

SINGLE, STRAIGHT, MAIN TRUNK.

.5'

REMOVE TRANSIT  
GUARD AND ALL TIES

ROOT FLARE TO BE LEVEL WITH THE FINISHED  
GRADE, REFER TO STANDARD SPECIFICATIONS FOR  
DEFINITION OF ROOT FLARE (TOLERANCES DEFINED  
IN STANDARD SPECIFICATIONS)

SUPPORT STAKE  
(2 STAKES MAY BE  
NEEDED)

SOFT STRAPPING  
MIN. 1" WIDE

2"-4" OF SHREDDED OR GROUND  
HARDWOOD BARK MULCH, KEEP  
MULCH MIN 2" AWAY FROM TRUNK

WATER THOROUGHLY TO  
ELIMINATE AIR POCKETS AND TO  
SETTLE SURROUNDING SOIL

STAKE TO BE  
PLACED WITHIN  
MULCH RING

6" MIN.

FINISHED GRADE

AT A MINIMUM, REMOVE  
& DISPOSE FROM TOP  
HALF OF THE BALL ALL  
WIRE, BURLAP, STRINGS,  
ETC. AFTER  
POSITIONING.

MIN. 2.5'  
EXCAVATED HOLE

5' WIDE MULCH RING

BACKFILL WITH EXCAVATED OR  
AMENDED SOIL AS SPECIFIED,  
BREAK DOWN SIDES OF HOLE  
WHEN BACKFILLING

SOIL UNDER BALL UNDISTURBED  
TO SUPPORT ROOT BALL &  
REDUCE SETTLING

2017

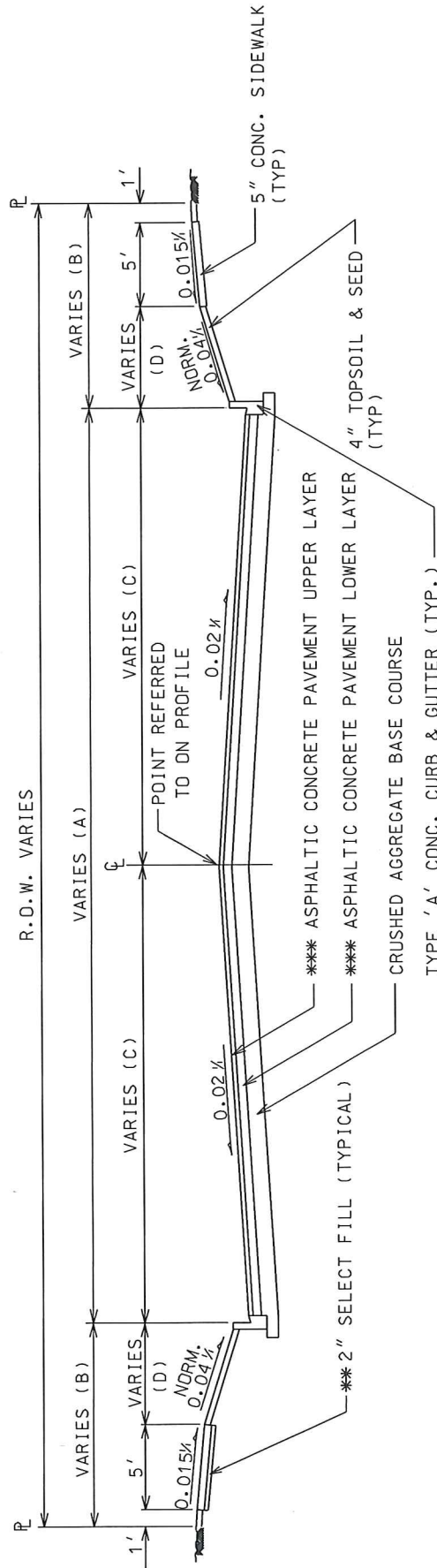
CITY OF MADISON  
PARKS DIVISION

## STANDARD PLANTING TECHNIQUE FOR TREES IN TURF AREAS

STANDARD DETAIL DRAWING 2.01







**TYPICAL DIMENSIONS**

R.D.W.	A	B	C	D
60	32	14	16	8
66	36	15	18	9
66	40	13	20	7
80	44	18	22	12
80	54	13	27	7

**NOTES:**

- \* A PAVEMENT DESIGN IN ACCORDANCE WITH STANDARD DETAIL DRAWING 4.06 IS REQUIRED ON ALL PROJECTS.
- \*\*\* 3" OF CRUSHED AGGREGATE BASE COURSE GRADATION 3 SHALL BE PLACED UNDER THE SIDEWALK WHERE THE CENTERLINE GRADE OF THE STREET EXCEEDS 5%.
- \*\*\* ALL UPPER LAYER PAVEMENTS ARE 12.5 mm; LOWER LAYER PAVEMENT IS 12.5 mm FOR TYPE A & 19 mm FOR TYPE B & C.

**\* CITY OF MADISON MINIMUM PAVEMENT DESIGN**

TYPE	CRUSHED AGGREGATE BASE COURSE		ASPHALTIC CONCRETE PAVEMENT	
	LOWER LAYER GRADATION 1	UPPER LAYER GRADATION 2	LOWER LAYER TYPE	UPPER LAYER THICKNESS
A	6"	6 4"	E-0.3 1.75"	E-0.3 1.75"
B	6"	6 4"	E-1 2.25"	E-1 2.00"
C	6"	6 4"	E-3 3.25"	E-3 2.00"

