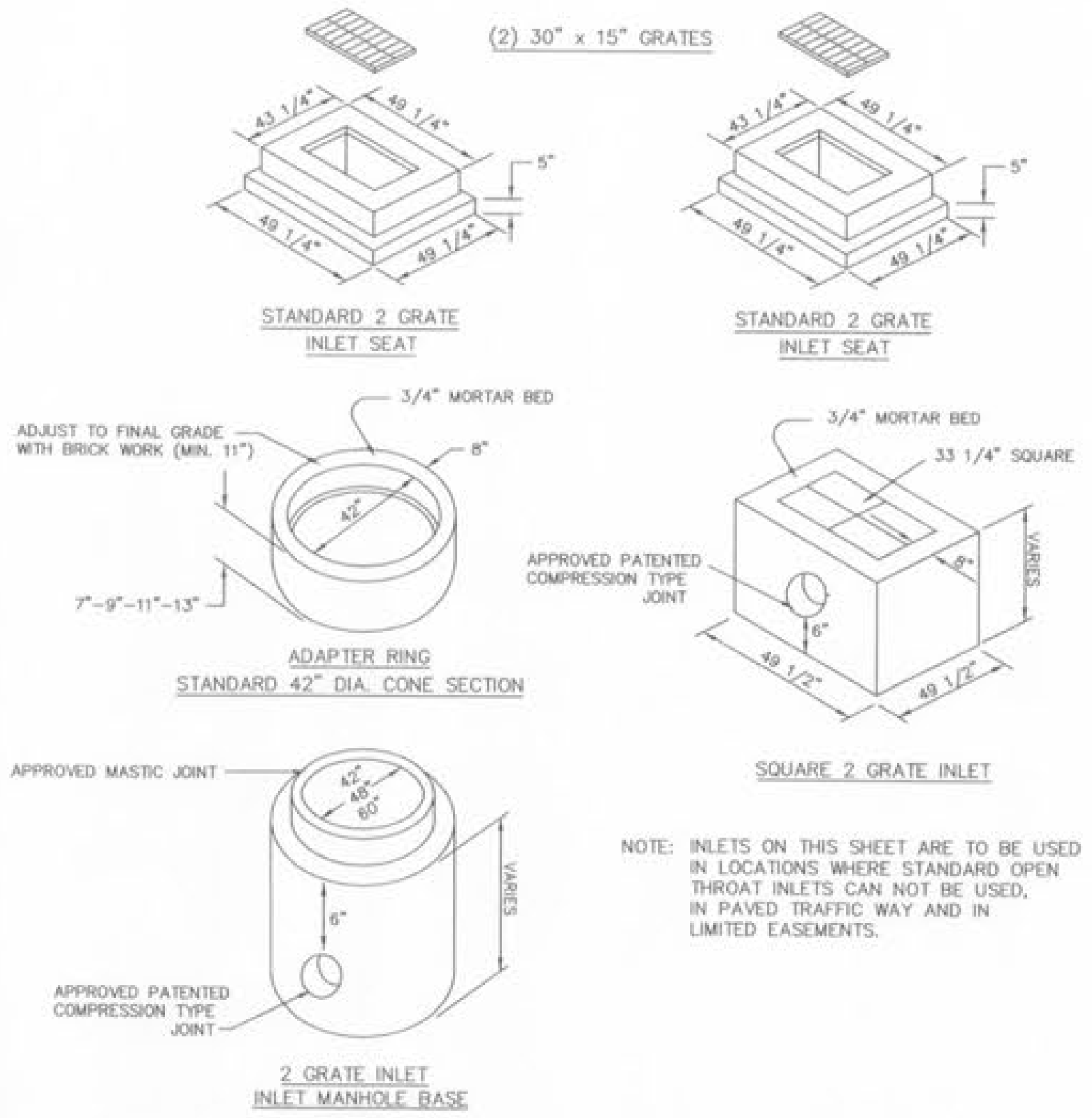
