



City of Duluth

DEPARTMENT OF PUBLIC WORKS/UTILITIES
Engineering Division
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Date: May 18, 2010

City of Duluth Bid # 10-0224

Job Description: Reconstruction of Glenwood Street – 43rd Avenue East to 60th Avenue East

City Project No. 0647TR

S.P. 118-162-013

Addendum #3

Bid Form:

No changes

Specifications:

The following changes and additions are made to SP-13:

- SP-13.7 The Contractor shall provide field support personnel capable of instructing City of Duluth inspection personnel **and their designees** on proper use and operation of the equipment as needed throughout the duration of the Project.
- SP-13.10 The Contractor shall also furnish the City with a Total Station and controller with the following specifications:
- MagDrive Technology
 - 600 meter reflectorless range
 - Active and passive targeting
 - GPS search function
 - Ability to communicate with existing Trimble TSC2 and survey controller software
 - Ability to communicate with existing Trimble 5600 & 5800 Optical and GPS Equipment
 - Turn angles at 115 degrees per second
 - Internal Li-Ion Battery and 2 spare batteries, to provide cable free operation
 - Batter charger with 5 slots for both Li-Ion Total Station batteries and LI-Ion GPS unit batteries
 - Surface Scan feature that allows the user to measure surface points automatically
 - SurePoint technology allows the instrument to compensate up to 6 minutes as the instrument goes out of level

- Instrument has Bluetooth for additional cable free technology
- Capable of Integrated Surveying with Survey Grade GPS receiver and Optical Total Station
- Data collector needs to have an internal 2.4 Ghz radio for cable-free robotic operation for ranges up to 1500' plus, built in Bluetooth for cable free operation, and a USB memory stick port

SP-13.11 Equipment furnished under SP-13.10 shall be included as subject to special provisions SP-13.6, SP-13.7, SP-13.8, and SP-13.9

SP-19 is deleted and replaced with the following:

SP-19 (2461) STRUCTURAL CONCRETE

The provisions of Mn/DOT 2461 are modified in accordance with the following:

Mn/DOT 2461.2A(2) shall be modified to include the following:

Type III cement may be used in the production of precast concrete items when approved by the Engineer.

SP-19.1 The third paragraph of Mn/DOT 2461.3B is hereby deleted.

SP-19.2 The fourth paragraph of Mn/DOT 2461.3B2 is hereby deleted and replaced with the following:

The cement-voids ratio shown shall control the cementitious contents of all concrete mixes with the following exceptions:

- (a) When the cement content is fixed by the minimum values provided for in 2461.3C.
- (b) As otherwise authorized herein.
- (c) For bridge deck concrete, the ratio of the mass (weight) of water to the mass (weight) of cementitious shall not exceed 0.44.
- (d) For Type 3, Grade A concrete, the ratio of the mass (weight) of water to the mass (weight) of cementitious shall not exceed 0.45.

SP-19.3 Mn/DOT 2461.3C shall be modified to include the following:

Cement substitutions will not be permitted when producing High-Early Concrete except by permission of the Engineer or as otherwise required or permitted in the Specifications applying to the item of work in which the concrete is to be used.

SP-19.4 Mn/DOT 2461.3E shall be deleted and replaced with the following:

All admixtures shall be Mn/DOT Approved. Dosage rates for all admixtures are based on the manufacturer's recommendations.

The following admixtures may be used at the discretion of the Producer/Contractor:

- (a) Type A water reducing admixtures
- (b) Type B Hydration Stabilizers
- (c) Type S Viscosity Modifying Admixtures

No substances other than cementitious materials, aggregates, water, air-entraining admixtures and other admixtures referenced above shall be used in the concrete except by permission of the Concrete Engineer or as otherwise required or permitted in the Specifications applying to the item of work in which the concrete is to be used. No reduction in the normal cementitious content of the concrete mix will be made when admixtures are specified or permitted, except by written permission of the Concrete Engineer, and in no case will the cement content be reduced below the minimum specified in 2461.3C.