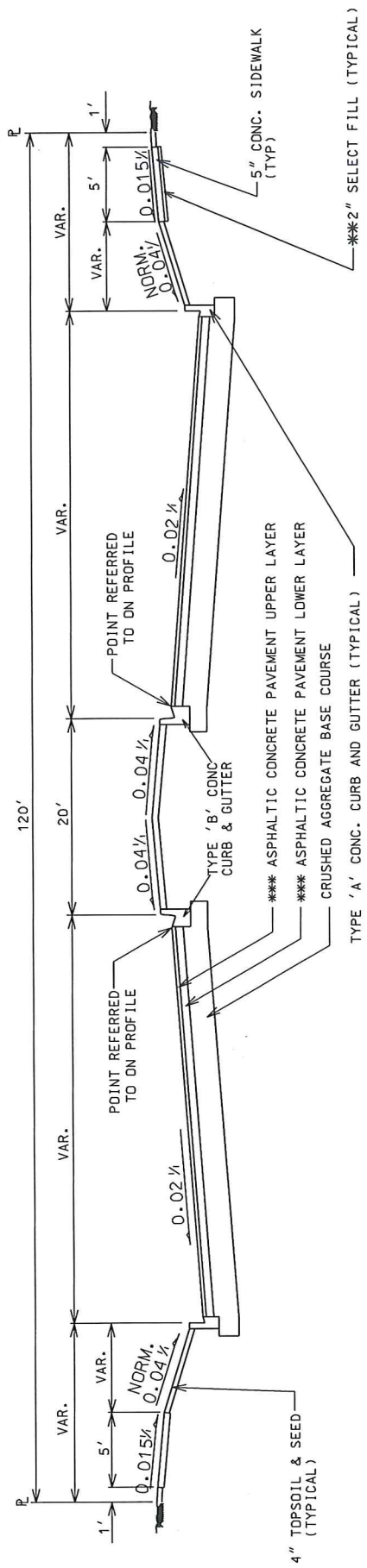
*SEE 4.01*

2015

CITY OF MADISON  
ENGINEERING DIVISION

**TYPICAL SECTION  
VARIOUS WIDTH STREETS**

STANDARD DETAIL DRAWING 4.02



**NOTES:**

- \* A PAVEMENT DESIGN IN ACCORDANCE WITH STANDARD DETAIL DRAWING 4.06 IS REQUIRED ON ALL PROJECTS.
- \*\* 3" OF CRUSHED AGGREGATE BASE COURSE GRADATION 3 SHALL BE PLACED UNDER THE SIDEWALK WHERE THE CENTERLINE GRADE OF THE STREET EXCEEDS 5%.
- \*\*\* ALL UPPER LAYER PAVEMENTS ARE 12.5 mm; LOWER LAYER PAVEMENT IS 12.5 mm FOR TYPE A & 19 mm FOR TYPE B & C.

**\*CITY OF MADISON MINIMUM PAVEMENT DESIGN**

TYPE	CRUSHED AGGREGATE BASE COURSE		ASPHALTIC CONCRETE PAVEMENT	
	LOWER LAYER GRADATION 1	UPPER LAYER GRADATION 2	LOWER LAYER TYPE	UPPER LAYER TYPE
A	6"	6 4"	E-0.3	E-0.3
B	6"	6 4"	E-1	E-1
C	6"	6 4"	E-3	E-3

*5.2.8  
4.01*

2016

CITY OF MADISON  
ENGINEERING DIVISION

TYPICAL SECTION  
BOULEVARD STREET

STANDARD DETAIL DRAWING 4.03

PAVEMENT DESIGN CRITERIA

Identification of roadway classification for pavement design.

Type A - Local street with low traffic volume.

Type B - Collector Type streets or any streets expected to become bus routes  
(Design Year  $DLT \leq 2500$ ).

Type C - Arterial Type streets - all streets expected to carry significant truck traffic  
(Design Year  $DLT > 2500$ ).

A.) Design procedure Type A roadway - use greater of:

1. The Standard Minimum Section:  
3.5" Asphaltic Pavement  
12" Crushed Aggregate Base Course
2. Pavement design based on Section 14-10-5 of the Wisconsin Department of Transportation's Facilities Development Manual. Use serviceability index (Pt) = 2.5, ESAL = 10 18K per day, and the soil support value given the existing field conditions. The Minimum Section is based on the above parameters and a soil support value of 3.5.

B.) Design Procedure Type B roadway - use greater of:

1. The Standard Minimum Section:  
4.50" Asphaltic Pavement  
12" Crushed Aggregate Base Course
2. Pavement design based on Section 14-10-5 of the Wisconsin Department of Transportation's Facilities Development Manual. Use serviceability index (Pt) = 2.5, ESAL = 20 18K per day, and the soil support value given the existing field conditions. The Minimum Section is based on the above parameters and a soil support value of 3.5.

C.) Design Procedure Type C roadway - use greater of:

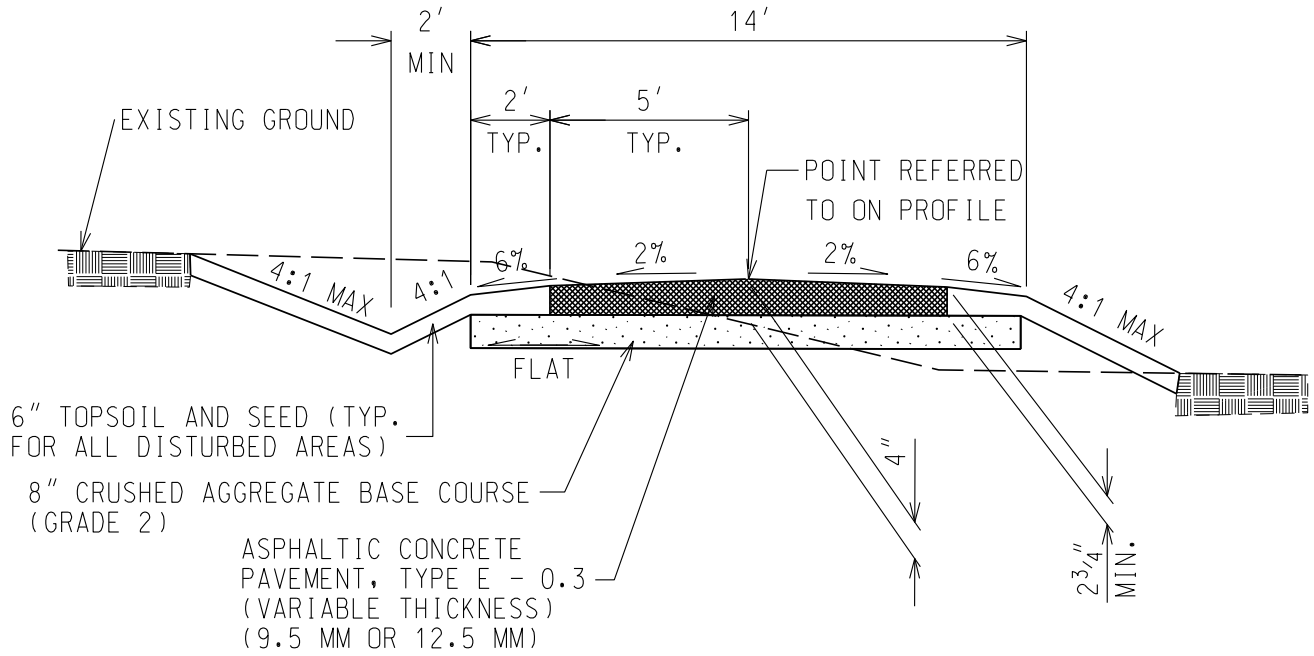
1. The Standard Minimum Section:  
5.50" Asphaltic Pavement  
12" Crushed Aggregate Base Course
2. Pavement design based on Section 14-10-5 of the Wisconsin Department of Transportation's Facilities Development Manual. Use serviceability index (Pt) = 2.5, and the soil support value given the existing field conditions. The ESAL shall be calculated based on Section 14-1-5.

2018

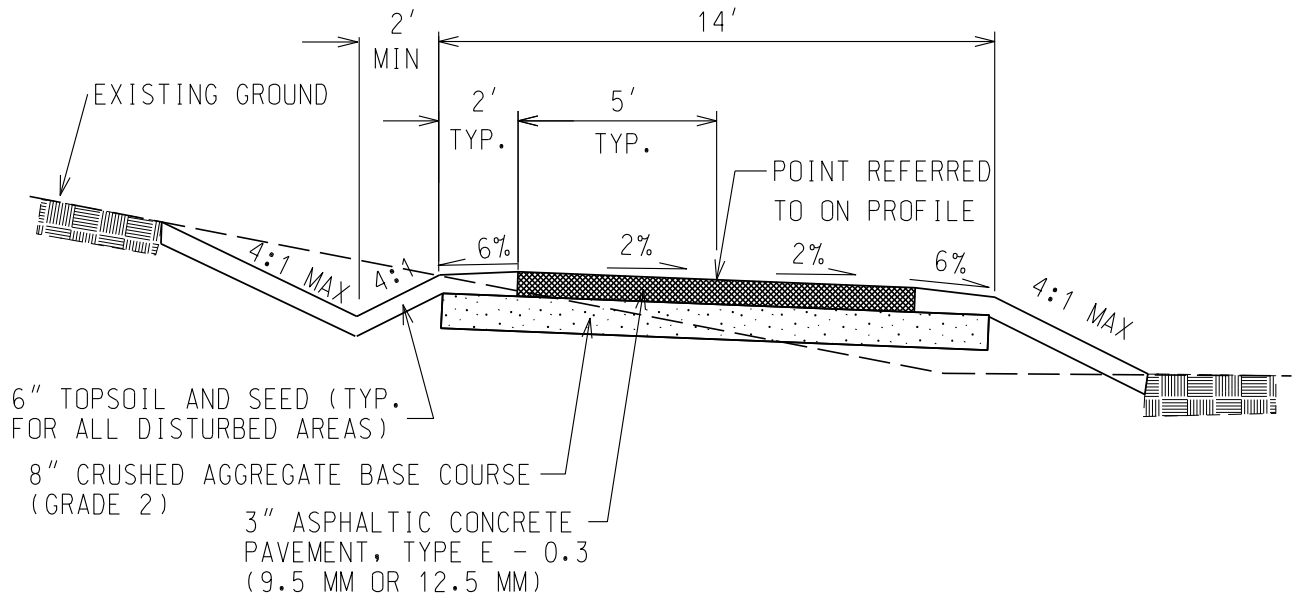
CITY OF MADISON  
ENGINEERING DIVISION

PAVEMENT DESIGN  
CRITERIA

STANDARD DETAIL DRAWING 4.06



CROWNED PAVEMENT



UNIFORM CROSS SLOPE

**GENERAL NOTES:**

1. GRADING SHALL INCLUDE REMOVING VEGETATION AND TOPSOIL, SHAPING AND COMPACTING THE SUBBASE.
2. SUITABLE FILL AS REQUIRED TO OBTAIN A SUITABLE CROSS SECTION SHALL BE PLACED AND COMPACTED IN 6 INCH MAXIMUM LIFTS.
3. ALL DISTURBED AREAS SHALL BE TOPSOILED AND SEEDED.