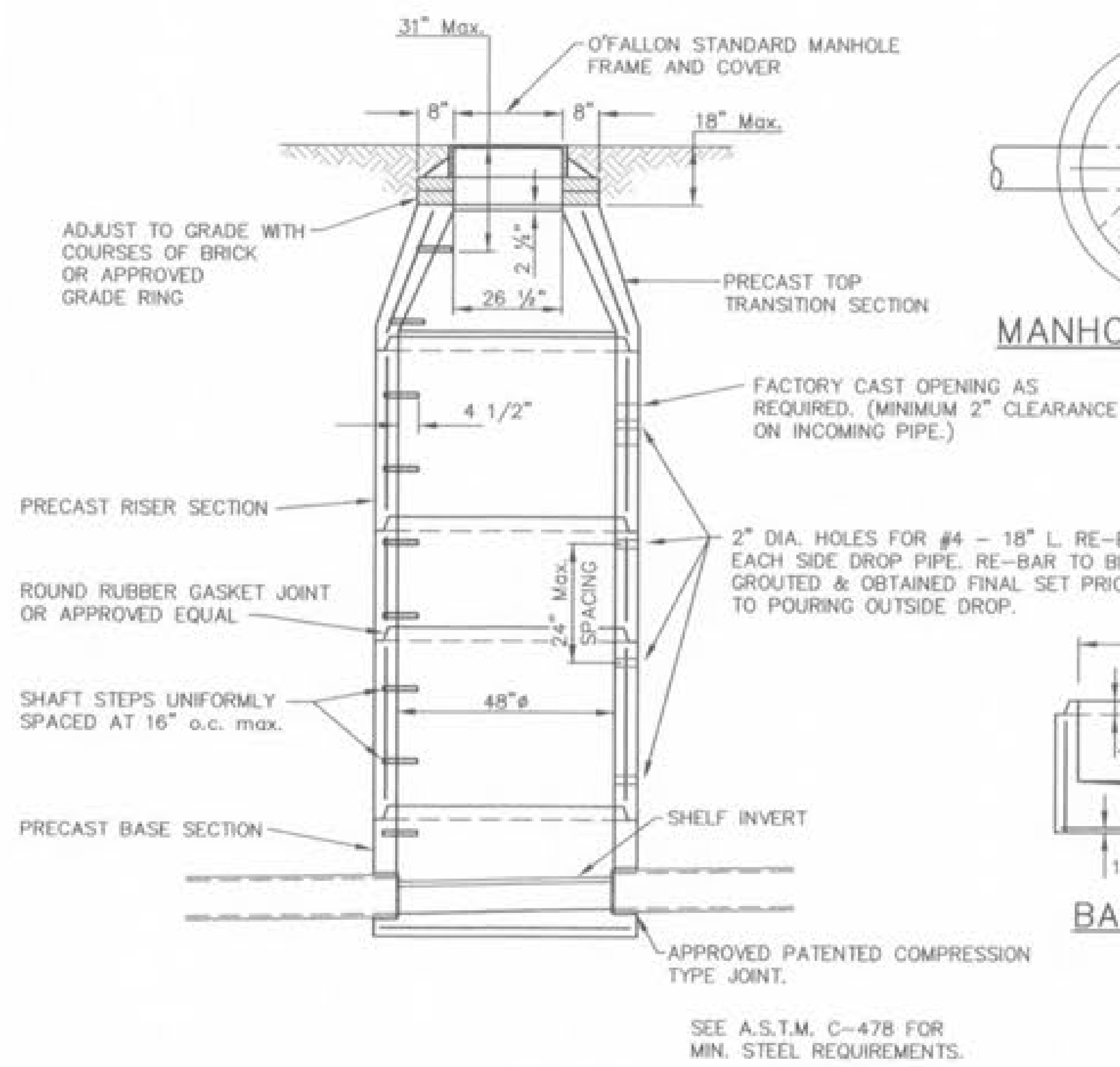


