

STANDARD SPECIFICATIONS

for

SIDEWALKS

City of La Crosse, Wisconsin

1. SCOPE OF WORK:

The work to be done under these specifications consists in furnishing all the necessary materials, tools, and labor, and doing all the necessary excavating and filling required for the laying of Portland cement concrete sidewalks as directed by the Board of Public Works or designated representative for the period specified in the bid proposal.

2. TYPE AND WIDTH:

All sidewalks shall be constructed of Portland Cement Concrete and shall be six feet in width unless otherwise specified by the Board of Public Works.

3. CONCRETE:

The grade of concrete to be used shall be AA Air-Entrained as set forth in Section 501 of the latest edition of the State of Wisconsin Standard Specifications for Road and Bridge Construction.

Prior to the start of construction, the successful contractor or his suppliers shall have representative samples of the fine and coarse aggregates to be used, tested by an independent testing and engineering laboratory for preparation of a design mix under Section 501 of the Standard Specifications, State of Wisconsin, Department of Transportation, latest edition.

The cost of testing and design mix shall be borne by the Contractor.

The results of said testing and a design mix should be submitted to the City Engineer for his approval.

4. MIXING:

Concrete shall be mixed in a batch mixer of a type approved by the Engineer. Other mixing methods shall be approved by the Engineer.

The volume of concrete mixed in ready mixed trucks shall not exceed the manufacturer's rated capacity and shall be discharged from the transporting vehicle within one hour after the introduction of the mixing water to the cement and aggregates; non-agitating type truck haulage of concrete is not permitted.

5. PREPARATION OF SUBGRADE:

The subgrade shall be thoroughly tamped or otherwise compacted to insure stability.

The subgrade shall be brought to proper alignment so that after being compacted and struck off it will be at the proper elevation. The top of all subgrades in a fill section shall not be less than two feet beyond each side of the finished sidewalk with a slope of two to one on the sides, (2' in width to 1' depth).

6. FORMS:

Forms shall be of wood or metal, and shall be straight and of sufficient strength to resist springing or other displacement during the process of depositing and consolidating the concrete. The forms shall be of a depth equal to the depth of the sidewalk. The forms shall be set to proper line and grade and staked in position and shall be sufficiently tight to prevent leakage of mortar. Proper slope toward outer edge of the sidewalk shall be ¼ inch fall to each foot in width and no more, unless approved by the Engineer. Before placing any concrete the forms shall be clean and oiled and the subgrade shall be thoroughly moistened.

7. THICKNESS:

The thickness of sidewalks in residential districts shall be not less than 4 inches and in business districts not less than 5 inches. Private driveways shall be not less than 6 inches.

8. PLACING AND FINISHING:

The concrete shall be placed on a moist foundation, deposited to the required depth, and consolidated and spaded sufficiently to bring the mortar to the surface after which it shall be struck off and floated. Before the mortar has set the surface shall be steel trowled (Hand or Fresno), jointed and surface roughened by use of a brush or other suitable tool.

9. JOINTS AND EXPANSION JOINTS:

Joints shall be made transversely and at right angles to the centerline of the walk at intervals so that the resultant squares or rectangles shall be of equal width (Approx. 6' Squares). All edges of the sidewalk along forms and joints shall be rounded with an edger of ¼-inch radius.

No joint shall deviate more than 5 degrees from a position perpendicular to the surface of the finished sidewalk nor shall the axis of any joint deviate more than ½" either way from a straight line.

When the sidewalk is constructed in partial width slabs, transverse joints in adjacent slabs shall be placed in line with like joints in the previously constructed slabs.

Expansion joint material shall consist of one-half inch expansion joint filler conforming to the requirements of the standard specifications for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction, AASHTO Designation: M153, Types I, II, or III, or the Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction, AASHTO Designation: M213, as per State D.O.T. Standard Specification Latest Designation. Also approved for expansion joint filler material is material conforming to A.S.T.M. D-1751 Specifications and/or U.S. Federal Specification HH-F-351e Type 1.

One-half inch (1/2") transverse expansion joint filler shall be placed through the sidewalk at uniform intervals of not more than 36 feet. In locations where the sidewalk extends from the back of curb to the lot line or building, one-half inch expansion joint filler shall be placed between the sidewalk and back of abutting parallel curb and between sidewalk and building or other rigid structure. In all cases where sidewalk is constructed from curb to lot line, a construction joint shall be placed 1 foot behind the curb and parallel to it for ease of removal for placing of conduit or repairing of wiring for lighting and traffic signals. One-half inch expansion joint filler shall be placed between all approach walks and the main walks and between approach walks and the curb.

One-half inch expansion joint filler shall also be placed at all private and alley driveways, along lot lines extended of each street, along the outer edge of sidewalks extended and along the curb where such aprons meet.

When sidewalk is constructed adjacent to a building which is not on the lot line and the property owner wishes to pour a continuous walk from the curb to the building, the ½ inch expansion joint filler may be moved from the lot line to the building foundation; providing, however, that the distance between the building and the lot line does not

exceed two (2) feet. This portion that is between the lot line and building will not be considered as part of the contract.

