

**MULCH**

**PHYSICAL DESCRIPTION** - A layer of organic material designed to protect exposed soil or freshly seeded areas from erosion by eliminating direct impact of precipitation and slowing overland flow rates. Mulch materials may include, but are not limited to, such things as grass, hay, straw, wood chips, wood fibers, hydro mulch and shredded bark.

- Type I Mulch-Vegetative (includes grass, hay, straw), 802-10.00.
- Type II Mulch-Vegetative with asphalt emulsion (includes grass, hay, straw), 802-20.00.
- Type III Mulch-Vegetative with overspray (includes grass, hay, straw), 802-30.00.
- Type V Mulch-Hydro mulch (includes wood fiber, wood cellulose), 802-50.00.
- Shredded Hardwood Bark Mulch, 802-60.90.
- Wood Chips, (not recycled lumber), 802-60.92.

**WHERE BMP IS TO BE INSTALLED** - Typically installed on seeded areas for temporary use, and in landscaped areas for permanent use.

**CONDITIONS FOR EFFECTIVE USE OF BMP**

- Type of Flow: Sheet flow only
- Slopes: See attached chart for types of mulch acceptable as a function of slope length and steepness
- Mulching Rates: See attached table

**WHEN BMP IS TO BE INSTALLED** - Immediately after grading landscaped areas or seeding other areas.

**INSTALLATION / CONSTRUCTION PROCEDURES**

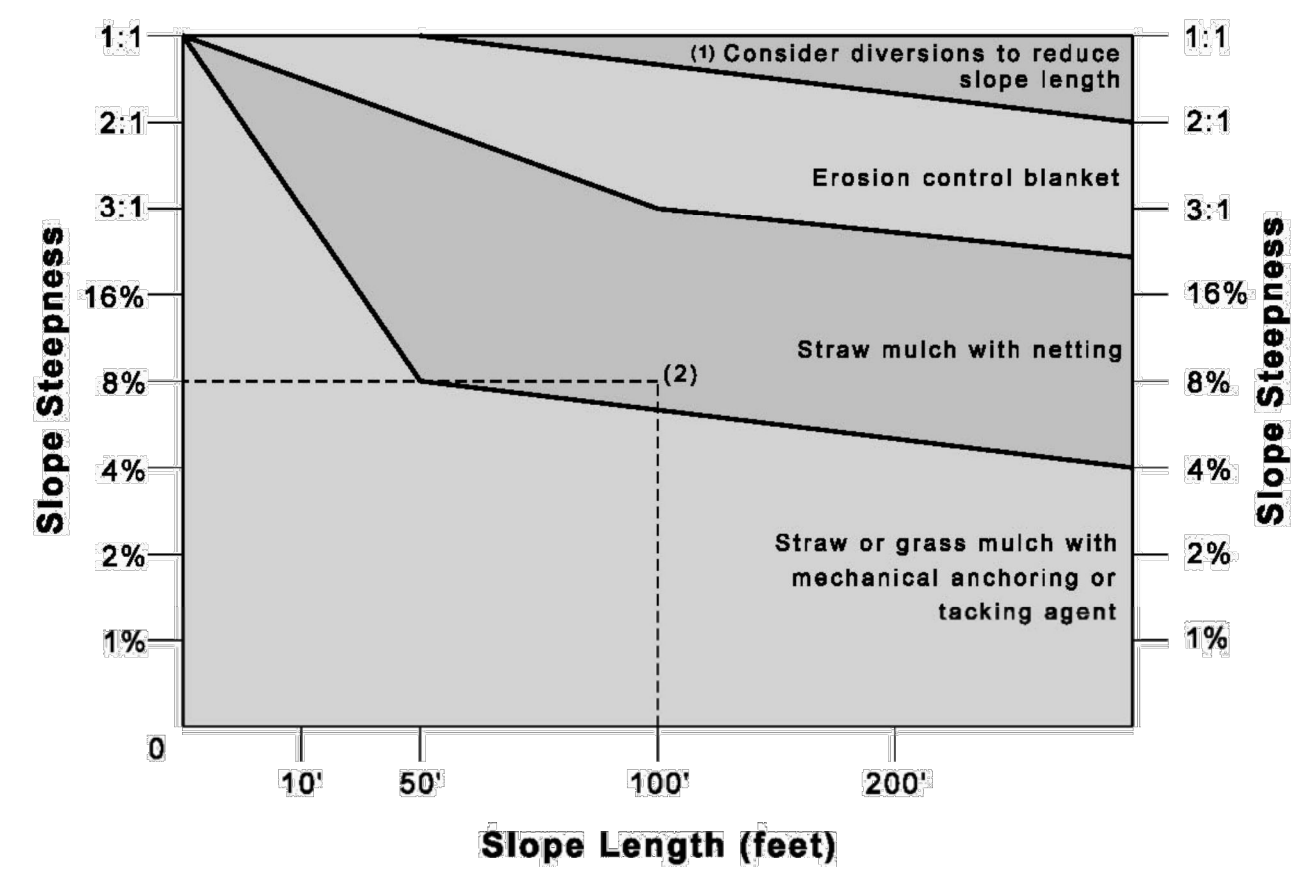
- ✓ Install upstream BMP's to protect area to be mulched
- ✓ Rough grade area and remove all debris larger than 1 inch if area is to be vegetated and mowed in the future, larger than 2 inches if area is to be permanently mulched
- ✓ If area is to be seeded, follow requirements of Seeding BMP
- ✓ Spread mulch and anchor by using ground, using netting, peg and twine, or tacking with liquid binder
- ✓ For additional information see Section 802 of St. Louis County's Standard Specification for Highway Construction.