NOTE: INLETS ON THIS SHEET ARE TO BE USED IN LOCATIONS WHERE STANDARD OPEN THROAT INLETS CAN NOT BE USED, IN PAVED TRAFFIC WAY AND IN LIMITED EASEMENTS.

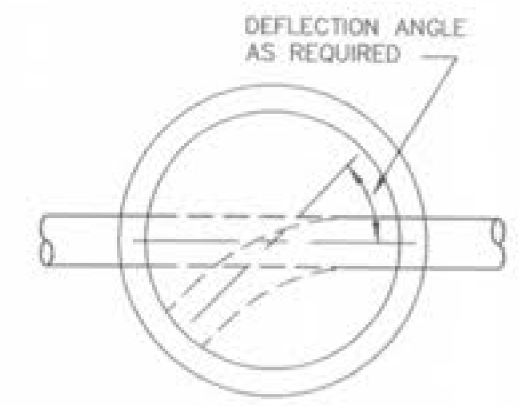
2 GRATE INLET

NOTES:
1. THE CITY OF O'FALLON REQUIRES MARKERS ON STORM INLETS WITH THE MESSAGE "NO DUMPING DRAINS TO WATERWAYS" OR "NO DUMPING DRAINS TO STREAM" AS MANUFACTURED BY ACP INTERNATIONAL, DAS MANUFACTURING, INC., ALMETEK INDUSTRIES OR APPROVED EQUAL. MARKERS SHALL BE ATTACHED TO STRUCTURE USING EPOXY ADHESIVE. "PEEL AND STICK" ADHESIVE PADS WILL NOT BE ALLOWED. SEE CITY OF O'FALLON SPECIFICATIONS FOR DETAILS.

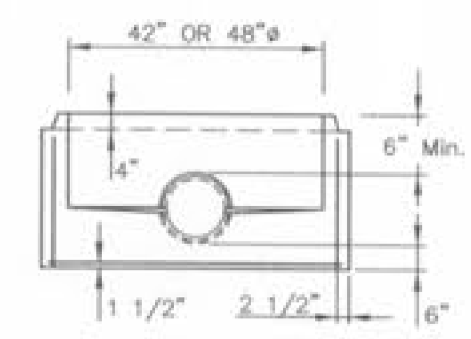


PRECAST MANHOLE

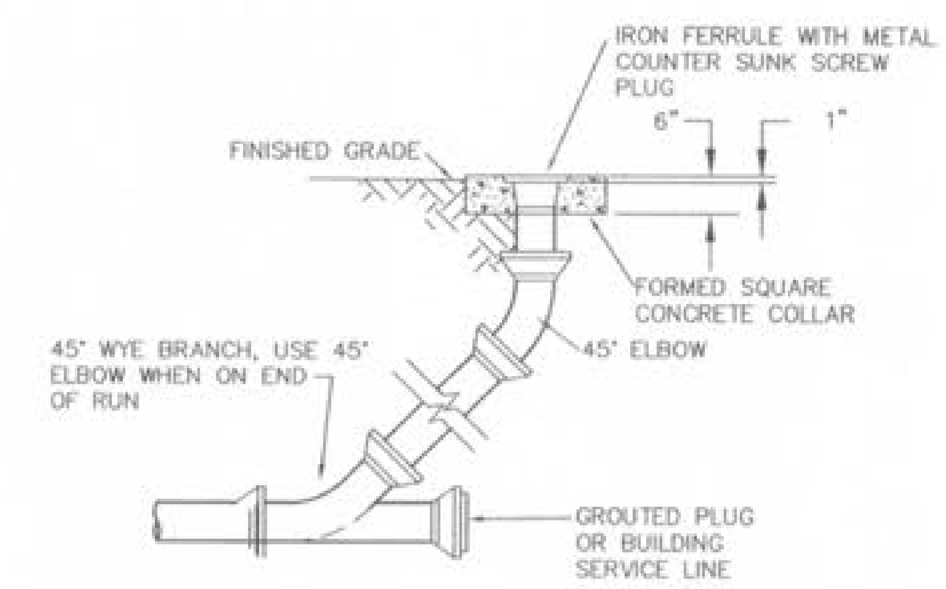
1. PROVIDE 31 mil WATERPROOFING PER CITY REQUIREMENTS.
2. MANHOLES SHALL HAVE A 0.2' DROP THROUGH THE STRUCTURE.