10. COLORING:

Where coloring matter is required it shall be mixed dry with the cement until the mixture is of uniform color. The quantity and quality of coloring matter shall be such as shall not impair the strength of the sidewalk.

11. PROTECTION AND CURING:

Immediately after finishing has been completed and the free water has disappeared, the entire surface of the concrete shall be sealed by spraying thereon an impervious membrane that shall conform to the requirements of the standard specifications for liquid membrane-forming compounds for curing concrete A.A.S.H.O. designation M148, Type 2, White Pigmented.

Other methods of curing, such as, the wet fabric method and the paper method conforming to Section 415.5.10 of the Wisconsin State Highway Commission Standard Specifications for Road & Bridge Construction, may be used with approval of the Engineer.

The Contractor shall protect the new work from traffic or physical damage at his expense until adequately cured and of required strength. This includes erection and maintenance of barricades & warning lights.

12. REMOVAL OF FORMS AND BACKFILL:

Forms shall not be removed until the concrete has set for at least 24 hours. Replacement of fill back of the completed sidewalk shall be done as soon as possible after forms are removed to avoid hazards and personal injury, liability for which the contractor is responsible.

In areas where yards and boulevards are developed, backfill must be of topsoil adapted to the sustenance of plant life.

13. COLD WEATHER:

Except by specific written authorization, concreting operations shall not be continued when a descending air temperature in the shade and away from artificial heat falls below 40 degrees F., nor resumed until an ascending air temperature in the shade and away from artificial heat reaches 35 degrees F. The Contractor shall conform to

Paragraph 409.5.14 of the latest Edition of State Standard Specifications for Road and Bridge Construction with regard to cold weather concreting operations.

14. METHOD OF MEASURING:

Sidewalks will be measured by area in square feet, and the quantity measured for payment shall be the amount actually completed and accepted, in accordance with the terms of the contract.

15. TREE & STUMP REMOVAL:

Tree removal item shall include costs for complete removal of tree and its stump. Stump removal item shall include costs for complete removal of stump where trees have been removed previously by others.

The formula for determining diameter inches for complete tree removal shall be to measure the circumference 4 feet above the ground and divide by three. Payment shall be made only for trees and stumps over 5 inches in diameter.

16. CLEAN UP AND DISPOSAL OF DEBRIS:

Bid proposal items shall include the cost of all reasonable clean-up, backfill and the proper disposal of all debris, to the satisfaction of the Engineer or his authorized representative. The Contractor shall dispose of surplus excavation and shall restore the site of the work to a neat and workmanlike condition.

17. WORK INCLUDED:

- A. Excavation or fill to 6-inch depth.
- B. Unit price bid includes proper root removal to avoid damage to new or replaced walks.
- C. Where adjoining existing walks are not on the established grade, the walk in place shall be raised, lowered, or replaced by the Contractor at no extra cost. The maximum slope shall be ½ inch per foot. Any damage resulting from this work shall be repaired by the Contractor without charge.

18. SCHEDULE OF WORK:

Walks shall be installed in each area in accordance with work orders issued by the Sidewalk Inspector.

19. GUARANTEE:

By execution of the contract, the Contractor guarantees that should any defect appear or develop resulting from or caused by the use of improper materials, equipment, careless or improper workmanship or construction, or non-adherence to specified line & grade, the Contractor agrees to forthwith repair or cause the same to be corrected upon notification by the City. In case the Contractor fails to make such repairs or corrections, or cause the same to be made within a reasonable time, it is agreed that the City shall have the right to make such corrections or repairs and the contractor will reimburse the City for all such expenditures. Effective period of guarantee shall be for one year following acceptance of work. Surety bond shall contain the required provisions for this guarantee.

20. TRUNCATED DOMES WARNING FIELD AT CURB RAMPS:**DESCRIPTION:**

This work shall consist of furnishing all material, equipment, and labor necessary for the placement of detectable warning devices at curb ramps, complete and ready for service at all new sidewalk curb ramps.

The devices shall comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES.)

DIMENSIONS:

Detectable warning surfaces shall extend 24 inches (610 mm) minimum in the direction of travel and the full width of the curb ramp flush surface (generally 48 inches wide).

The detectable warning surface shall be located so that the edge nearest the curb line is 6 inches (150 mm) minimum and 8 inches (205 mm) maximum from the surface of the curb line.

Domes shall be aligned on a squared grid, aligned in rows parallel and perpendicular to the predominant direction of travel. Domes must not be skewed diagonally to the direction of travel.

APPLICATION & GUARANTEE:

Detectable warning devices shall be installed in accordance with manufacturer's specifications and in accordance with this specification, or as otherwise specified on the plans and detail sheet. The finished surface shall be uniformly profiled to match the adjoining surfaces without lips, or obstructions and shall drain completely.