**O&M PROCEDURES**

- ✓ Inspect every week and after every storm until adequate vegetation is established; annually for permanent mulch.
- ✓ Protect from vehicular and foot traffic.
- ✓ Repair damaged, degraded or eroded areas - reseed as needed and replace mulch.

**SITE CONDITIONS FOR REMOVAL** - Temporary mulch should be removed when adequate vegetation is established.

**MULCH SELECTION AS A FUNCTION OF SLOPE**

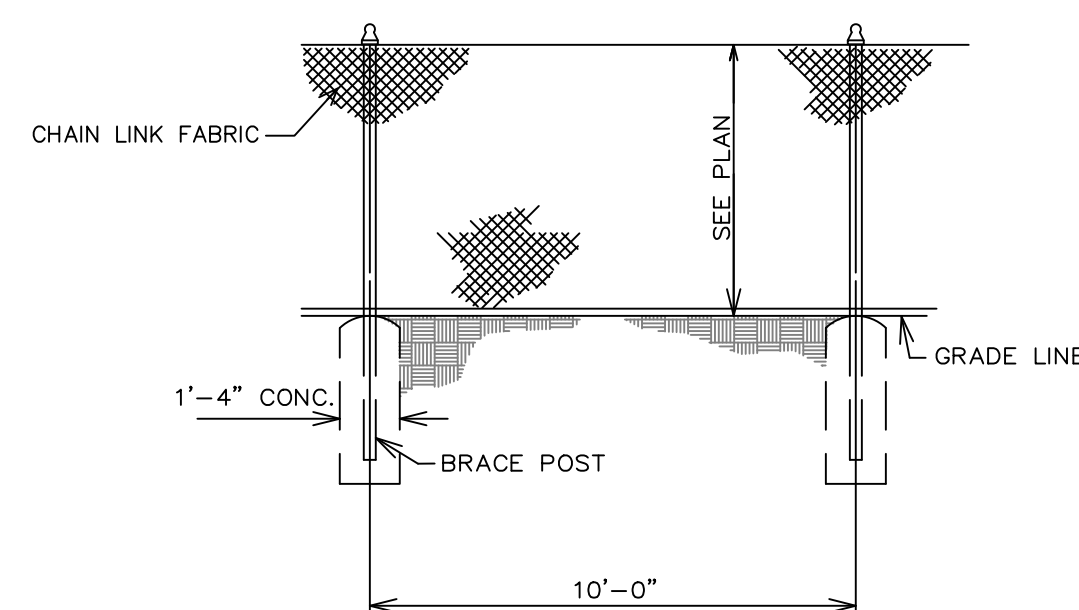


- (1) For slopes steeper than 1:1, consider building a diversion above slope to divert water.
- (2) Example: An 8% slope, 100 feet long, requires straw mulch with netting