MANHOLE BASE PLAN



BASE SECTION



DETAIL OF SEWER CLEANOUT

NOT TO SCALE

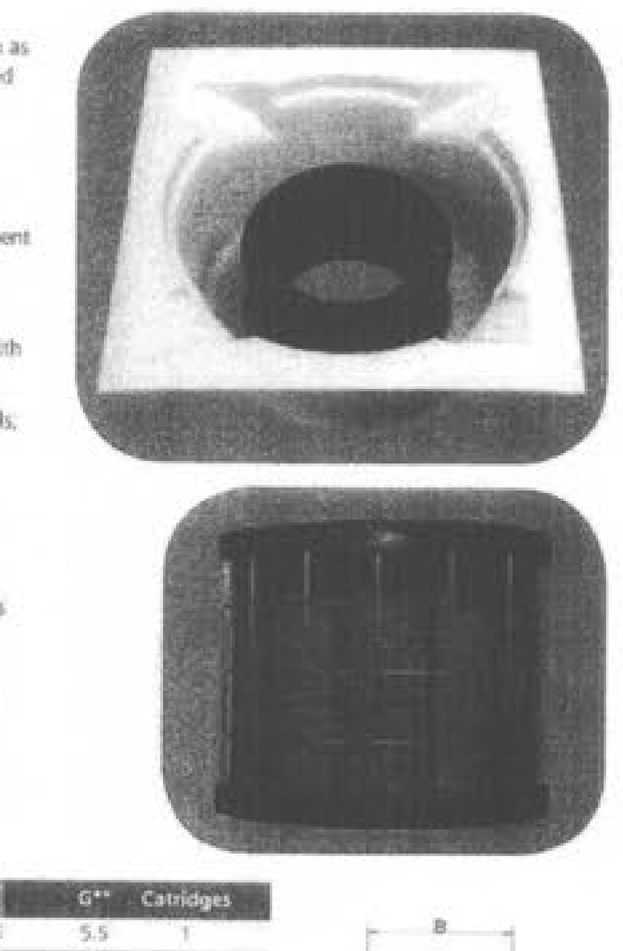
Triton Catch Basin Inserts

Triton Drop Inlet

This catch basin insert traps hydrocarbons and other contaminants such as metals, sand, silt and litter from stormwater runoff. The Triton is installed below the grate of storm drain inlets.

Specifications

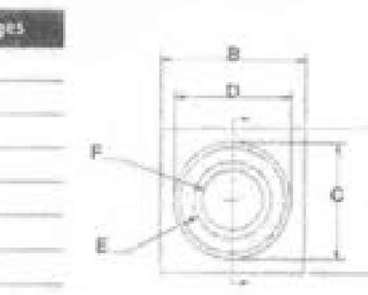
- Easy to install in new and existing catch basins.
- Meets best available technology for use in stormwater best management practices (BMP).
- Round, square, rectangular, low profile and custom models.
- Non-reactive high density polyethylene (HDPE) plastic construction, with U.V. inhibitors.
- Media-Pak cartridges available for the removal of hydrocarbons, metals, sand, silt, and litter.
- Quick and easy servicing made available by replaceable Media-Paks.
- Disposable Media-Paks are constructed from durable geotextile, polypropylene fabric.
- Media-Paks can be interchanged with GeoTrap series as site conditions change.
- Media is nonhazardous, per EPA and OSHA standards.



Standard Dimensions (in inches)

	A*	B*	C	D	E	F	G**	Catridges
TR1212	13	13	11	11	6.75	3.75	5.5	1
TR12RD	13 dia.		11 dia.		6.75	3.75	5.5	1
TR1616	18	18	14	14	6.75	3.75	10.5	1
TR16RD	18 dia.		14 dia.		6.75	3.75	10.5	1
TR1818	20	20	17	17	10.5	7.25	10.5	1
TR18RD	20 dia.		16.5 dia.		6.75	3.75	10.5	1
TR1824	19	25	17	17	10.5	7.25	10.5	1
TR2024	21	25	17	17	10.5	7.25	10.5	1
TR245R	26	26	21	21	14	11	13	1
TR24RD	26 dia.		21 dia.		14	11	13	1
TR2436	26	38	17	30	10.5	7.25	10.5	2
TR3030	33	33	21	21	14	11	13	1
TR3636	40	40	30	30	14	11	22	1 tall
TR36RD	40 dia.		30 dia.		14	11	22	1 tall
TR2448	26	52	21	42	14	11	13	2
TR4848	52	52	42	42	24	20	22	1 tall

** Dimension "G" is cartridge depth.
* Dimensions "A" and "B" can be adjusted to suit varying sizes of each basins.



Notes:
1. All dimensions are in inches.
2. Units are constructed from HDPE plastic with U.V. inhibitors.
3. Media cartridges can be interchanged with Geotrap series as site conditions change.
4. Low profile cartridges are also available for shallow catch basins.
5. Custom sizes are available to fit most applications.
6. Optional trash and debris guard available.
7. Dual stage and dual capacity cartridges also available.

