similar specifications. SS 878 pays for the inspection and compaction testing as a lump sum pay item and covers Items 203, 204, 205, 206, 304, 411, 503, 611 and 840. SS 879 pays for the work as an incentive pay to the contract. The Contractor would be more responsible for the work under SS 879 but SS 879 only covers Items 203 and 204.

SS 840 for MSE walls requires that this Supplemental Specification be included in the plans. If all the inspection and compaction testing will be done on MSE wall select granular backfill, then a separate 878 pay item is not required. If there will be inspection and compaction testing on material in addition to the MSE wall select granular backfill, then include an 878 pay item and do not include an 840 pay item for SGB Inspection and Compaction Testing.