**GENERAL MULCH RECOMMENDATIONS TO PROTECT FROM SPLASH AND SHEET FLOW**

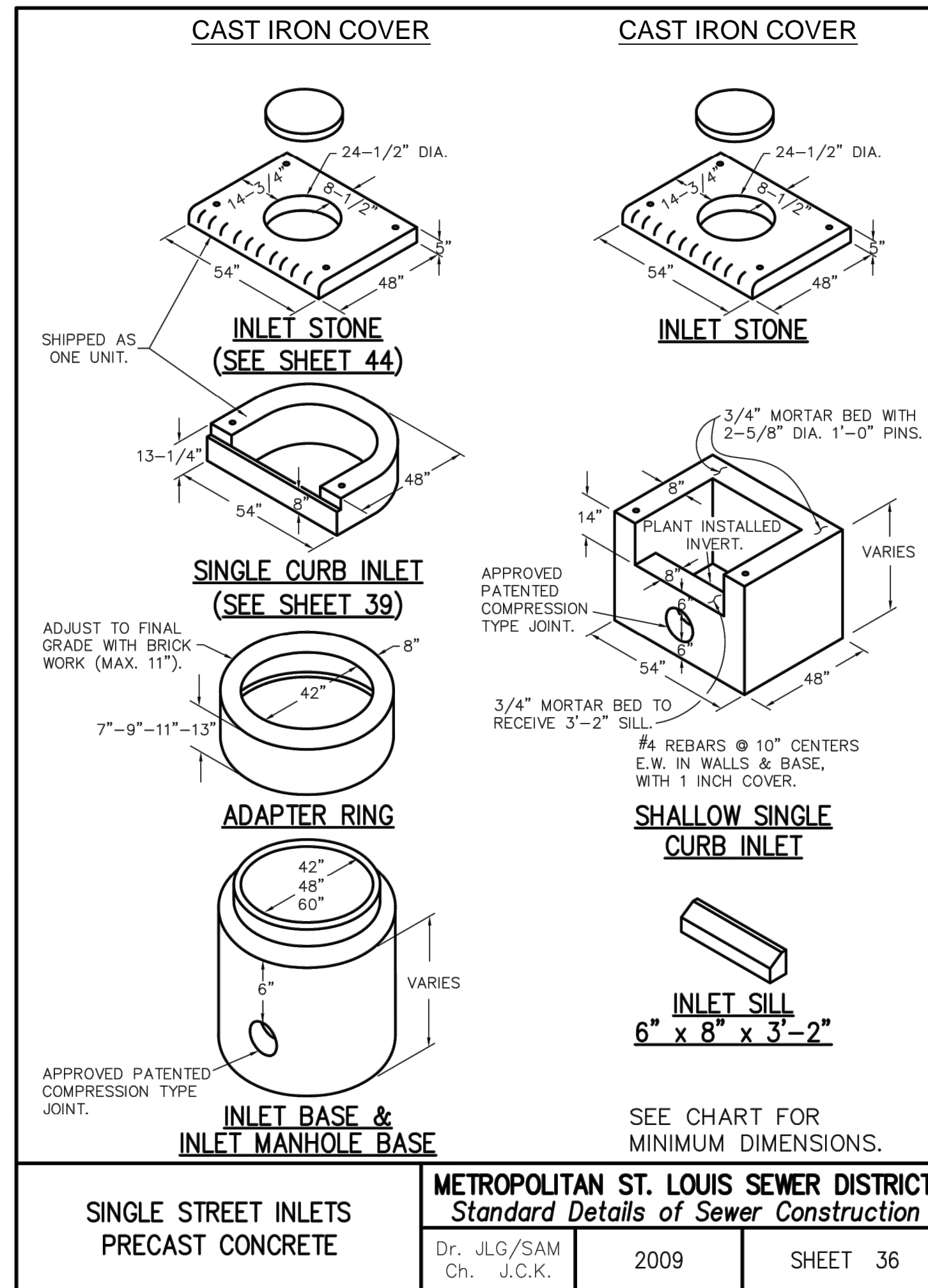
Material	Rate Per Acre	Requirements	Notes
Straw	2 to 2.5 tons	Dry, unchopped unweathers; avoid weeds	Spread by hand or machine; must be tacked or tied down
Wood Fiber or Wood Cellulose	0.5 to 1 ton	Air dry, shredded, or hammermilled; or chips	Use with hydro seeder; may be used to tack straw. Do not use in hot, dry weather.
Wood Chips	5 to 6 tons	Air dry, shredded, or hammermilled; or chips	Apply with blower, chip handler, or by hand. Not for fine turf areas.
Bark	35 cu. yds.	Air dry, shredded, or hammermilled; or chips	Apply with mulch blower, chip handler or by hand. Do not use asphalt tack.