The use of calcium chloride will only be permitted with the approval of the Concrete Engineer. In any event, calcium chloride will not be permitted in units containing prestressing steel nor in any concrete containing steel reinforcement.

SP-19.5 Mn/DOT 2461.4A4b shall be modified with the following:

The air content for all paving grade concrete shall be 7.0 percent plus or minus 1.5 percent. The air content shall be measured after placement on the grade but before consolidation. 2461.4A4b shall be adjusted accordingly based on the 7.0 percent target value.

SP-19.6 The first paragraph of Mn/DOT 2461.4A5 shall be deleted and replaced with the following:

Concrete sampling and testing will be performed in accordance with the procedures described in the Mn/DOT Concrete Manual, reported on the Weekly Concrete Report (Mn/DOT Form 2448) and submitted to the Mn/DOT Concrete Engineering Unit.

SP-19.7 Mn/DOT 2461.4A4a and 2461.3B3 are hereby deleted and the following inserted therefore:

4A4a Water Content

Water content of the concrete shall be the minimum that will produce the desired consistency. The water content shall consist of the free water carried by the aggregate plus the water added at the mixer, and may also include the water used in making extremely dilute admixture solutions.

The Engineer will test the concrete for consistency as often as may be necessary during the progress of the work. The Department reserves the right to reject any concrete batch the consistency of which is outside of the slump range as listed in Table 2461-2. When any test shows the slump to be in excess of the upper limit of the slump range, the concrete represented by that test will be rejected unless adjustments satisfactory to the Engineer are made in the concrete prior to use.

The Contractor shall adjust the slump within the allowable range to optimize both placement and finishing.

- (1) Concrete without water reducer
When not using a Mn/DOT approved Type A water reducer at the manufacturer's recommended dosage rates listed on the Mn/DOT Concrete Unit Website, the values for the slump shall meet the range as specified below in Table 2461-2 for a slump range **without** water reducer. **No tolerances shall be applied to the slump range.**

- (2) Concrete with water reducer
When using an approved Type A water reducer at the manufacturer's recommended dosage rates listed on the Mn/DOT Concrete Unit Website, the values for the slump shall meet the range as specified below in Table 2461-2 for a slump range **with** water reducer. **No tolerances shall be applied to the slump range.**

**TABLE 2461-2
SLUMP RANGE DESIGNATION**

Slump Designation	Slump Range <u>Without Water Reducer</u>	Slump Range <u>With Water Reducer</u>
1	12-25 mm (1/2-1 inch)	12-25 mm (1/2-1 inch)
2	25-50 mm (1-2 inches)	25-75 mm (1-3 inches)
3	25-75 mm (1-3 inches)	25-100 mm (1-4 inches)
4	50-100 mm (2-4 inches)	50-125 mm (2-5 inches)
5	50-125 mm (2-5 inches)	50-150 mm (2-6 inches)
6	75-150 mm (3-6 inches)	75-175 mm (3-7 inches)

If unusual placement conditions are encountered in the work that renders the specified consistency unsuitable, contact the Concrete Unit. The Concrete Unit will provide mix composition modifications to provide the desired change in consistency while maintaining the other specified properties of the concrete mix. The addition of water only, for the purpose of temporarily facilitating the placement of concrete under such unusual conditions, will not be permitted.

Concrete Placed by the Slip-Form Method

Providing the concrete does not slough, is adequately consolidated and meets all other requirements, the Contractor may place the concrete at a slump value that optimizes placement for that designated mixture.

Non Conformance

Material not meeting requirements shall not knowingly be placed in the work. **The Contractor does not have the option of taking a price reduction in lieu of complying with the Specifications.**

Should any non-conforming material be inadvertently placed in the work, it will not be accepted for payment at Contract prices but will be subject to the following tables governing acceptance and payment provided the material was placed to the satisfaction of the Engineer. Otherwise the determination will be made according to other procedures addressed in 1503. The price reduction will represent only the quantity of material represented by the sample and actually used.

