

NOTE:

1. ALL JOINTS BETWEEN CATCH BASIN, ADJUSTMENT RINGS, CASTING, AND SEWER PIPE SHALL BE WATER TIGHT. JOINING MATERIAL SHALL BE RAM-NEK OR EQUAL FOR ALL JOINTS OTHER THAN JOINTS BETWEEN SEWER PIPE AND CATCH BASIN.
2. ALL PIPE CONNECTIONS NOT CONSTRUCTIBLE AS DETAILED SHALL BE SUBMITTED TO CITY ENGINEER FOR REVIEW.

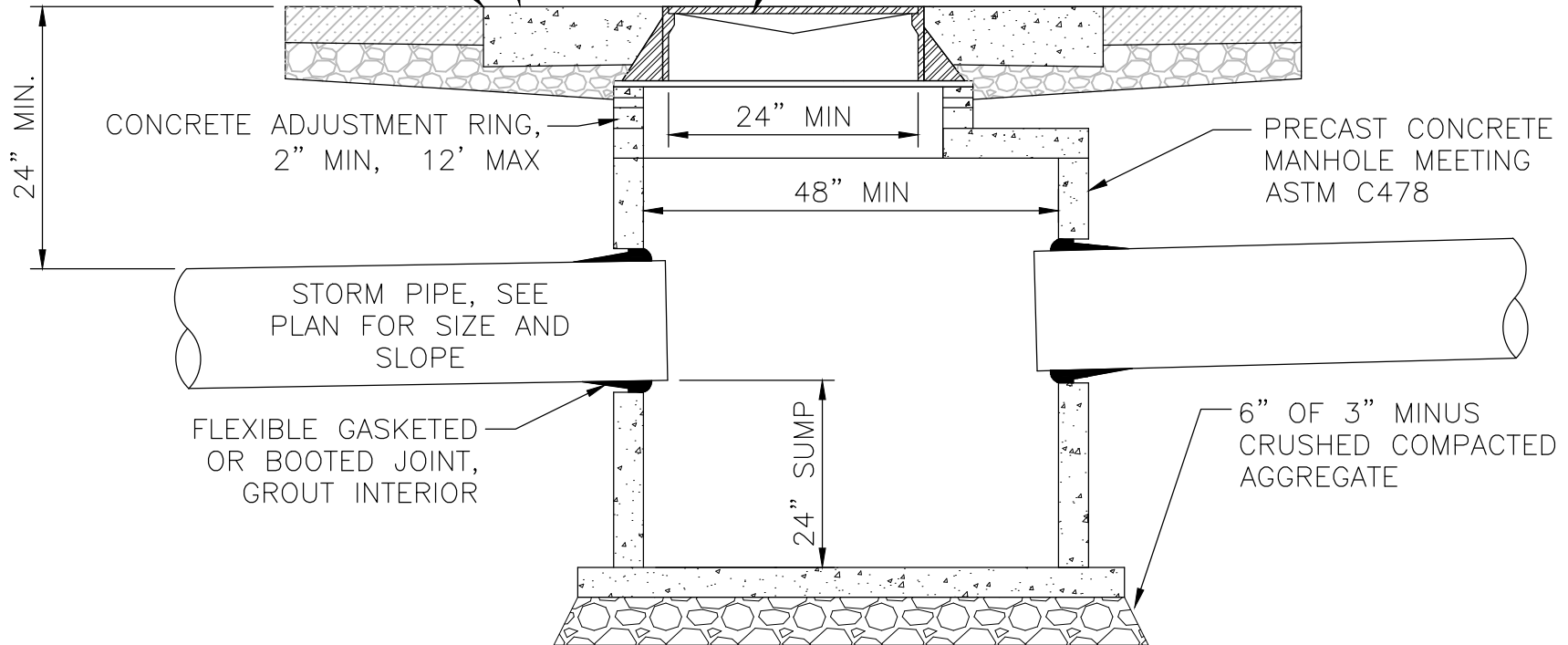
DR.1

TYPICAL STORMWATER CATCH BASIN DETAIL

CONCRETE MANHOLE COLLAR, PER CITY OF KALISPELL STANDARDS FOR DESIGN AND CONSTRUCTION

STORM MANHOLE RING AND COVER, SEE DR.7, OR APPROVED EQUAL

EDGE OF CONCRETE
3/8" BELOW PAVEMENT



NOTE:

1. ALL JOINTS BETWEEN MANHOLE, ADJUSTMENT RINGS, CASTING, AND SEWER PIPE SHALL BE WATER TIGHT. JOINING MATERIAL SHALL BE RAM-NEK OR EQUAL FOR ALL JOINTS OTHER THAN JOINTS BETWEEN SEWER PIPE AND CATCH BASIN.
2. ALL PIPE CONNECTIONS NOT CONSTRUCTIBLE AS DETAILED SHALL BE SUBMITTED TO CITY ENGINEER FOR REVIEW.

DR.2

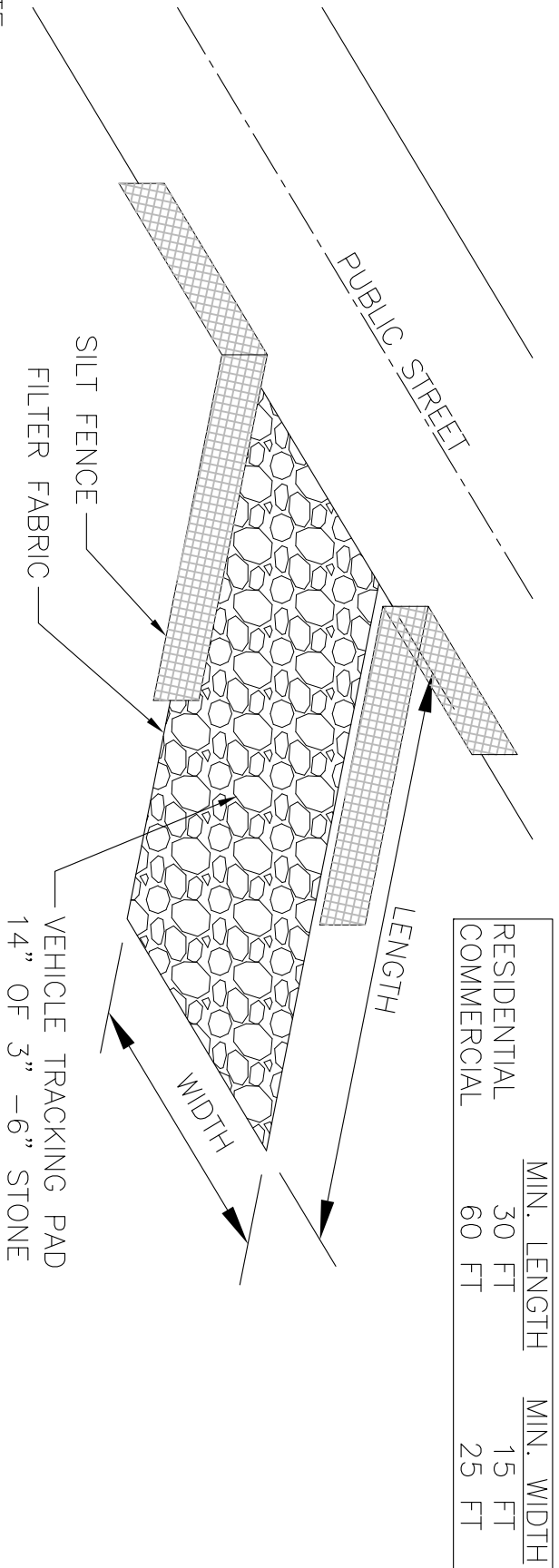
TYPICAL STORMWATER MANHOLE DETAIL

EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL PERMITS ASSOCIATED WITH THIS PROJECT AND IMPLEMENT AND MAINTAIN THE EROSION AND SEDIMENT CONTROL PLAN AND PERMITS REQUIREMENTS UNTIL SUCH TIME AS THE PERMITS ARE TERMINATED.
2. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN OR CHANGE THE EROSION AND SEDIMENT CONTROL PLAN AS THE PROJECT PROGRESSES TO ENSURE PERMIT COMPLIANCE.
3. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS THAT MAY ACCUMULATE IN THE PUBLIC RIGHT OF WAY AS A RESULT OF THIS PROJECT. SAID MATERIAL SHALL BE REMOVED DAILY OR MORE FREQUENTLY PER THE CITY'S REQUEST.
4. THE CONTRACTOR SHALL ENSURE ALL CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE IS PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHTS OF WAY.