**MULCHING NOTES AND SPECIFICATIONS**



**CHAIN LINK FENCE DETAIL**

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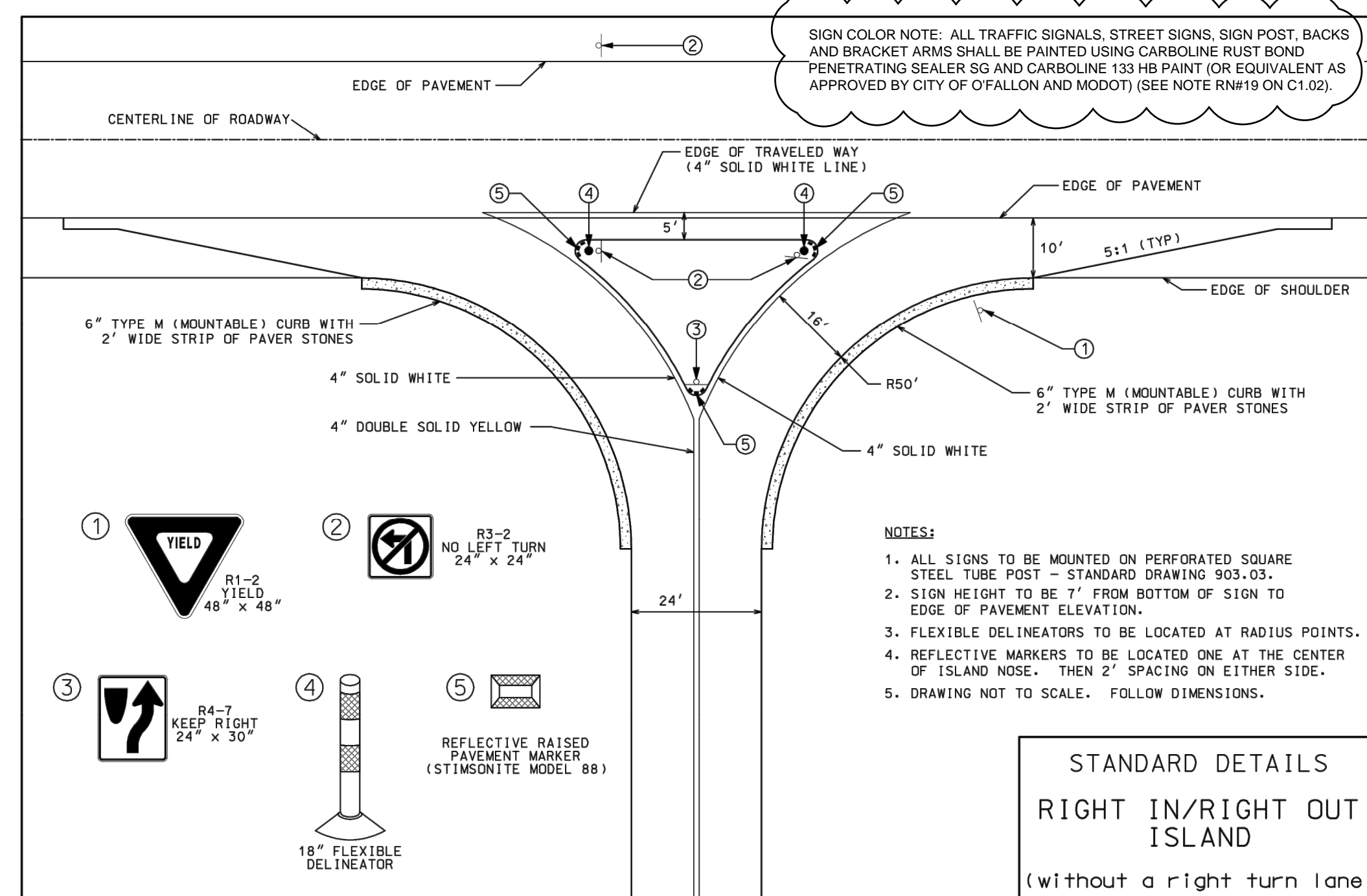


**METROPOLITAN ST. LOUIS SEWER DISTRICT**  
Standard Details of Sewer Construction  
Dr. JLG/SAM Ch. J.C.K. 2009 SHEET 36

**NOTE:**  
A 8" TRASH BAR SHALL BE INSTALLED HORIZONTALLY IN THE CENTER OF THE OPENING(S) IN ALL CURB INLETS AND AREA INLETS.

