

PROJECT NUMBER: 6,609,852	WMCO, LLC. 700 THIRD DRIVE BROOKLYN PARK, MN 55429 (952) 233-3000	DATE ISSUED: 01/20/04
NOTES: SPECIFICATIONS AND STANDARDS: - AISC MANUAL OF STEEL CONSTRUCTION, 4TH EDITION - AISC STRUCTURAL STEEL CODE - STEEL, D1.1-04 - 28 CFR 1026 - ZOO SAFETY AND HEALTH STANDARDS DESIGN LOADS: ALLOWABLE AXLE WEIGHT LOAD: 4/6 SAFETY FACTOR: 4/6 WATER FLOW RATE (THROUGH TYPE P FILTER): 0.207 cfs @ 3" head MAXIMUM OVERFLOW RATE: 0.84 cfs @ 12" head		
PHYSICAL DESCRIPTION: 		
APPROVED BY: PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: ROAD DRAIN CO-23 HIGH-FLOW INLET PROTECTION CURB AND GUTTER MODEL	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112

CASTING SHALL BE NEENAH R-1733-1-TYPE C OR EQUAL FOR YARDS
CASTING NEENAH R-4342 TYPE C FOR DITCHES

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: GRATE CASTING	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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INSTALL CAP SCREWS WITH BOLT HEADS EXPOSED

CURB BOX ADJUSTABLE 6" TO 9"

CASTINGS SHALL BE NEENAH R-3067-V OR EQUAL

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: STANDARD INLET CASTING	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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CASTING

GRouted IN PLACE 2" CONCRETE ADJUSTING RINGS - MINIMUM 2 RINGS MAXIMUM 6 RINGS

WALLS TO BE CONSTRUCTED OF PRECAST SECTIONS OR CONCRETE SEWER BLOCK. BLOCK SHALL BE PLASTERED ON INTERIOR AND EXTERIOR.

4'-0" MAXIMUM

24" X 36"

6" CONCRETE BASE POURED IN PLACE OR 4" MINIMUM PRECAST BASE.

NOTE:
REINFORCING SHALL CONSIST OF A SINGLE LINE OF STEEL WIRE FABRIC HAVING AN AREA OF NOT LESS THAN 0.17 SQ. IN. PER FOOT OF HEIGHT.

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: SHALLOW CATCH BASIN	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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SUITABLE MATERIAL

6" OR 1/4 Bc WHICHEVER IS LARGER (12" MAXIMUM)

SPRING LINE

NATURAL GROUND

4" OR Bc/8 WHICHEVER IS LARGER

GRANULAR BEDDING

NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: CLASS B PIPE BEDDING	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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PHYSICAL DESCRIPTION: 		
APPROVED BY: PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: ROAD DRAIN RD-23 INLET PROTECTION TOP SLAB MODEL	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: ROAD DRAIN RD-27 INLET PROTECTION TOP SLAB MODEL	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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INSTALL ONE LENGTH OF WATERMAIN PIPE WITH THE APPROPRIATE MATERIAL ADAPTORS, CENTER AT CROSSINGS.

PROPOSED SEWER

PROPOSED WATERMAIN

WATERMAIN INSTALLATION UNDER SANITARY OR STORM SEWER

CENTER ONE LENGTH OF WATERMAIN AT CROSSING

TRANSITION TO SPECIFIED DEPTH (TYP.) INSTALL VERTICAL BEND AS REQUIRED

PROPOSED SEWER

PROPOSED WATERMAIN

WATERMAIN INSTALLATION OVER SANITARY OR STORM SEWER

NOTES:
1. WHEN WATERMAIN AND SANITARY SEWER CROSSINGS HAVE LESS THAN 18" VERTICAL SEPARATION, INSTALL CROSSING AS SHOWN.
2. WHEN WATERMAIN COVER IS LESS THAN 7.5 FEET, INSTALL WATERMAIN UNDER SANITARY SEWER.

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: WATERMAIN CROSSING	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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4'-0"

2'-0"

2'-0"

COMPACTED TRENCH BACKFILL

WATERMAIN

EXISTING SOIL

2" STYROFOAM INSULATION

4" SAND CUSHION

COMPACTED SELECTED GRANULAR MATERIAL

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: PIPE INSULATION DETAIL	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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NOZZLE SECTION

OPERATING NUT - 1" PENTAGON

2 1/2" HOSE CONNECTION (THREAD SIZE 3 1/16" O.D., 7 1/2" T.P.I.)

4 1/2" PUMPER CONNECTION (THREAD SIZE 5 9/16" O.D., 4" T.P.I.)

NUT CAP TYPE WITH CHAINS

NOZZLE ARRANGEMENT TWO 2 1/2" NOZZLE PLUS PUMPER NOZZLE WITH 1" PENTAGON OPERATING NUTS

NOMINAL GROUND LINE

NOTE:
1. 16" BREAKOFF SECTION
2. LEFT HAND OPERATING NUT (1 1/2" POINT TO FLAT)
3. PAINT BARREL SECTION RED TO GRADE
4. DO NOT PLUG DRAIN HOLES.

STANDPIPE

BOTTOM

7/8" ROUND HOLES

NOTE: HYDRANT LOCATING DEVICES REQUIRED - SEE SPECIFICATIONS.

 PROJECT ENGINEER & SEALING AUTHORITY 300 Avenue Street, Suite 300 Mendota Heights, MN 55120 Phone: (612) 224-2222 Fax: (612) 224-4444 www.aeminc.com	SHEET TITLE: PACER HYDRANT DETAIL	LEGEND: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. BRITNEY M. CHRISTENSEN, P.E. MINN. REG. NO. 28112
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