5. THE CONTRACTOR SHALL ENSURE ALL CUT AND FILL MATERIAL IMPORTED OR EXPORTED IS NOT STORED IN THE PUBLIC RIGHT OF WAY.
6. ALL STOCKPILED MATERIAL SHALL BE DESIGNATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
7. TEMPORARY BMPs ON THE EROSION PLAN SHALL BE INSTALLED PRIOR TO ANY EXCAVATION.
8. INLET PROTECTION BMPs SHALL BE INSTALLED PRIOR TO ANY EXCAVATION AND MAINTAINED UNTIL PAVING IS COMPLETE. INLET PROTECTION BMPs SHALL BE APPROVED BY THE CITY OF KALISPELL PRIOR TO INSTALLATION.

DR.3

EROSION AND SEDIMENT CONTROL NOTES



NOTE:

ALL VEHICLES ENTERING AND EXITING THE CONSTRUCTION AND/OR BUILDING SITE SHALL TRAVERSE THE VEHICLE TRACKING PAD TO MINIMIZE MUD AND DIRT FROM TRACKING OFF SITE. ROCK SHALL BE REPLENISHED IF TRACKING OCCURS. TRACKING PAD SHALL BE RENEWED AS NECESSARY TO RETAIN EFFECTIVENESS. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS SHALL BE REMOVED IMMEDIATELY.

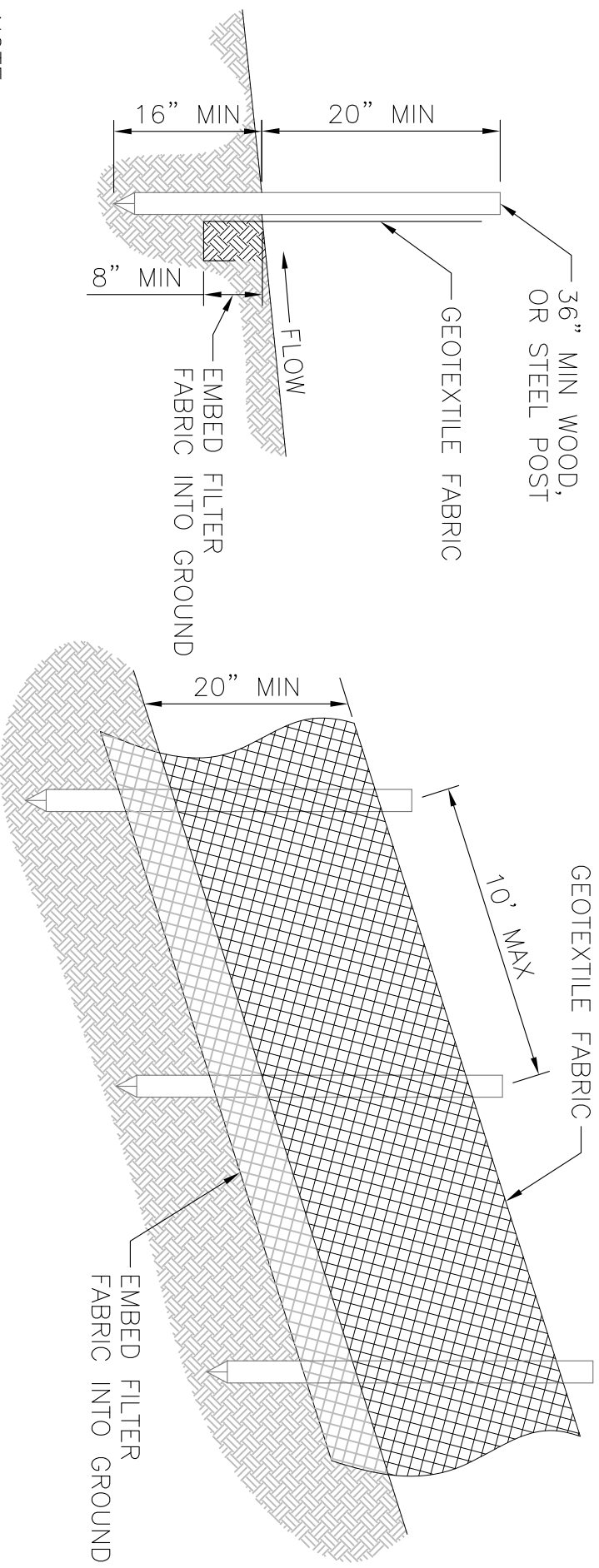
VEHICLE TRACKING STONE ENTRANCE REQUIREMENTS:

- 3”-6” DIAMETER WASHED ROCK
- UNDERLYING FILTER FABRIC TO BE REQUIRED AS STATED

FILTER FABRIC REQUIREMENTS:

- TENSILE GRAB STRENGTH = 200 LBS (ASTM D4632)
- ELONGATION MINIMUM = 15% (ASTM D4632)
- SEAM BREAKING STRENGTH MINIMUM = 180 LBS (ASTM D4632)
- APPARENT OPENING SIZE MAXIMUM = 0.3 MM (#50 SIEVE) (ASTM D4751)
- PERMITTIVITY MINIMUM = 0.3/SEC (ASTM D4491)

VEHICLE TRACKING STORMWATER BMP



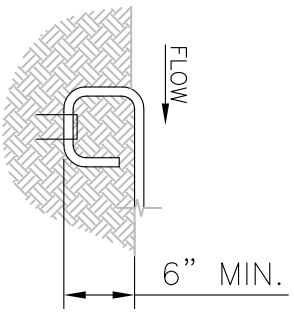
NOTE:

1. SILT FENCE SHALL BE USED AS A TEMPORARY SEDIMENT CONTROL, FENCES SHALL BE INSTALLED WITH THE CONTOUR OF SLOPE.
2. WOOD POSTS SHALL BE HARDWOOD WITH AND MINIMUM CROSS SECTION AREA OF THREE INCHES.
3. TEMPORARY SILT FENCE SHALL BE REMOVED UPON SITE STABILIZATION WITH 70% ESTABLISHED VEGETATIVE COVER.

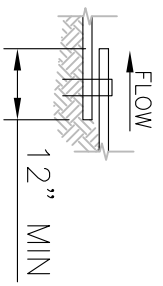
GEOTEXTILE FABRIC REQUIREMENTS:

- TENSILE GRAB STRENGTH = 90 LBS (ASTM D1682)
- ELONGATION MINIMUM = 50% (ASTM D1682)
- MULLEN BURST STRENGTH MINIMUM = 190 LBS (ASTM D3786)
- PUNCTURE STRENGTH MINIMUM = 40 LBS (ASTM D751)
- EQUIVALENT OPENING SIZE MAXIMUM = 40-80 US STANDARD SIEVE SIZES
- ULTRAVIOLET RADIATION STABILITY = 90 (ASTM G26)