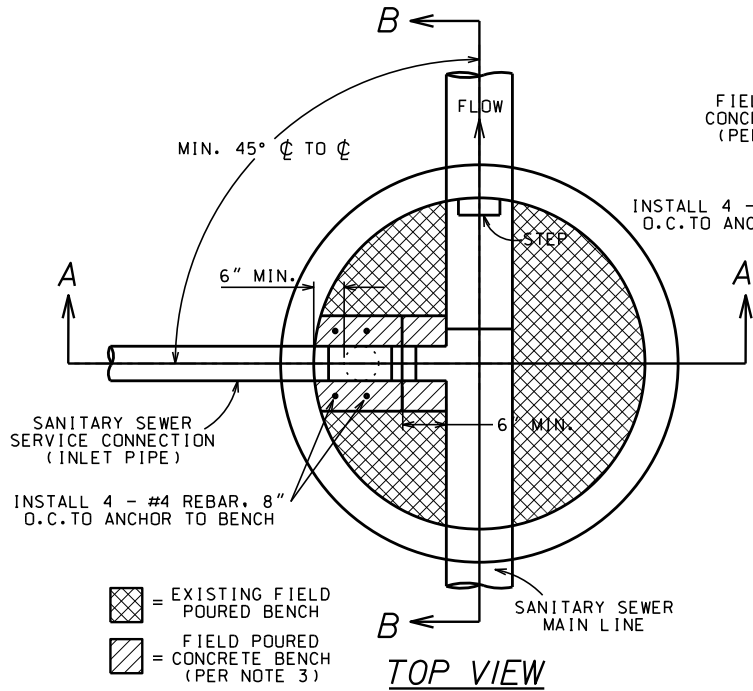
2018

CITY OF MADISON  
ENGINEERING DIVISION

**TYPICAL SECTION  
BIKE PATH**

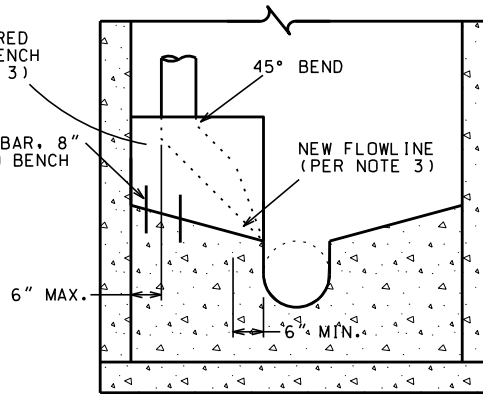
STANDARD DETAIL DRAWING 4.08

5.7.30



FIELD POURED CONCRETE BENCH (PER NOTE 3)

INSTALL 4 - #4 REBAR, 8" O.C. TO ANCHOR TO BENCH

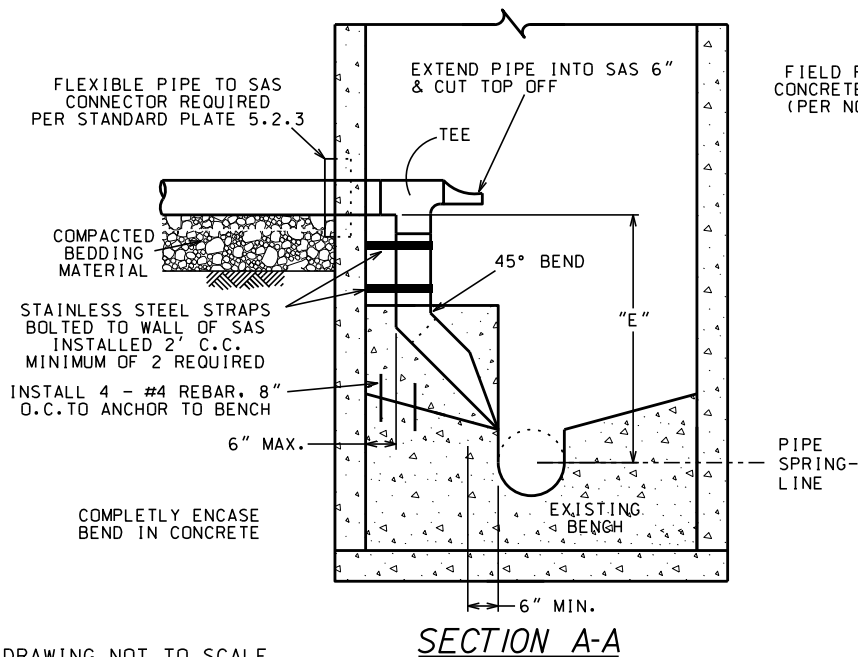


NOTES:

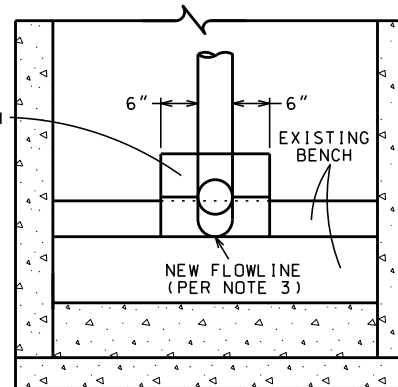
1) INSIDE DROP INLETS SHALL BE USED ONLY WHERE SITE CONDITIONS MAKE AN OUTSIDE DROP CONNECTION INFEASIBLE TO CONSTRUCT. THIS DETERMINATION SHALL BE MADE BY THE ENGINEER IN THE FIELD. THE CONTRACTOR SHALL OBTAIN APPROVAL FOR INSTALLATION OF THE INSIDE DROP INLET FROM THE ENGINEER PRIOR TO CONSTRUCTION.

2) DROP INLET SHALL BE BUILT WHEN "E" IS GREATER THEN 24". "E" SHALL BE MEASURED FROM THE INVERT OF THE INCOMING PIPE TO THE SPRINGLINE OF THE OUTGOING SEWER.

3) ENCASE INLET PIPE IN CONCRETE FROM THE EXISTING BENCH TO FIRST JOINT ABOVE THE 45° BEND. FORM NEW SMOOTH FLOWLINE FROM PIPE END TO MAIN CHANNEL. ROUGH BRUSH FINISH ALL OTHER SURFACES OF THE NEW CONCRETE ENCASEMENT.