page 2

TRITON CATCH BASIN INSET

NOT TO SCALE

HYDRAULIC CALCULATION SHEET (SEE DRAINAGE AREA MAP SHEET C10 FOR P.I. AND Q (inflow) FOR EACH STRUCTURE)

Project name:	AMERICAN EAGLE C.U.	Calculated By:	MFV
Project number:	0708	Checked By:	BAH
Project Location:	HWY K	Date:	

Bend Coefficients :

$5^0 = 0.06$	$20^0 = 0.24$	$35^0 = 0.4$	$50^0 = 0.50$	$65^0 = 0.57$	$80^0 = 0.65$
$10^0 = 0.11$	$25^0 = 0.30$	$40^0 = 0.43$	$55^0 = 0.52$	$70^0 = 0.60$	$85^0 = 0.67$
$15^0 = 0.18$	$30^0 = 0.35$	$45^0 = 0.47$	$60^0 = 0.55$	$75^0 = 0.62$	$90^0 = 0.70$

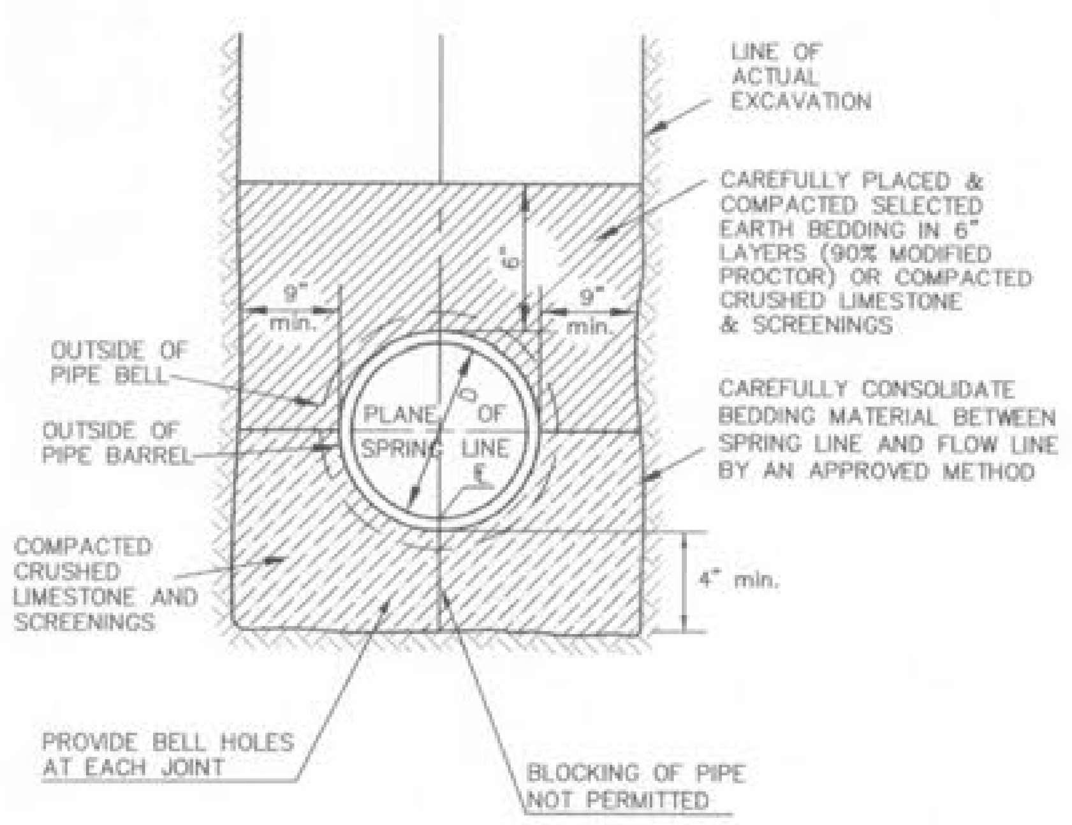
Structure Number	LINE Upper structure	LINE Lower structure	FLOW LINE ELEVATIONS Upper structure	FLOW LINE ELEVATIONS Lower Structure	Length (ft)	Flowline Grade ft/ft	Pipe Size (in.)	Full Flow Cap. (cfs)	Total (Q) (cfs)	Mean Full Flow Vel.(V) (ft/s)	Bend Coef.	Velocity Head (V_h) (ft)	QV_h (ft^4/s)	Pipe Coef. (n)	HEAD LOSS H_f (ft)	HEAD LOSS Junction (ft)	HEAD LOSS Bend (ft)	Total H_{ttl}	Hydraulic Elevations Upper F.L. + Dia.	Hydraulic Elevations Lower H.E. $+H_f$	Hydraulic Elevations Lower H.E.	Structure Upper H.E. + H_{ttl}	TOP Structure Elevation	Free Board	Structure Number
4	4	3	574.5	574.10	83.70	0.0048	12	2.47	0.95	1.21	0	0.02	0.02	0.013	0.06	0.03	0.00	0.03	575.50	575.16	575.10	575.53	578.5	2.97	4
3	3	2	574.1	573.80	56.70	0.0053	12	2.60	1.91	2.43	0	0.09	0.18	0.013	0.16	0.00	0.00	0.00	575.10	574.98	574.82	575.10	578.5	3.40	3
2	2	1	573.8	572.05	129.70	0.0135	12	4.15	2.02	2.57	0	0.10	0.21	0.013	0.42	0.02	0.00	0.02	574.80	573.47	573.05	574.82	579	4.18	2
1	1		570.6																						

