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CONCRETE CURBING
(OAKDALE 2531)

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes:
   1. Concrete curb.
   2. Concrete curb and gutter.
   3. Concrete driveway pavement.

B. Method of Measurement:
   1. Curb and Gutter:
      a. Measure by length in linear feet along face of the curb at gutter line.
      b. Measure each design type separately.
      c. Measure spot areas with a total length of less than 60 feet as the single Remove and Replace Curb and Gutter item.
      d. Measure longer areas with a total length of more than 60 feet as two items: the Remove and Replace Curb and Gutter item and the new Curb and Gutter item.
   2. Driveway Pavement: Measure by area in square yards for each thickness.

C. Basis of Payment:
   1. Payment for concrete construction shall be at the Contract Unit Price listed on the Bid Form. All associated Work items shall be considered incidental.

1.02 REFERENCES

A. MnDOT 2531 – Concrete Curbing

1.03 SUBMITTALS

A. Concrete Mix Submittals:
   1. Include name and address of transit-mix concrete supplier with submittals.
   2. Catalog information on admixtures or agents to be included in mix.
   3. List of concrete mix designs at least 15 days prior to start of Work.

B. Quality Assurance/Control Substitutes:
   1. Test Reports: Report test results to Engineer.
   2. Certificates: If transit-mix concrete is used, the transit-mix concrete supplier shall furnish Certificate of Compliance with Construction Documents.

1.04 QUALITY ASSURANCE

A. Regulatory Agencies:

1. Comply with local governing regulations if more stringent than specified.
2. Curb edges and curb cuts on public property shall conform to the requirements of authorities having jurisdiction.
3. Produce concrete from MnDOT certified plants.

1.05 PROJECT CONDITIONS

A. Maintain access for vehicular and pedestrian traffic.

PART 2 PRODUCTS

2.01 MATERIALS

A. Concrete: MnDOT 2461.

B. Reinforcement Bars: MnDOT 3301.

C. Steel Fabric: MnDOT 3303.

D. Preformed Joint Filler: MnDOT 3702.

E. Granular Materials: MnDOT 3149.

F. Forms:
   1. Straight, clean, and adequately interlocked and braced.
   2. Provide wood or steel forms capable of sustaining concrete in proper line, grade, and cross section until set.

G. Accessories:
   1. Curing Materials:
      a. Plastic Sheeting: MnDOT 3756.
      b. Membrane Curing Compound: MnDOT 3754.

2.02 CONCRETE MIX DESIGNATION

A. Based on method of placement as follows:
   1. Manual placement: Mix No. 3F52.
   2. Slip-form placement: Mix No. 3F32.
   3. Provide Type A or C aggregate for ALL driveway/pavement mix.
   4. Commercial Driveways and Entrances: Mix No. 3F52HE (High Early Strength)

PART 3 EXECUTION

3.01 FOUNDATION PREPARATION

A. Excavate shape and compact foundation to planned section and grade.

B. Remove unsuitable subgrade soil as directed.

C. Provide and compact granular material to required depth.

3.02 INSTALLATION

A. Form Installation:
   1. Coat contact surfaces with form treating material conforming to MnDOT 3902 prior to concrete placement.
   2. Clean forms after each use.

B. Slip-form Machine Placement: Inspect string line grade and verify with Engineer prior to placement.

C. Placing and Finishing:
   1. Wet foundation and inside form faces immediately prior to concrete placement.
   2. Strike off to required grade and float smooth.
   3. Hand-float top surface of curb face.
   4. Round joints and edges to 1/2 inch radii.
   5. Lightly brush exposed surfaces to uniform texture.
   6. Fill cavities with mortar when side forms are removed.
   7. Check drainage. Finish gutter flowlines to eliminate low spots and avoid water entrapment.

D. Metal Reinforcement: Provide and install.

E. Joint Construction: Construct perpendicular to subgrade and aligned with similar joints in adjacent work.
   1. Transverse Isolation Joints:
      a. Fill with 1/2 inch preformed joint filler material.
      b. Place transverse joints at right angles to alignment.
      c. Place as follows:
         1) At 60-foot intervals on tangent sections.
         2) 3 feet on each side of catch basins.
         3) At end of curved sections.
         4) At ends of curved portions of entrance and street returns.
         5) Where new construction surrounds or adjoins any existing fixed object.
         6) To separate curbs with isolation joints at driveway entrances with curved concrete aprons.
         7) To separate pedestrian ramps at intersection corners from curbs.
   2. Contraction Joints:
      a. Provide at 10-foot intervals in curb or curb and gutter constructions.
      b. Provide at 20-foot intervals in solid median construction.
      c. Form or saw to a minimum 2-inch depth from all exposed surfaces.

F. Curing and Protection:
   1. Cure minimum 72 hours after finishing.
   2. Protect from loss of moisture, rain damage, traffic, and extreme hot or cold temperatures.
   3. Blanket Curing Method:
      a. Cover concrete with waterproof paper or plastic after finishing.
      b. Envelop concrete and prevent water vapor loss.
      c. After curing, treat exposed surfaces with 2 coats treating oil.
   4. Membrane and Extreme Service Curing Method:
      a. Coat exposed surfaces with curing compound immediately after finishing.

b. Apply uniformly at a rate of 1 gallon per 150 square feet of surface area with approved airless sprayer.
c. Re-spray to provide proper coating.

G. Joint Sealing: Not required.

3.03 TOLERANCES

A. Deviations greater than 5/16 inch from a 10-foot straight edge on tangent lines or grades will be considered as defective work.

3.04 TESTING

A. Testing and analysis of concrete will be performed by City's independent testing company.

3.05 REPAIR/RESTORATION

A. Backfill and compact adjacent area to cross-section shown on Drawings.

B. Protect concrete from damage during backfill and compaction.

C. Protect curbing from damage until acceptance of Work.

D. Noticeable spalling (loss of surface mortar and aggregate) during guarantee period: Remove affected panel and replace at Contractor's expense.

E. Remove unacceptable work and replace with work approved by Engineer.

END OF SECTION