FIELD POURED CONCRETE BENCH (PER NOTE 3)



DRAWING NOT TO SCALE

2018

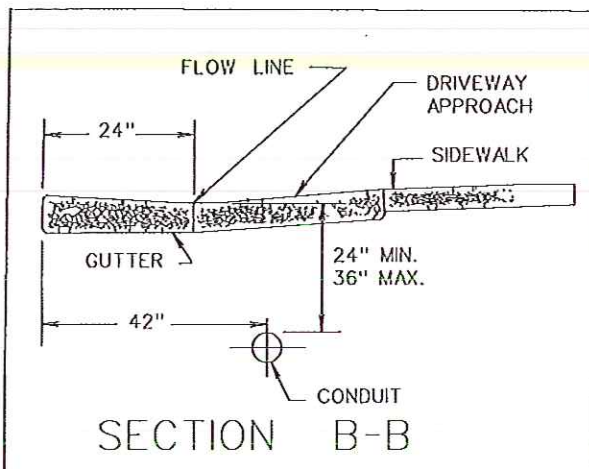
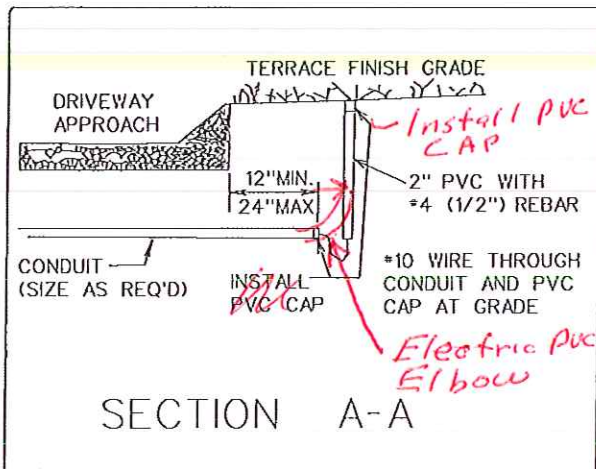
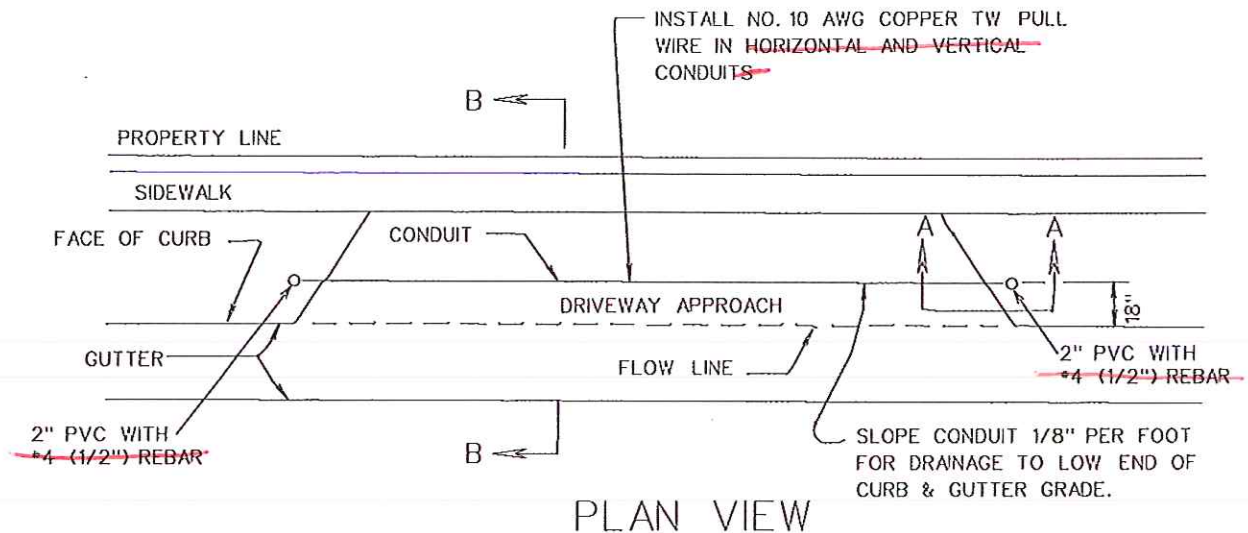
CITY OF MADISON  
ENGINEERING DIVISION