FORMULAS:

MEAN FULL FLOW VELOCITY: Q_{ACT}/A_{PIPE}
FRICTION LOSS (H) : $Hf = 2.87\ n^2\ (LV^2/d^{4/3})$
VELOCITY HEAD : $V_h = V^2/2g$

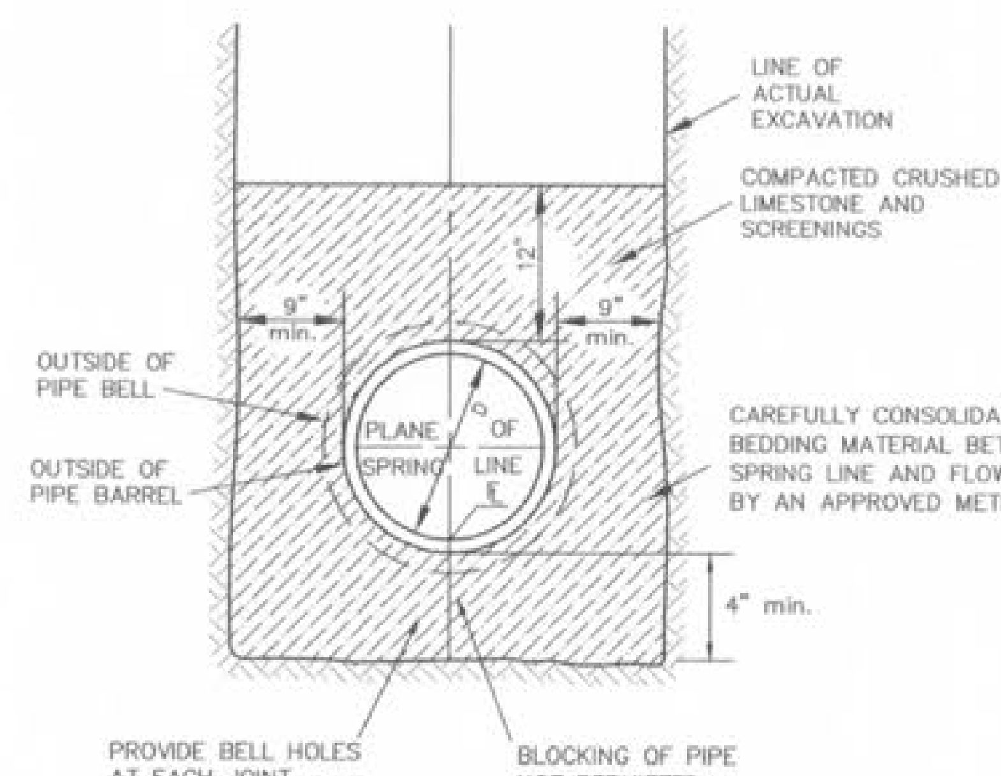
JUNCTION LOSSES (JUNC.) = $[\ Q_{out}Vh_{out} - \text{Sum}\ (Q_{in}V_{in})]\times 1.33/Q_{out}$
BEND LOSSES (BEND) = $(V_{in}^2/2g)$ * ANGLE COEFFICIENT

Note:
1. IF MORE THAN ONE INCOMING LINE, CALCULATE EACH BEND LOSS AND ADD TOGETHER.
2. NO STRUCTURE LOSES TO BE CALCULATED AT A DROP
3. IF $QV_{h(in)} > QV_{h(out)}$, NO JUNCTION LOSES TO BE CALCULATED.



