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WALKS (OAKDALE 2521)

PART 1 GENERAL

1.01 SUMMARY

- A. Provide:
 - 1. Concrete walkway.
 - 2. Temporary building access.
 - 3. Truncated dome inserts.
- B. Related Sections:
 - 1. Section 2105 – Excavation and Embankment
 - 2. Section 2211 – Aggregate Base
 - 3. Section 2531 – Concrete Curbing
- C. Method of Measurement;
 - 1. Measure by area in square feet.
 - 2. Measure each thickness and type separately.
 - 3. Includes Pedestrian ramps.
 - 4. Measure truncated dome inserts by area in square feet.
- D. Basis of Payment:
 - 1. Placement of aggregate base materials will be paid for under Section 2211.
 - 2. Payment for walk construction shall be at the Contract Unit Price as listed on the Bid Form. All associated Work items shall be considered incidental.

1.02 REFERENCES

- A. MnDOT 2521 – Walks

1.03 SUBMITTALS

- A. Concrete Mix Submittals:
 - 1. Include name and address of transit-mix concrete supplier,
 - 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. Shop Drawings: Provide for cast iron truncated dome inserts.
- C. Quality Assurance/Control Submittals:
 - 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.

3. Provide details of proposed method to seal truncated dome system and mitigate freeze/thaw damage through moisture intrusion to Engineer 2 weeks prior to commencement of Work.

D. Preinstallation Meeting: Meet with Engineer prior to the start of installation.

1.04 QUALITY ASSURANCE

- A. Comply with ADA requirement for use of truncated domes/detectable warning systems on pedestrian curb ramps.

1.05 PROJECT CONDITIONS

- A. Existing Conditions:
 1. Drawings do not purport to show actual dimensions, but are intended only to establish location and scope of Work.
 2. Field-verify dimensions and assume full responsibility for their accuracy.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Materials:
 1. Concrete: MnDOT 2461.
 2. Preformed Joint Filler: MnDOT 3702.
 3. Bituminous Mixture: MnDOT 2360.
 4. Granular Materials: MnDOT 3149.
- B. Forms:
 1. Wood or metal with smooth contact face.
 2. Minimum form height: Proposed concrete thickness.
- C. Accessories:
 1. Concrete Treating Oil: MnDOT 3917.
 2. Curing Materials:
 - a. Absorptive cover: AASHTO M182, Class 2, burlap cloth.
 - b. Moisture-retaining cover: MnDOT 3756, polyethylene film or white burlap-polyethylene sheet.
 - c. Clear waterborne membrane curing compound: MnDOT 3754, Type 1, Class B.
 - d. White waterborne membrane-forming curing compound: MnDOT 3754, Type 2, Class B.
 - e. Evaporation Retarder: Waterborne, monomolecular film forming.
 3. Slip-resistant finish:
 - a. Factory-graded, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate.
 - b. Nonglazing, rustproof, unaffected by freezing, moisture, and cleaning materials.
 4. Truncated dome Inserts:
 - a. Cast iron.
 - b. Prefabricated and included on MnDOT's Approved Products List (APL).
 - c. Meet requirements of Drawings and MnDOT Plate 7036F.

2.02 MIXTURE PROPORTIONS

- A. Concrete Mix: No. 3F52 with Type A or C Aggregate.

PART 3 EXECUTION

3.01 PREPARATION

- A. Foundation:
 1. Examine subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
 2. Remove snow, ice, or frost from subbase surface. Do not place concrete on frozen surfaces.
 3. Proof-roll prepared subbase surface below concrete walks to identify soft pockets and areas of excess yielding.
 4. Remove unstable subgrade soils and loose material from compacted subbase surface.
- B. Protection: Provide adequate barricades and personnel to protect fresh concrete from pedestrian traffic and graffiti.
- C. Forms: Clean after each use and coat with form-release agent.

3.02 CONCRETE INSTALLATION

- A. Placing:
 1. Thoroughly wet foundation and forms prior to concrete placement.
 2. Place and consolidate concrete to fill all voids.
 3. Scree surface with straightedge and strike off to required grade.
 4. Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause excessive moisture loss before and during finishing operations.
- B. Tolerances:
 1. Surface: Plus or minus 3/16 inch from 10 foot straightedge.
 2. Edges: Plus or minus 1/2 inch from staked location and grade.
- C. Joint Construction:
 1. Divide walk into uniform sized panels and outline with contraction or isolation joints.
 2. Joints shall be
 - a. Vertical and straight.
 - b. Parallel to or at right angles to edge of walk.
 - c. Align with like joints in adjoining work.
 - d. 1/8-inch wide for contraction joint.
 - e. 1/2-inch wide for isolation joint.
 3. Round all joints and edges with a 1/4-inch radius edging tool.
 4. Extend contraction joints to minimum 1/3 of thickness of walk.
 5. Extend isolation joints to full thickness of walk.
 6. Place 1/2 inch preformed joint filler adjacent to fixed objects.
 7. Maintain forms in-place for minimum 24 hours after concrete placement.
 8. Clean ends of joints and point-up any minor honeycombed areas.
- D. Finishes:

1. Broom finish:
 - a. Fine line texture, perpendicular to line of traffic.
 - b. Lightly brush surface to uniform texture.
2. Float finish: Smooth.
3. Slip-resistant aggregate finish:
 - a. Before final floating, spread slip-resistive aggregate finish on surface according to manufacturer's written instructions.
 - b. Use curing compound recommended by slip-resistive aggregate manufacturer immediately after final finishing.
 - c. After curing, lightly work surface with steel wire brush or abrasive stone and water to expose nonslip aggregate.
4. Edge joints.

E. Truncated Dome Inserts:

1. Install in accordance with Plan Details and manufacturer's recommendations.

F. Curing and Protection:

1. Cure for minimum 72-hour period after finishing.
2. Protect from loss of moisture, rain damage, traffic, and extreme hot or cold temperatures.
3. Apply curing media within 30 minutes after side forms are removed.
4. Use membrane-forming curing and sealing compound or accepted moist-curing method.
 - a. Blanket curing method: After curing, treat exposed surfaces with 2 coats of treating oil totaling 0.06 gallons/square yard coverage.
 - b. Membrane and Extreme Service Curing Method (anti-spalling compound):
 - 1) Coat exposed surfaces with curing compound within 1 hour after finishing.
 - 2) Apply uniformly at rate of 1 gallon per 150 square feet of surface area with approved airless sprayer.
 - 3) Maintain homogenous mixture.
 - 4) Respray as necessary to provide proper coating.

3.03 REPAIR/RESTORATION

- A. Backfill areas adjacent to walk with excavated materials; grade and finish.
- B. Protect from damage during backfill and compaction.
- C. Broken or Defective Concrete: Repair or replace as directed by Engineer.
- D. Protect from damage until acceptance of Work.
- E. Surface spalling (loss of surface mortar and aggregate) during guarantee period: Remove and replace at Contractor's expense.

3.04 CLEANING

- A. Do not allow accumulation of scraps and debris arising from Work of this Section.
- B. Maintain premises in neat, orderly condition.
- C. Promptly clean surfaces not to receive concrete.

END OF SECTION