**CURB INLET DETAIL**

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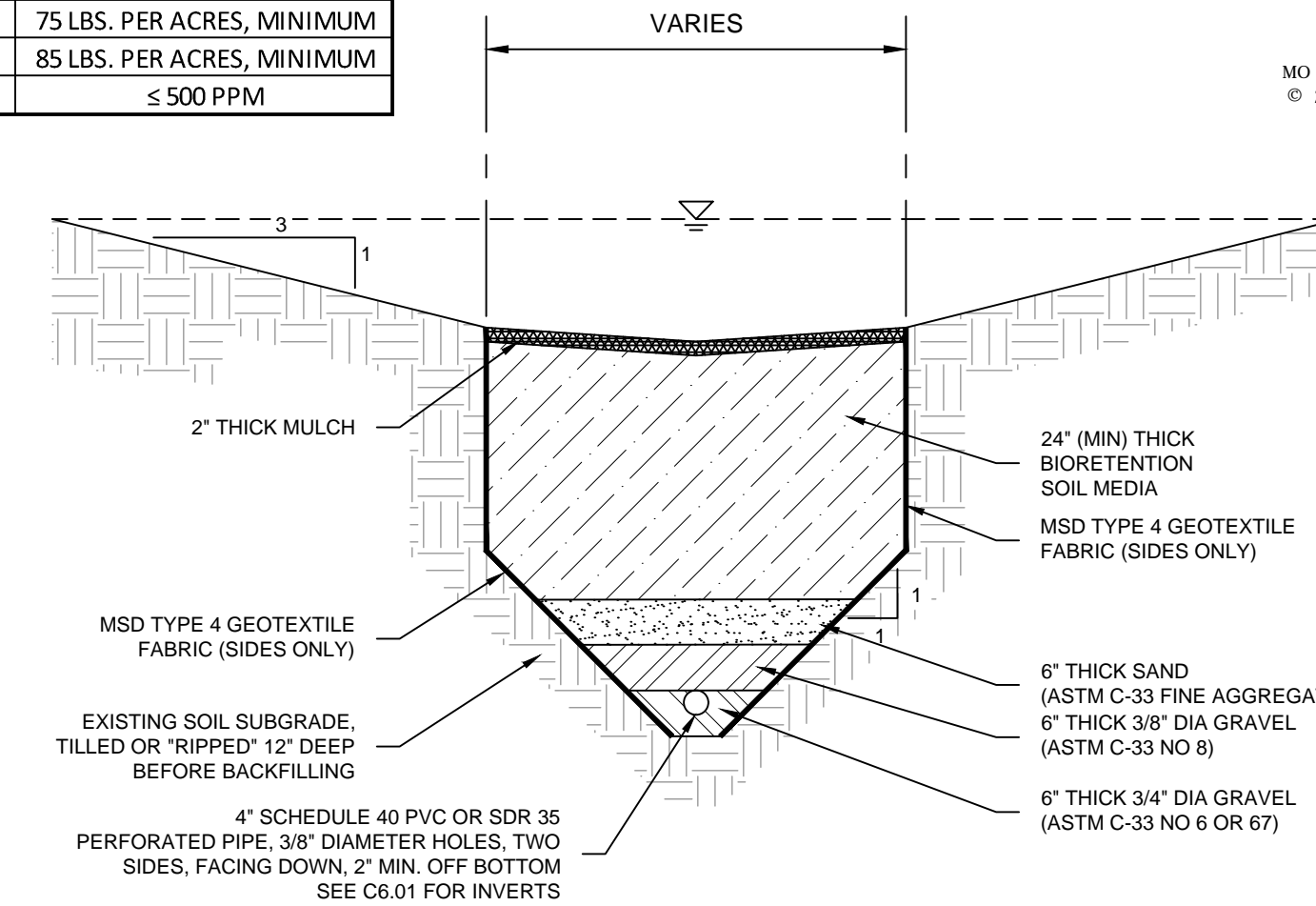
**STANDARD DETAILS**  
RIGHT IN/RIGHT OUT ISLAND  
(without a right turn lane)

**SITE ENTRANCE DETAIL**

N.T.S.

**BIORETENTION SOIL MEDIA SPECIFICATIONS**

PARAMETER:	VALUE:
PH RANGE	5.20 TO 8.00
ORGANIC MATTER	1.5 TO 5.0 %
MAGNESIUM	35 LBS. PER ACRES, MINIMUM
PHOSPHORUS (P <sub>2</sub> O <sub>5</sub> )	75 LBS. PER ACRES, MINIMUM
POTASSIUM (K <sub>2</sub> O)	85 LBS. PER ACRES, MINIMUM
SOLUBLE SALTS	≤ 500 PPM



- NOTES:  
(1) ALL SAND & GRAVEL TO BE NATURAL, UNCRUSHED.  
(2) SLOPES SHOWN ARE MAXIMUM. 12" WIDE BENCHES ARE ALLOWED IN LIEU OF 1:1 SUBGRADE SIDE SLOPE.  
(3) MUST BE PROVIDED WITH OVERFLOW INLET OR OVERLAND FLOW PATH.