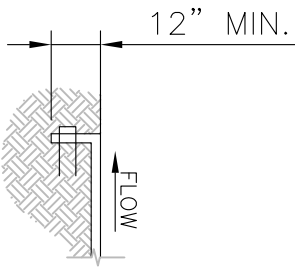
SILT FENCE STORMWATER BMP



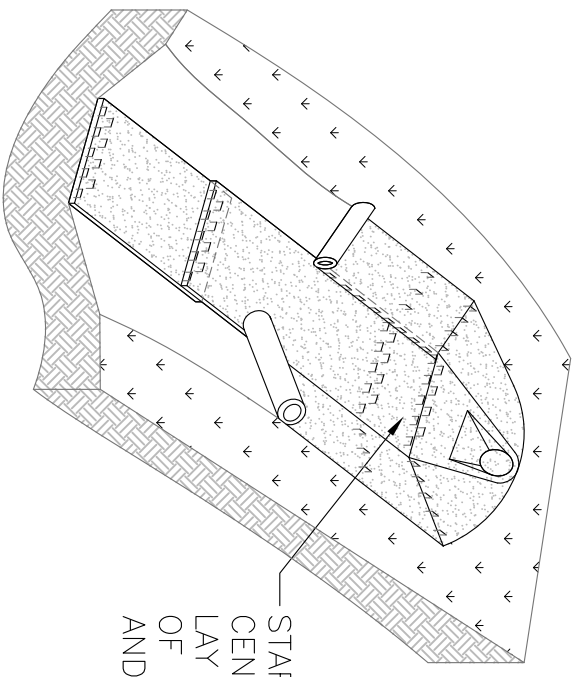
TOP SLOPE ANCHOR



OVERLAP ANCHOR



TERMINAL ANCHOR

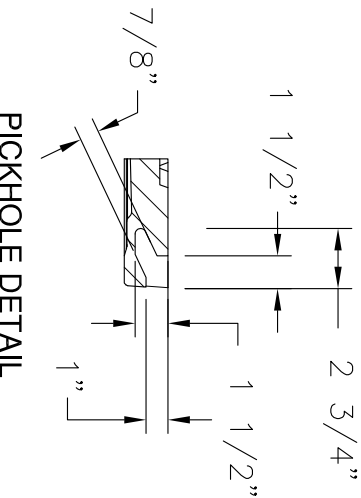
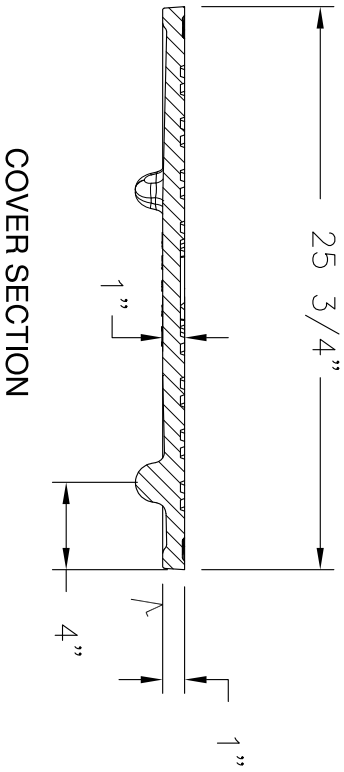
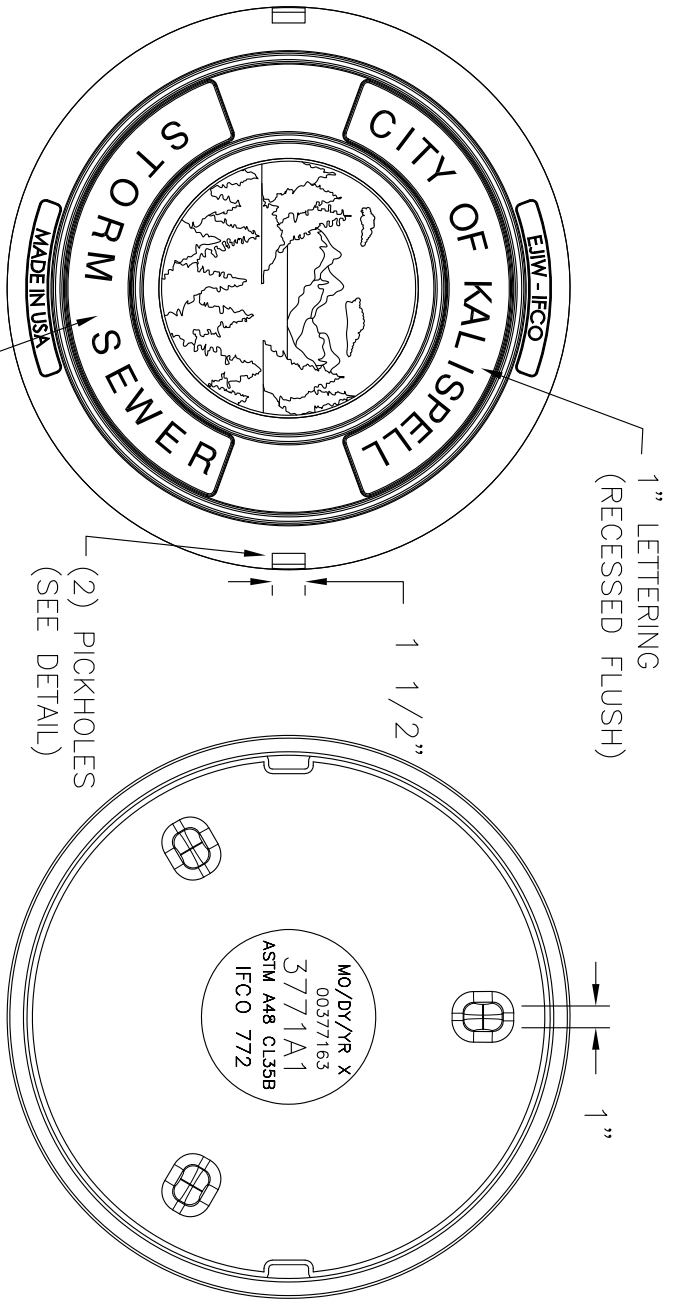