When concrete is a minor component of the Item Unit Bid Price such as concrete for sign posts, the Engineer will base any price reductions on a concrete price of **\$130.00 per cubic meter (\$100.00 per cubic yard)**. Otherwise, the Contractor may remove and replace the concrete or comply with the following:

GENERAL CONCRETE*

*Below slump range	Pay at 95 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
Up to 40 mm (1-1/2 inch) over slump range	Pay at 75 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
45 mm – 55 mm (1-3/4 inch – 2-1/4 inch) over slump range	Pay at 50 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
>55 mm (2-1/4 inch) over the slump range	Pay at 25 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed

***If piling or footing concrete is placed below the slump range, a price reduction of \$130.00 per cubic meter (\$100.00 per cubic yard) will apply to the concrete represented by the slump test. See Concrete Placed by the Slip-Form Method above (No price reduction for low slump provided the concrete is adequately placed).**

BRIDGE DECK CONCRETE

Below slump range	Pay at 95 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
Up to 40 mm (1-1/2 inch) over slump range	Pay at 75 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed
>40 mm (1-1/2 inch) over slump range	Pay at 25 % of the Unit Bid Price for the concrete represented provided the material is satisfactorily placed

LOW SLUMP BRIDGE DECK CONCRETE 12 mm to 25 mm (**1/2 inch to 1 inch**) specified

Below slump range	No deduction if material is satisfactorily placed
Up to 12 mm (1/2 inch) over slump range	Pay at 50% of unit bid price for the concrete item represented provided the material is satisfactorily placed
>12 mm up to 20 mm (1/2 inch. up to 3/4 inch) over slump range	No Pay at the unit bid price for the concrete item represented provided the material is satisfactorily placed
>20 mm (3/4 inch) over the slump range	No Pay - Contact Concrete Unit for recommendation

LOW SLUMP CONCRETE - PATCHING
12 mm to 25 mm (1/2 inch to 1 inch) specified

Below slump range	No deduction if material is satisfactorily placed
Up to 12 mm (1/2 inch) above the slump range	Pay at 75% of unit bid price for the concrete item represented provided the material is satisfactorily placed
≥20 mm (3/4 inch) above the slump range	Pay at 25% of unit bid price for the concrete item represented provided the material is satisfactorily placed

SP-19.8 Mn/DOT 2461.4A4b shall be modified with the following:

The air content for all paving grade concrete shall be 7.0 percent plus or minus 1.5 percent. The air content shall be measured after placement on the grade but before consolidation. 2461.4A4b shall be adjusted accordingly based on the 7.0 percent target value.

The following changes and additions are made to SP-32:

SP-32 (2505) 3-INCH AND 6-INCH POLYETHYLENE GAS MAIN

Add the following paragraphs;

“The contractor shall pothole the gas main every 25’ where cover over the gas main is indicated to be reduced in the plan cross sections.

The lowering of the services will be limited to the Right of Way. If it is deemed that the service needs to be lowered beyond the Right of Way, the City of Duluth will cut in new service pipe.”

SP-32.2 This section shall be deleted in its entirety and shall be replaced with;

“Measurement will be made by the linear foot for the 3” and 6” HP POLYETHYLENE GAS MAIN constructed as specified”.

SP-32.3 This section shall be deleted in its entirety and shall be replaced with;

“Payment for 3” and 6” HP POLYETHYLENE GAS MAIN will be made under 2505.603, 3” or 6” HP POLYETHYLENE GAS MAIN at the contract price per linear foot, which shall be compensation in full for the lowering of the 3” or 6” HP POLYETHYLENE GAS MAIN as specified”.

Plansheets:

No changes

All other items remain the same.

Be sure to acknowledge this addendum and all others on the back cover sheet of your bid.
Return the entire bound Project Proposal and all addenda as your bid.

Sincerely,

A handwritten signature in black ink that reads "Matthew J. Decur". The signature is written in a cursive style with a large initial 'M' and a distinct 'J'.

Matt Decur
Project Engineer