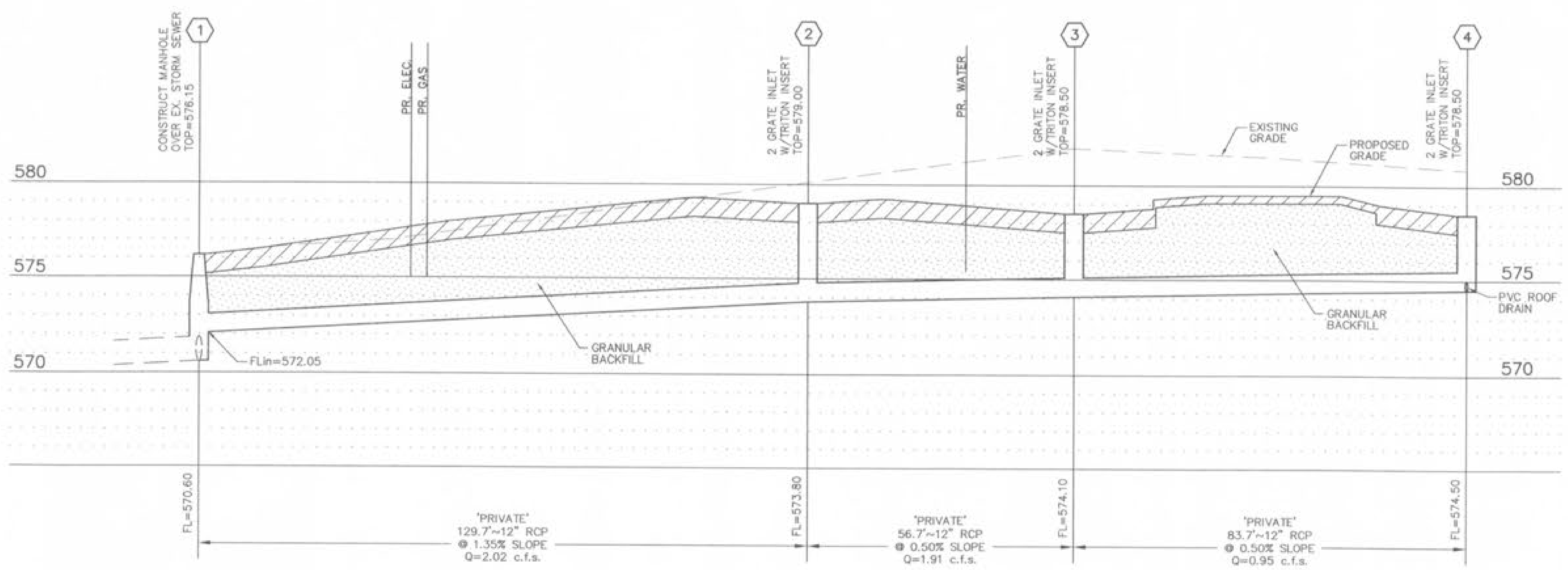
PIPE BEDDING CLASS "C"

(MODIFIED FOR REINFORCED CONCRETE PIPE)



