15C24: 36-Inch Diameter Cantilever Overhead Sign Support Base

GENERAL NOTES

ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

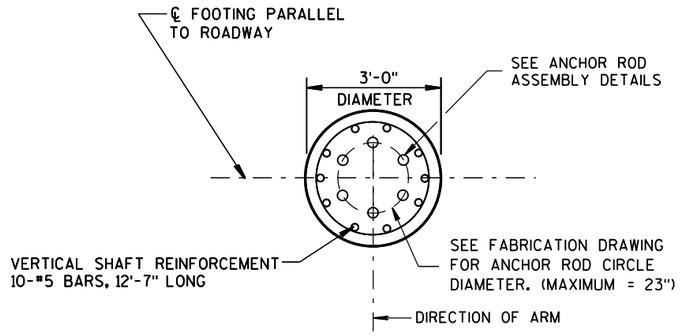
THE REINFORCEMENT AND ANCHOR RODS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

FORM ALL EXPOSED CONCRETE CORNERS WITH ¾" CHAMFER ALL AROUND. TOP OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.

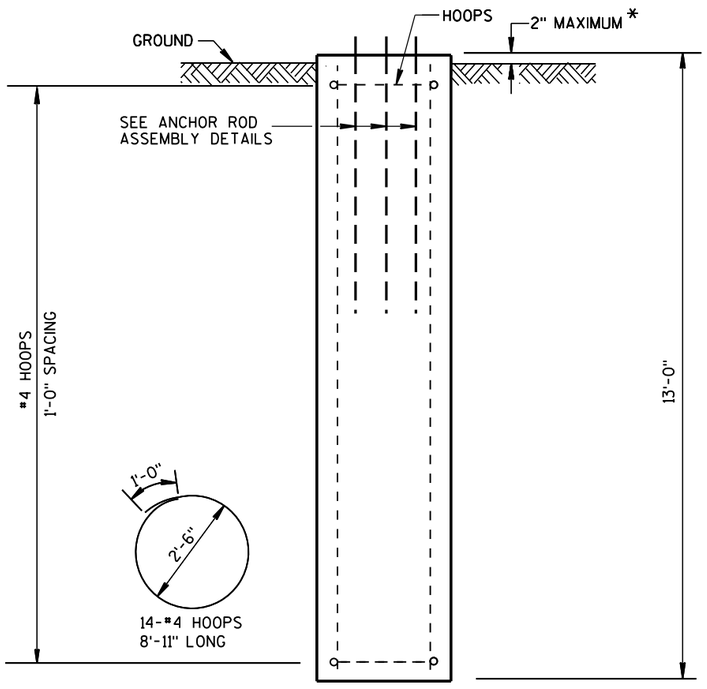
ANY DAMAGE TO THE CONCRETE BASE AND ANCHOR RODS DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554, GRADE 55	fy=55,000 p.s.i.
ASTM A563A HEAVY HEX NUTS, AND ASTM F436 WASHERS.	
PLATES, ASTM A709, GRADE 36	fy=36,000 p.s.i.

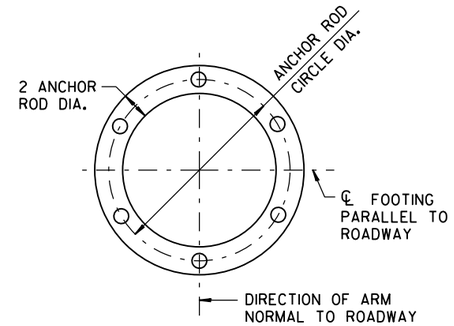
THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



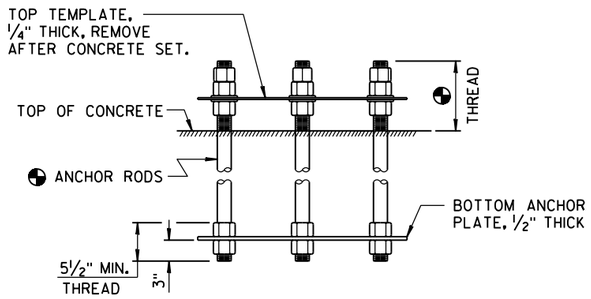
PLAN VIEW



ELEVATION VIEW



TOP TEMPLATE AND BOTTOM ANCHOR PLATE



ANCHOR ROD ASSEMBLY DETAILS

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.

⊕ MINIMUM OF 6 ANCHOR RODS, EXACT NUMBER, SIZE, DIMENSION AND ORIENTATION AS SHOWN ON FABRICATION DRAWING.

CONCRETE - 3.4 C.Y. PER FOOTING
H.S. REINFORCEMENT - 215 LBS. PER FOOTING

36" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Vu Thao — WIND LOADED STRUCTURES PROGRAM LEADER
FHWA

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S.D.D. 15 C 24-4

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S.D.D. 15 C 24-4

Version 4 **Standard Detail Drawing 15c24** *June 24, 2016*

36-Inch Diameter Cantilever Overhead Sign Support Base

References:

FDM 11-55-20
Manual On Uniform Traffic Control Devices Part 2A

Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	UNIT
641.8100	Overhead Sign Support (structure)	LS

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
NONE	

Other SDDs associated with this drawing:

NONE

Design Notes:

This Standard Detail Drawing is applicable for cantilevered overhead sign support installation only.

The design of these footings is based on forces generated from a 90 mph wind (3-second gust speed definition.) A factor of safety of 1.5 has been applied to the wind force when checking the footing depth against overturning only. No additional safety factor has been applied to the wind force when checking the footing against twisting. The analysis assumes a minimum soil support value of cohesion = c = 350 psf (cohesive soils) or a minimum soils support value of friction angle = phi = 20 degrees (grandular soils.)

The designer is responsible for determining what base is appropriate for a given cantilever overhead sign support installation.

Examine the soil conditions at the site before using this standard detail drawing in the contract documents. Do not use this standard detail drawing if the site soils exhibit a phi-angle less than 20 degrees (granular soils), or a cohesion value of less than 350 psf (cohesive soils.) In addition, this SDD insert base detail may only be used when all criteria in FDM 11-55-20 governing its use to support a particular cantilever overhead sign support installation are satisfied.

The designer is to design a base if no Standard Detail Drawing insert plates are found appropriate for use at a given installation. In that situation, complete base details must be provided by the designer in the structure details portion of the contract plans.

Contact Person:

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