START EROSION CONTROL BLANKET CENTERED ON CHANNEL AT OUTLET. LAY BLANKET PARALLEL TO CENTER OF CHANNEL. OVER LAP ALL SEAMS AND JOINTS 12 INCHES MINIMUM.

EROSION CONTROL BLANKET FOR SLOPE PROTECTION NOTES:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF FERTILIZER AND SEED.
2. ANCHOR THE BLANKET IN A 6" DEEP x 6" WIDE TRENCH AT TOP OF SLOPE. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL BLANKETS DOWN, STARTING AT DOWNSTREAM PROCEEDING UPSTREAM, HORIZONTALLY ACROSS THE SLOPE.
4. PARALLEL BLANKETS MUST BE STAPLED WITH A 4" OVERLAP.
5. SPLICE BLANKETS ONLY AS NECESSARY. PLACE BLANKETS END OVER END WITH AN 12" OVERLAP. USE DOUBLE ROW OF STAGGERED STAPLES 4" APART TO SECURE BLANKET.
6. IN HIGH FLOW APPLICATIONS STAPLE WITH DOUBLE STAGGERED ROW EVERY 30' TO 40'. USE A ROW OF STAPLES 4" APART OVER ENTIRE WIDTH OF CHANNEL, USE SECOND ROW 4" BELOW THE FIRST ROW IN A STAGGERED PATTERN.
7. THE TERMINAL END OF THE BLANKETS SHALL BE ANCHORED IN A 6" x 6" TRENCH. BACKFILL AND COMPACT AFTER STAPLING.