INSIDE DROP FOR  
SANITARY MAIN  
& LATERAL

STANDARD DETAIL DRAWING 5.7.30



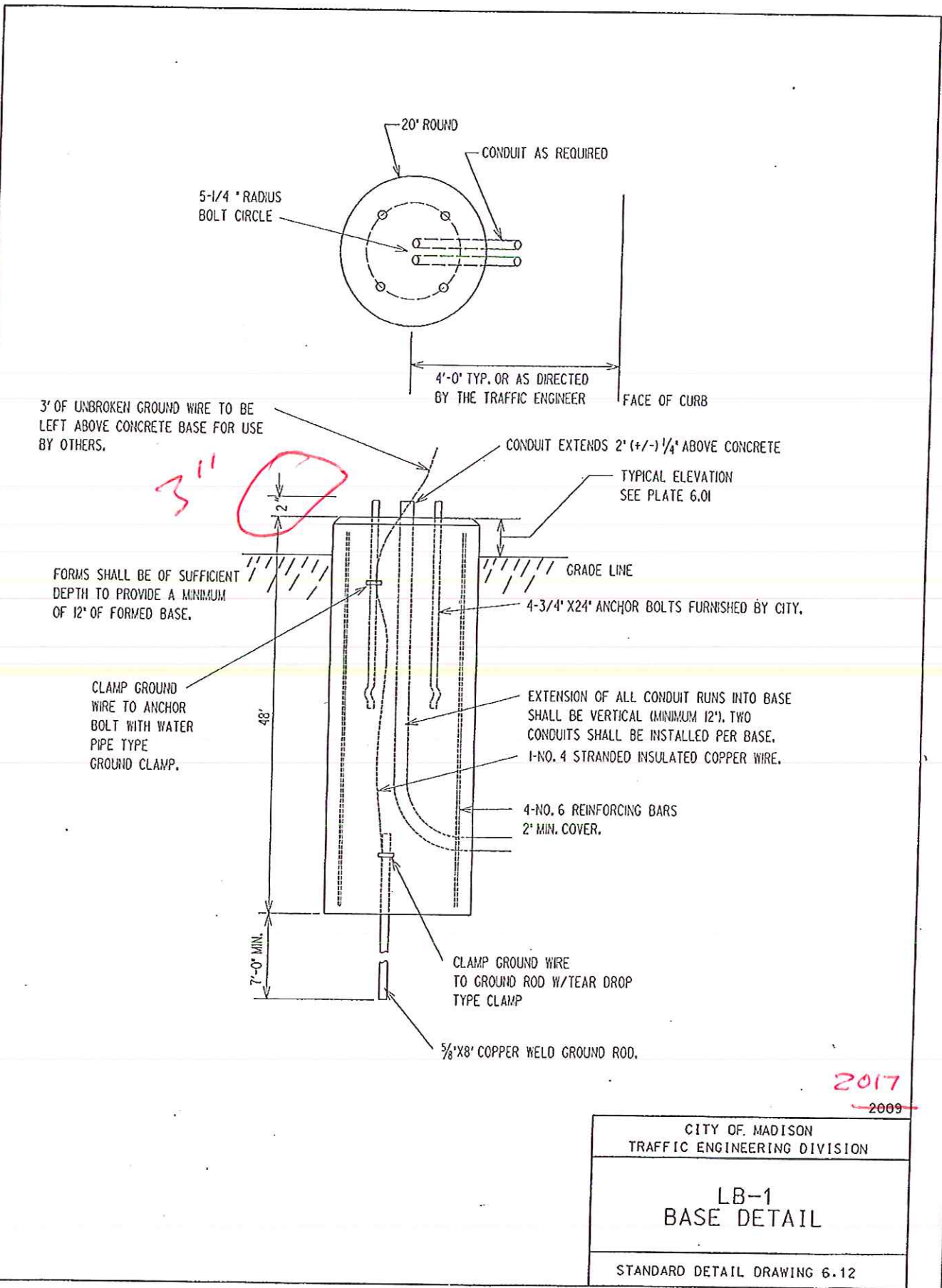
# CONDUIT PLACEMENT DETAILS FOR COMMERCIAL DRIVE APPROACHES



BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE TRAFFIC ENGINEERING SHOP, ELECTRICAL SECTION, (608-266-4767) TO ARRANGE FOR INSPECTION OF THE DUCT PLACEMENT.

2017  
2013

CITY OF MADISON TRAFFIC ENGINEERING DIVISION
CONDUIT PLACEMENT DETAILS FOR COMMERCIAL DRIVE APPROACH
STANDARD DETAIL DRAWING 6.09



3' OF UNBROKEN GROUND WIRE TO BE LEFT ABOVE CONCRETE BASE FOR USE BY OTHERS.

3"

FORMS SHALL BE OF SUFFICIENT DEPTH TO PROVIDE A MINIMUM OF 12" OF FORMED BASE.

CLAMP GROUND WIRE TO ANCHOR BOLT WITH WATER PIPE TYPE GROUND CLAMP.

48'  
7'-0" MIN.

CLAMP GROUND WIRE TO GROUND ROD W/TEAR DROP TYPE CLAMP

5/8"X8' COPPER WELD GROUND ROD.

CONDUIT EXTENDS 2' (+/-) 1/4" ABOVE CONCRETE

TYPICAL ELEVATION SEE PLATE 6.01

GRADE LINE

4-3/4"X24" ANCHOR BOLTS FURNISHED BY CITY.

EXTENSION OF ALL CONDUIT RUNS INTO BASE SHALL BE VERTICAL (MINIMUM 12'). TWO CONDUITS SHALL BE INSTALLED PER BASE.

1-NO. 4 STRANDED INSULATED COPPER WIRE.

4-NO. 6 REINFORCING BARS  
2" MIN. COVER.