The contractor and manufacturer shall jointly warrant in writing the installed surface to last no less than five years without losing more than two percent of the truncated domes due to delaminating as a result of product failure, and shall further warrant the surface for a minimum of five years against fading, chipping, peeling, cracking, deformation, loosening of tiles or loss of original shade due to sunlight, salt or exposure to weathering.

MANUFACTURERS:

Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

“MetaPanel” manufactured by MetaDome, LLC or “Neenah Detectable Warning Plate” manufactured by Neenah Foundry Company or pre-approved equal.

Other manufacturers must submit all items indicated in “Submittals” section for approval by the City Engineer at least ONE WEEK prior to bid opening to be approved for installation of their warning device. The City Engineers decision regarding approval of a manufacturer’s product is final.

The color of the detectable warning field shall be:

MetaDome, Federal Yellow
Neenah Foundry, Federal Yellow

SUBMITTALS:

Product Data: Submit manufacturer’s literature describing products, installation procedures and routine maintenance.

Samples for Verification Purposes: Submit two (2) tile samples minimum 6”x8” of the kind proposed for use.

Shop drawings are required for products specified showing fabrication details; composite structural system; plans of tile placement including joints, and material to be used as well as outlining installation materials and procedure.

Material Test Reports: Submit test reports from qualified independent testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. All test reports shall be conducted on a cast-in-place tactile tile system as certified by a qualified independent testing laboratory.

Maintenance Instructions: Submit copies of manufacturer’s specified maintenance practices for each type of tactile tile and accessory as required.

INSTALLATION:

The specifications of the concrete sealants and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers.

The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 - 7 to permit solid placement of the Cast-In-Place Tile System. An overly wet mix will cause the Cast-In-Place System to float, therefore under these conditions suitable weights such as 2 concrete blocks or sandbags (25 lb) shall be placed on each tile.

The concrete pouring and finishing operations require typical mason's tools, however, 25 lb. weights, vibrator and small sledge hammer with 2" x 6" x 20" wood tamping plate are specific to the installation of the Cast-In Place system.

The concrete shall be poured and finished, true and smooth to the required dimensions and slope prior to tile placement. Immediately after finishing the concrete, the contractor shall check that the required slope is achieved. The tile shall be placed true and square to the sidewalk edge in accordance with the standard detail drawings. The Cast-In-Place Tiles shall be tamped or vibrated into the fresh concrete to ensure that the field level of tile is flush to the adjacent concrete surface. The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes. The tolerance for elevation differences between tile and adjacent surface is 1/16".

Immediately after tile placement, the tile elevation is to be checked to adjacent concrete. The tile elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates.

While concrete is workable a steel trowel shall be used to trowel the concrete around the tile perimeter to the field level of the tile.

During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external forces placed on the tile to rock the tile, causing a void between the underside of tile and concrete.

Following tile placement, review installation tolerances to standard drawings and adjust tile before the concrete sets, 2 suitable weights of 25 lb each shall be placed on each tile as necessary to ensure solid contact of tile underside of concrete.

Following the curing of the concrete, the protective plastic wrap is to be removed from the tile face by cutting the plastic with a sharp knife tight to the concrete/tile interface. If

concrete bleeding occurs; a wire brush will clean the residue without damage to the tile surface.

Environmental Conditions and Protection: Maintain minimum temperature of 40 degrees F in spaces to receive tactile tiles for at least 48 hours prior to installations, during installation, and for not less than 48 hours after installation. Store tactile tile material in spaces where they will be installed for at least 48 hours before beginning installation. Subsequently, maintain minimum temperature of 40 degrees F in areas where work is completed.

CLEANING AND PROTECTING:

Protect tiles against damage during construction period to comply with tactile tile manufacturer's specification.

Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.

After installation and other work are complete at a location the contractor shall clean the tactile tile by a method specified by the tile manufacture.

MEASUREMENT & PAYMENT:

The number of detectable warning devices shall be the actual number individual surfaces furnished and in place at each ramp, complete and accepted. This item shall be complete and include all work necessary to provide a complete and useable detectable warning device. This shall include but not be limited to: layout, bedding, surface preparation and placement of the device.

Per unit payment shall include all costs of furnishing material, equipment, and labor necessary for the placement of detectable warning device, and shall be in addition to the overlapping payment for square foot payment for forming, finishing and installing the curb ramp.

If the detectable warning field area is larger than eight square feet (where directed by the Engineer), extra payment will be made based on the bid item price divided by eight to determine a per square foot rate.

ADDENDUM #1
TO
STANDARD SPECIFICATIONS FOR SIDEWALKS

Section 20. Truncated Domes Warning Field at Curb Ramps:

The City of La Crosse is revising the Standard Specifications for Sidewalks to require the “Neenah Detectable Warning Plate” R-4984 or approved equivalent as the warning device at corner curb ramps. This provides consistency throughout the City at corner ramps and uniformity with detectable warning fields being installed by City of La Crosse crews. Only unpainted detectable warning fields shall be installed.

Revised March 2012