EROSION CONTROL BLANKET BMP



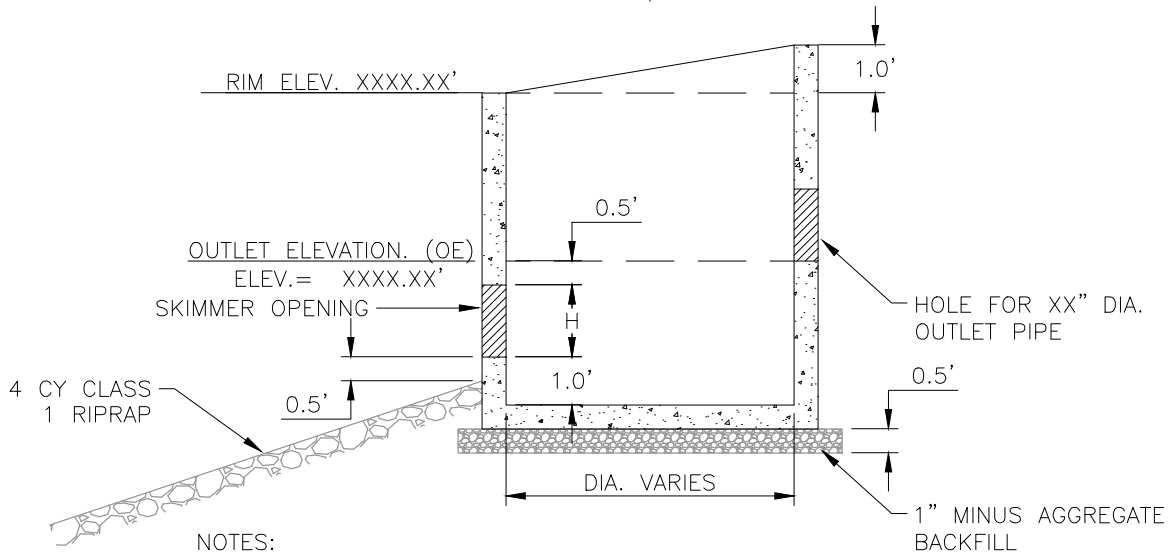
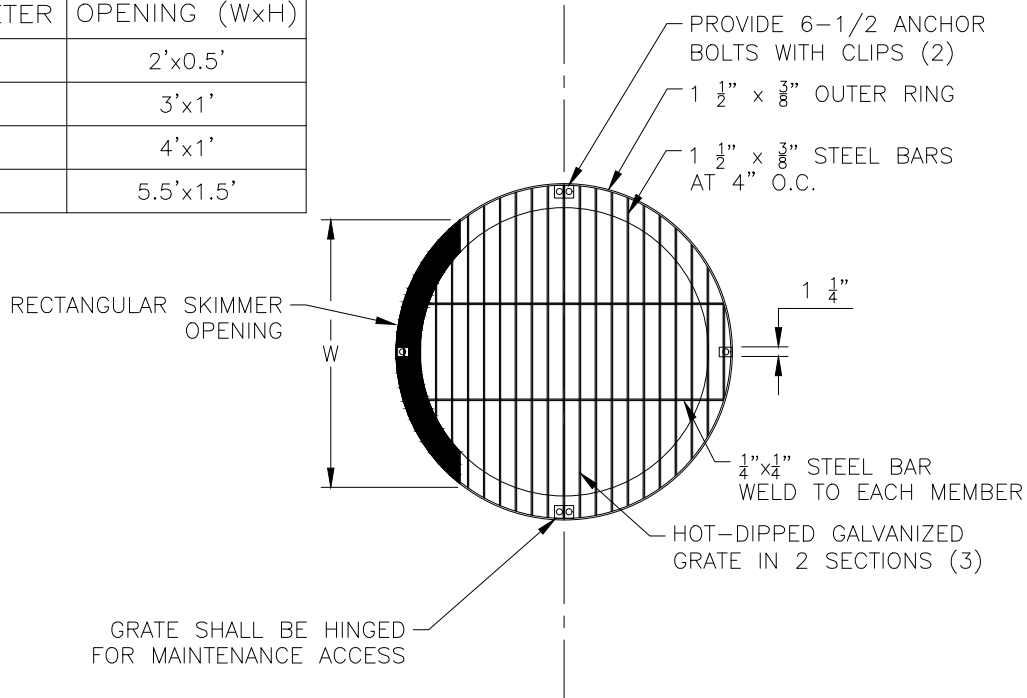
STORM MANHOLE COVER

DR.7

EJW EAST JORDAN <small>IRON WORKS EST. 1983</small> 800-626-4653 www.ejw.com MADE IN USA	
PRODUCT NUMBER	00377162
CATALOG NUMBER	3771A1
MANHOLE COVER	
LOAD RATING	HEAVY DUTY
COATING	UNDIPPED
MATERIAL SPECIFICATION	COVER - GRAY IRON ASTM A48 CL35B
OPEN AREA	N/A
↓ DESIGNATES MACHINED SURFACE	
DRAWN	DATE
GAD	07/03/08
LAST REVISED	DATE
REFERENCE INFORMATION	00377720.1C 00377161.LO 00377123.1D