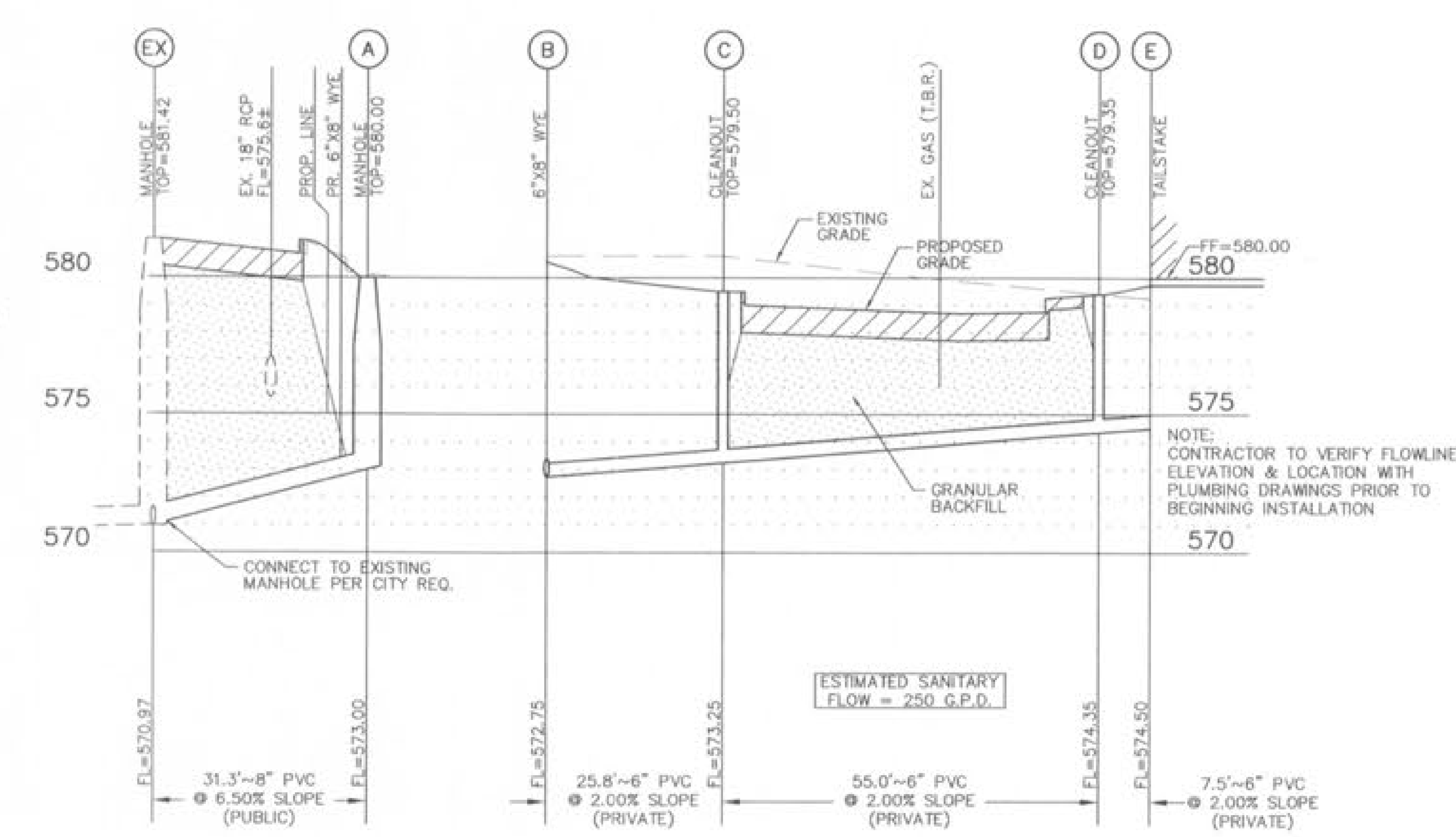
PIPE BEDDING CLASS "C"

(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)



STORM SEWER PROFILE

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

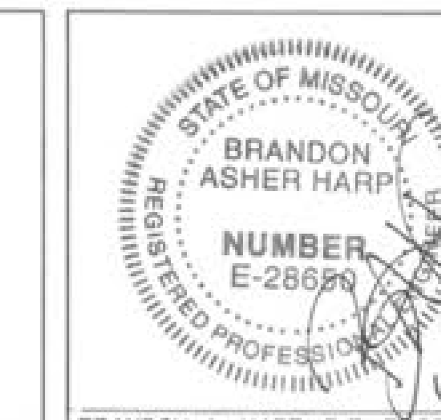


SANITARY SEWER PROFILE

SCALE:
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

Planning and Development No. 2507

Planning and Zoning Commission Approval - October 4, 2007



BRANDON A. HARP, P.E. E-28650

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Improvement Plans

American Eagle Credit Union

2531 Highway K
O'Fallon, Missouri 63368

Proj. # 0708

No.	Description	Date
	City Submittal	10/08/07
	per City	11/14/07
	Permit Set	01/23/08
	per City	04/25/08
	per City	06/30/08

Sewer Profiles, Details & Hydraulic Calcs.

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