FACE OF CURB

4'-0" TYP. OR AS DIRECTED BY THE TRAFFIC ENGINEER

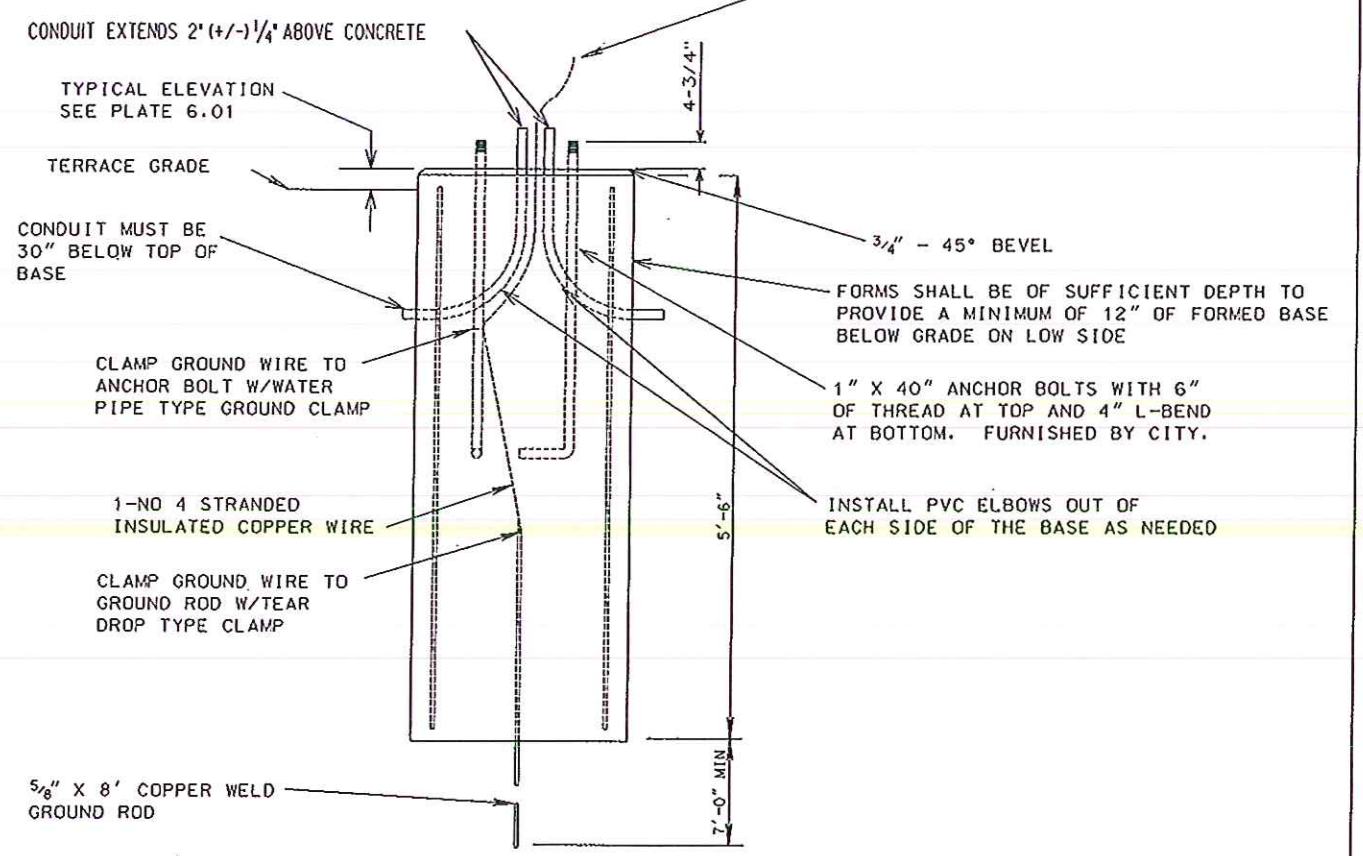
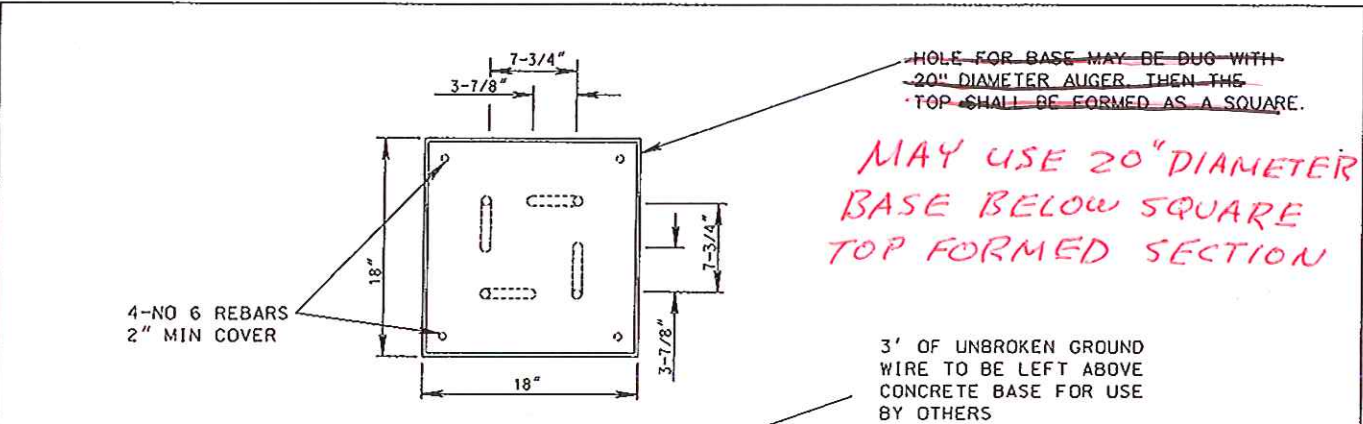
20' ROUND  
CONDUIT AS REQUIRED

5-1/4" RADIUS BOLT CIRCLE

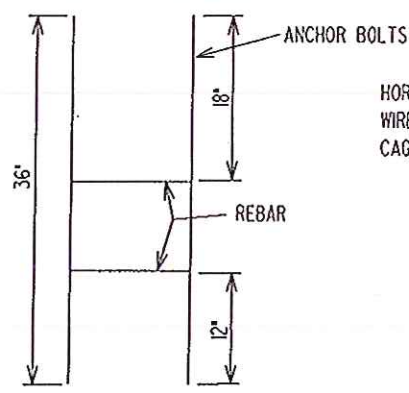
2017

~~2009~~

CITY OF MADISON TRAFFIC ENGINEERING DIVISION
LB-1 BASE DETAIL
STANDARD DETAIL DRAWING 6.12



ANCHOR BOLT CAGE DETAIL



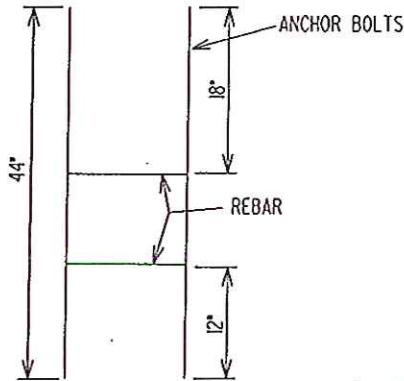
HORIZONTAL REBAR SHALL BE TACK WELDED OR WIRED TO ANCHOR BOLTS TO FORM ANCHOR BOLT CAGE BEFORE POURING CONCRETE.

