



City of Oakdale  
 1584 Hadley Avenue North  
 Oakdale, MN 55128

**ENGINEERING SPECIFICATIONS  
 CITY OF OAKDALE NO. 2521**

**WALKS**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section Includes:
  - 1. Construction of bituminous or concrete walkway.
  
- B. Related Sections:
  - 1. MN/DOT Specification #2105: Excavation and Embankment
  - 2. MN/DOT Specification #2211: Aggregate Base
  - 3. MN/DOT Specification #2360/2360A: Plant-Mixed Bituminous Pavement .
  - 4. MN/DOT Specification #2521: Walks
  
- C. Method of Measurement:
  - 1. Measure by area in square feet.
  - 2. Measure each thickness separately.
  - 3. Measure each type separately.
  
- 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.

Item No.	Item	Unit
2521.501	_____ "Concrete Walk	S.F.
2521.501	_____ "Concrete Terrace	S.F.
2521.511	_____ "Bituminous Walk	S.F.
2521.513	_____ "Bituminous Terrace	S.F.

**1.02 SUBMITTALS**

- A. Bituminous Mixture
  - 1. Submit a job mix formula using the proposed aggregate source.



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## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. All materials shall be in accordance with the respective MN/DOT specifications as follows:
1. MN/DOT #2461: Structural Concrete
  2. MN./DOT #3702: Preformed Joint Filler
  3. MN/DOT #2331: Bituminous Mixture
  4. MN/DOT #3149: Granular Materials

### **2.02 ACCESSORIES**

- A. All materials shall be in accordance with the respective MN/DOT specifications as follows:
1. MN/DOT #3917: Concrete Treating Oil
  2. Curing Materials:
    - a. MN/DOT #3752: Curing Paper
    - b. MN/DOT #3756: Plastic Sheeting
    - c. MN/DOT #3754: Membrane Curing Compound
    - d. MN/DOT #3755: Extreme Service Membrane Cure

### **2.03 MIXTURE PROPORTIONS**

- A. Concrete shall be Mix No. 3A32 for standard walk and Mix No. 3A37EX for exposed-aggregate walk.
- B. Bituminous Mixture shall be in accordance with MN/DOT 2331.3E2c(Type 31 Wear-Aggregate Size A).

### **2.04 EQUIPMENT**

- A. Bituminous Paver shall be a self-contained power propelled unit.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Foundation:
1. Excavate, shape and compact subgrade soils as shown on the plans.
  2. Remove unstable subgrade soils as directed.
  3. Provide and compact granular materials in accordance with the plans or as directed.



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B. Forms:

1. Coat the contact face with form treating material.

### 3.02 CONCRETE INSTALLATION

A. Placing and Finishing

1. Thoroughly wet foundation and forms prior to concrete placement.
2. Place and consolidate concrete to fill all voids.
3. Strike off to the required grade.
4. Float surface smooth.
5. Edge all joints.
6. Lightly brush surface to a uniform texture.
7. Maintain forms in place for a minimum 12 hours after concrete placement.

B. Tolerances

1. Surface: plus or minus 3/16 inch from 10 foot straightedge.
2. Edges: plus or minus 1/2 inch from the staked location and grade.

C. Joint Construction

1. Divide walk into uniform sized panels and outline with contraction or expansion joints.
2. Provide square panels with maximum 36 square feet of area.
3. Joints shall be:
  - a. Vertical and straight.
  - b. Parallel to or at right angles to the edge of the walk.
  - c. Aligned with like joints in adjoining work.
  - d. 1/8 inch wide for contraction joint.
  - e. 1/2 inch wide for expansion joint.
4. Round all joints and edges with a 1/4 inch radius-edging tool.
5. Extend contraction joints to the least 1/3 of the thickness of the walk.
6. Extend expansion joints to the full thickness of the wall.
7. Place 1/2 inch preformed joint filler adjacent to all fixed objects.

D. Curing and Protection

1. Provide curing for minimum 72-hour period after finishing.
2. Apply curing media within 30 minutes after side forms are removed.
3. During cold weather, protect concrete from frost damage.
4. 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 two coats of treating oil totaling 0.06 gallons per square yard coverage.
5. Membrane and Extreme Service Curing Method:



- a. Coat all exposed surfaces with curing compound within one hour after finishing.
- b. Apply uniformly at a rate of one gallon per 150 square feet of surface area with an approved airless sprayer.
- c. Mix as required to maintain a homogenous mixture.
- d. Respray as directed to provide proper coating.

### 3.03 EXPOSED AGGREGATE SURFACE TREATMENT

- A. The concrete mix shall conform to Mix No. 3A37EX. Immediately after concrete placement and finishing, and after contraction joints are formed, an approved surface retarder shall be applied to the area required to be exposed. After adequate cure with 3752 Waterproof Curing Paper or 3756 Plastic Curing Blankets, the surface shall be lightly rinsed to wash mortar and expose the aggregate.
- B. Apply acrylic based sealer to project finished surface.

### 3.04 BITUMINOUS INSTALLATION

- A. Spreading Operations:
  1. Spread each mixture to the required cross section in one pass with an approved paver.
  2. Spread by hand only in areas not accessible to a paver.
  3. Coordinate paver speed with the rate of delivery of the mix to provide a uniform rate of placement.
- B. Compacting Operations:
  1. Conduct rolling with a steel-wheeled or pneumatic-tired roller.
  2. Commence compaction as soon as possible after the mixture has been spread without causing undue displacement of the mixture.
  3. Operate rollers continuously until all areas are compacted to the required density and all roller marks are eliminated.
  4. Compact each course uniformly by the Ordinary Compaction Method until there is no further evidence of consolidation.
- C. Thickness and Surface Requirements:
  1. After compaction, each course shall be within 1/2 inch of the required thickness.
  2. Remove and replace any areas that are not within tolerance.
  3. After rolling, each surface shall be free of open and torn sections.
  4. The surface shall be smooth and true to the planned grade and cross section and shall not vary more than 1/8 inch from the edge of a 10 foot straightedge placed parallel or perpendicular to the centerline.



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### **3.05 BACKFILLING**

- A. Backfill areas adjacent to the walk with excavated materials.
- B. Grade and finish adjacent areas in accordance with the proposed typical section.

**END OF SECTION**