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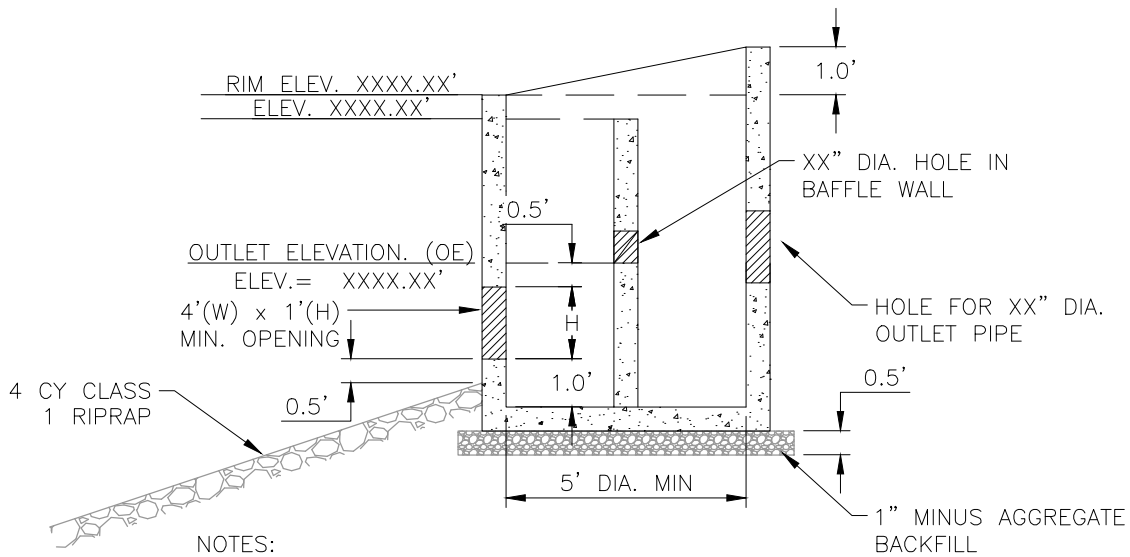
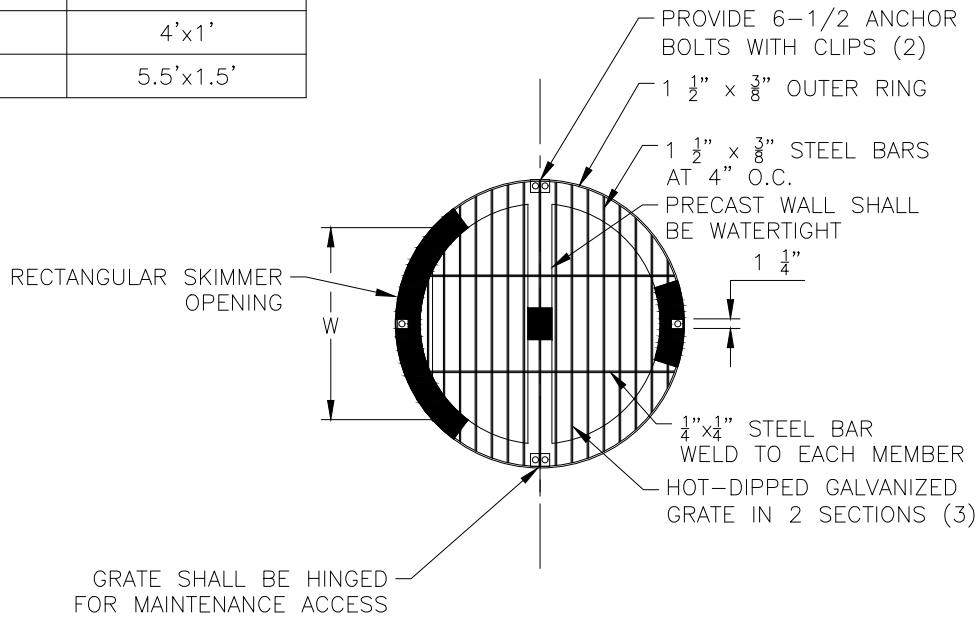
SKIMMER DIAMETER	SKIMMER OPENING (WxH)
3'	2'x0.5'
4'	3'x1'
5'	4'x1'
6'	5.5'x1.5'



NOTES:

1. CENTER SKIMMER ON O.E. CONTOUR AND GRADE IN FRONT OF SKIMMER OPENING AS NECESSARY TO PROVIDE FOR SKIMMER OPENING.
2. ANCHOR BOLTS SHALL BE STAINLESS STEEL (OR HOT DIPPED GALVANIZED) WEDGE OR STRIKE ANCHORS. 3.5" MIN. LENGTH.
3. PREFABRICATED GALVANIZED SKIMMER GRATE, PLATE STYLE BY HAALA INDUSTRIES IS AN APPROVED EQUAL. (SEE HAALAINDUSTRIES.COM)

SKIMMER DIAMETER	SKIMMER OPENING (W×H)
5'	4'x1'
6'	5.5'x1.5'



1. CENTER SKIMMER ON O.E. CONTOUR AND GRADE IN FRONT OF SKIMMER OPENING AS NECESSARY TO PROVIDE FOR SKIMMER OPENING.
2. ANCHOR BOLTS SHALL BE STAINLESS STEEL (OR HOT DIPPED GALVANIZED) WEDGE OR STRIKE ANCHORS. 3.5" MIN. LENGTH.
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