2017  
2009

CITY OF MADISON TRAFFIC ENGINEERING DIVISION
LB-3 BASE DETAIL
STANDARD DETAIL DRAWING 6.14

HORIZONTAL REBAR SHALL BE TACK WELDED OR WIRED TO ANCHOR BOLTS TO FORM ANCHOR BOLT CAGE BEFORE POURING CONCRETE.

ANCHOR BOLT CAGE DETAIL



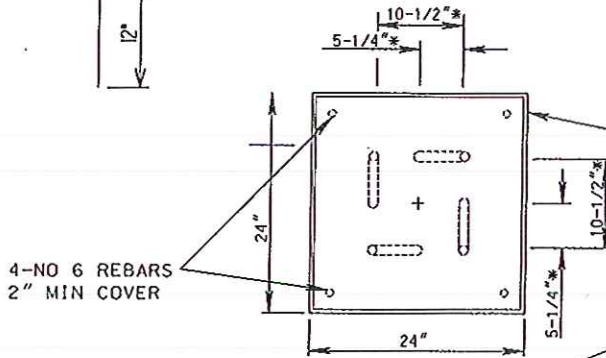
\*IF ANOTHER BOLT CIRCLE IS REQUIRED, INSTEAD OF THE 15" BOLT CIRCLE SHOWN, THE FOLLOWING DIMENSIONS SHOULD BE USED

11" BOLT CIRCLE

CENTER TO BOLT 3-7/8"  
BOLT TO BOLT 7-3/4"

12-1/2" BOLT CIRCLE

CENTER TO BOLT 4-7/16"  
BOLT TO BOLT 8-7/8"



HOLE FOR BASE MAY BE DUG WITH 26" DIAMETER AUGER. THEN THE TOP SHALL FORMED AS A SQUARE

*MAY USE 26" DIAMETER BASE BELOW SQUARE TOP FORMED SECTION*

3' OF UNBROKEN GROUND WIRE TO BE LEFT ABOVE CONCRETE BASE FOR USE BY OTHERS

CONDUIT EXTENDS 2' (+/-) 1/4' ABOVE CONCRETE

TYPICAL ELEVATION SEE PLATE 6.01

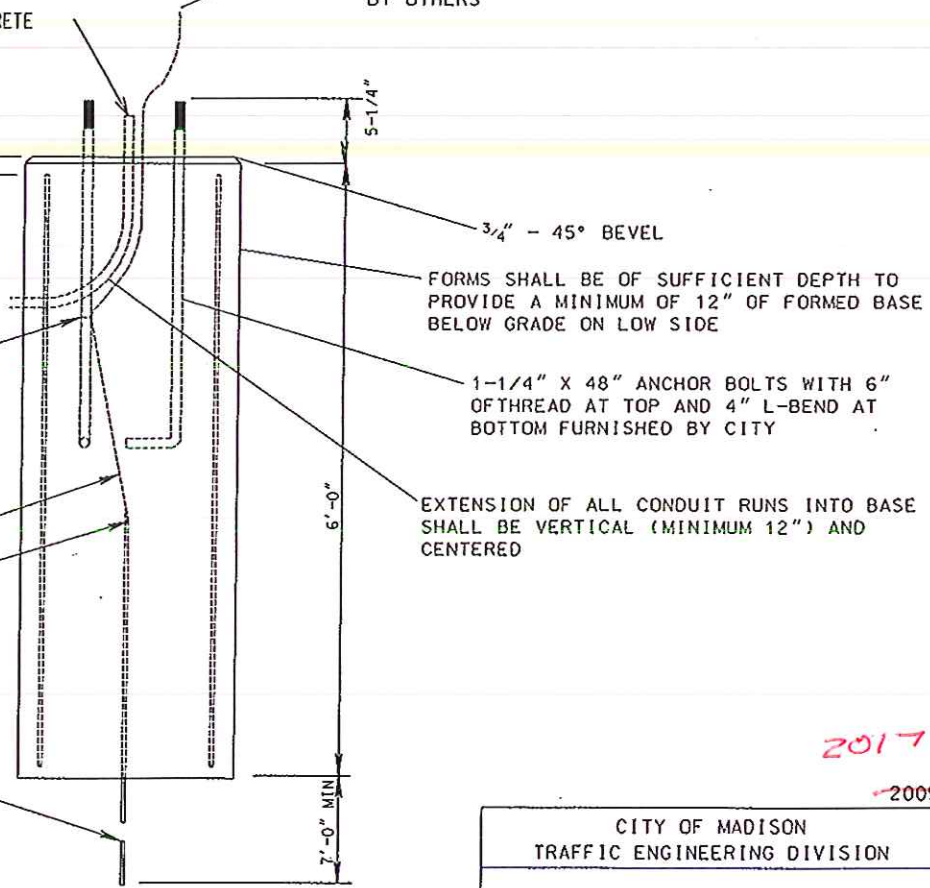
TERRACE GRADE

CLAMP GROUND WIRE TO ANCHOR BOLT W/WATER PIPE TYPE GROUND CLAMP

1-NO 4 STRANDED INSULATED COPPER WIRE

CLAMP GROUND WIRE TO GROUND ROD W/TEAR DROP TYPE CLAMP

5/8" x 8' COPPER WELD GROUND ROD



2017

2009

CITY OF MADISON TRAFFIC ENGINEERING DIVISION
LB-8 BASE DETAIL
STANDARD DETAIL DRAWING 6.19