**Bioretention Maintenance Activities**

**Routine Maintenance Activities**  
The majority of this work consists of weeding, vegetation pruning, and trash and/or debris removal. Trash and/or debris shall be disposed of in accordance with all federal and local regulations.

**Non-Routine Maintenance Activities**

Non-routine maintenance activities consist of repairing and/or replacing components of the BMP. Should there be any evidence of gully or erosion in the bioretention basin, bank stabilization shall be necessary. If any components of the BMP need to be removed and replaced they must be done so according to the original design standards.

**Corrective Actions and Modifications**

Any corrective actions required that will modify the BMP(s) design components are considered design modifications and must be reviewed by The City of O'Fallon.

**Maintenance Materials**

In the event that any of the media or other surface materials needed to be replaced during routine or non-routine maintenance, the following are the requirements for material replacement.

See detail 3/C8.03 for material specifications regarding the bioretention basin.

**Safety**

Safety considerations should be taken when conducting maintenance. Hazards should be anticipated and avoided. Confined spaces should not be entered without proper training, monitoring and equipment.

**BIORETENTION BASIN DETAIL**

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**Product selection for FLEXSTORM PURE Filters (Permanent Inlet Protection)**

Standard	Inlet Type	Krikor Equivalent	Grate Size	Clear Opening Size	Bag Cap. (ft³)	FX/FX+	PC/PC+	Bypass	PC	PC+
36" Open Throat Inlet	Open Throat (WM)	FGP-36CI	N/A	36	2.5	1.9	1.4	N/A	62HDWM36FX	62HDWM36PCP
42" Open Throat Inlet	Open Throat (WM)	FGP-42CI	N/A	42	3.0	2.5	1.7	N/A	62HDWM42FX	62HDWM42PCP
48" Open Throat Inlet	Open Throat (WM)	FGP-48CI	N/A	48	3.3	2.8	2.2	N/A	62HDWM48FX	62HDWM48PCP
60" Open Throat Inlet (2 piece)	Open Throat (WM)	FGP-60CI	N/A	60	4.2	3.6	2.6	N/A	62HDWM60FX	62HDWM60PCP
64" Open Throat Inlet (2 piece)	Open Throat (WM)	FGP-64CI	N/A	64	5.8	5.0	3.4	N/A	62HDWM64FX	62HDWM64PCP
66" Open Throat Inlet (2 piece)	Open Throat (WM)	FGP-66CI	N/A	66	6.6	5.6	4.4	N/A	62HDWM66FX	62HDWM66PCP
48" Open Throat with Side Wings	Open Throat (WM)	N/A	N/A	48 Winged	5.1	2.7	1.7	N/A	62HDWM48FX	62HDWM48PCP

**INSTALLATION AND MAINTENANCE INSTRUCTIONS**

- ENTER MANHOLE OPENING WITH INLET FILTER AND MOUNTING HARDWARE
- ALIGN FILTER FRAME WITH CURB OPENING AND MARK CENTERLINE OF EACH FRAME HANGER BRACKET
- USING SUPPLIED WALL MOUNT BRACKETS, MARK LOCATION OF BRACKET SCREW HOLES SPACED 1" DOWN FROM TOP LEDGE OF CONCRETE.
- USING HAMMER DRILL, DRILL HOLE TO RECOMMENDED DEPTH OF SPECIFIED FASTENER.
- SECURE THE WALL MOUNT BRACKETS USING CONCRETE FASTENERS AND HANG THE FLEXSTORM INLET ASSEMBLY.
- FOR MAINTENANCE LIFT THE FILTER FRAME OFF MOUNTING BRACKETS AND CARRY UP THROUGH MANHOLE OPENING. ALTERNATIVELY SERVICE WITH TRUCK MOUNTED VACUUM.

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**INLET FILTER DETAIL**

N.T.S.

**REVISIONS**

NO.	DATE
3	08/10/2016

ISSUE DATE: MAY 26, 2016  
PROJECT NO.: 15-187  
DRAWN BY: GAS  
CHECKED BY: TBS

SEAL  
TODD B. SCHEIBE  
NUMBER E-24757