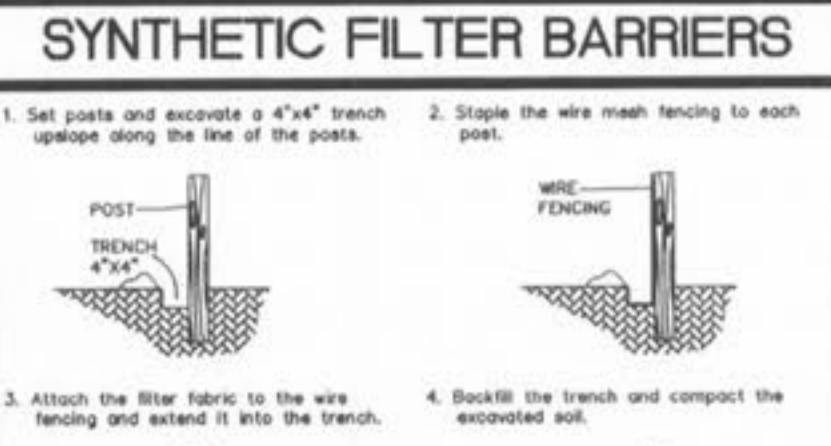
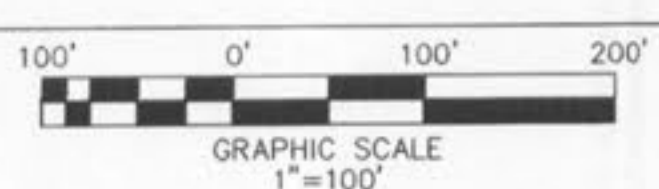
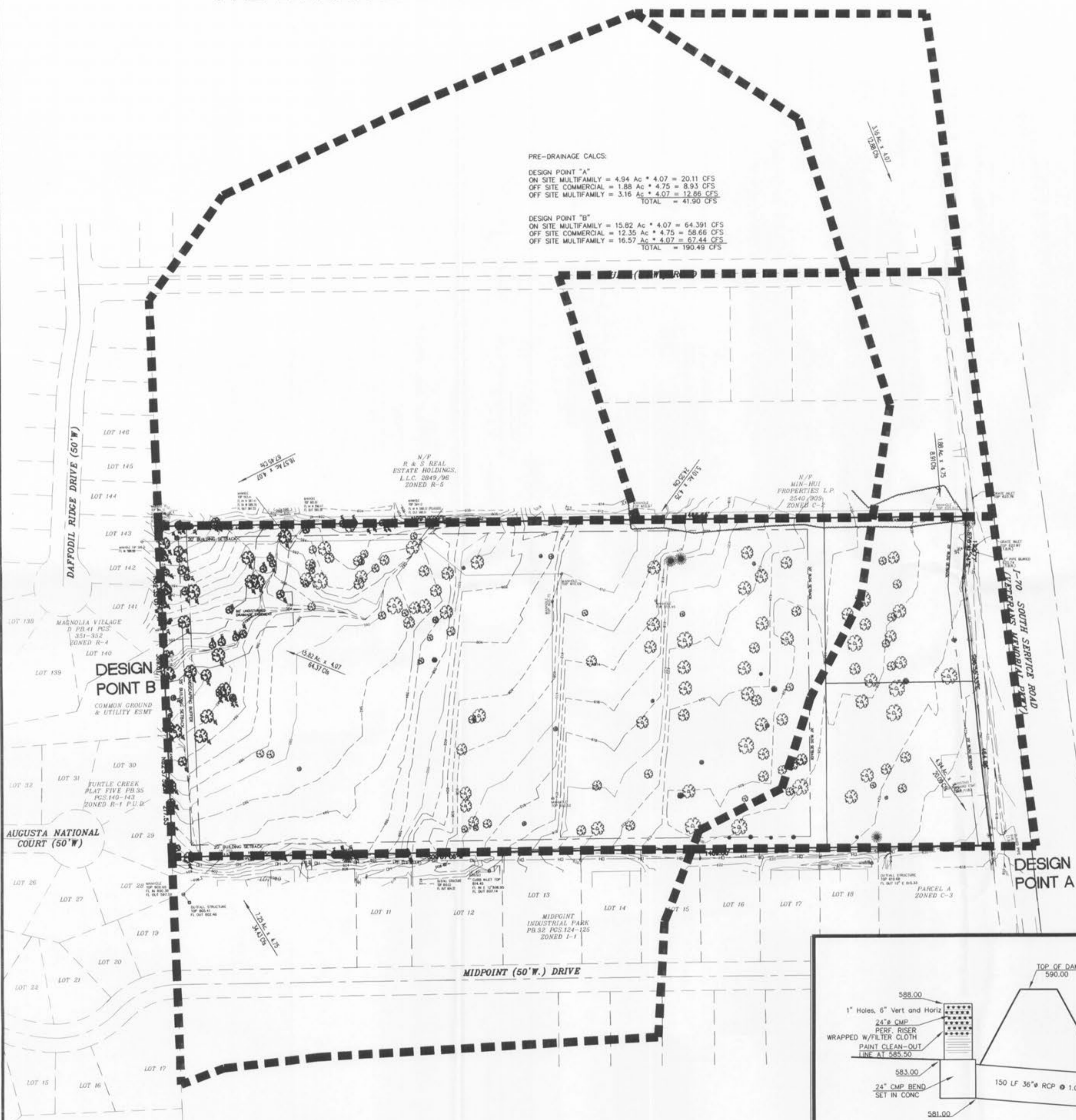


# PRE-DRAINAGE AREA MAP

## PRE-DRAINAGE CALCS:

**DESIGN POINT "A"**  
 ON SITE MULTIFAMILY = 4.94 Ac \* 4.07 = 20.11 CFS  
 OFF SITE COMMERCIAL = 1.88 Ac \* 4.75 = 8.93 CFS  
 OFF SITE MULTIFAMILY = 3.16 Ac \* 4.07 = 12.86 CFS  
**TOTAL = 41.90 CFS**

**DESIGN POINT "B"**  
 ON SITE MULTIFAMILY = 15.82 Ac \* 4.07 = 64.391 CFS  
 OFF SITE COMMERCIAL = 12.35 Ac \* 4.75 = 58.66 CFS  
 OFF SITE MULTIFAMILY = 16.57 Ac \* 4.07 = 67.44 CFS  
**TOTAL = 190.49 CFS**



### VEGETATIVE ESTABLISHMENT FOR URBAN DEVELOPMENT SITES

**APPENDIX A**

**Seeding Rates:**

**Permanent:**  
 Tall Fescue - 300 lbs./ac.  
 Smooth Brome - 200 lbs./ac.  
 Combined: Fescue @ 150 lbs./ac. and Brome @ 100 lbs./ac.

**Temporary:**  
 Wheat or Rye - 150 lbs./ac. (3.5 lbs. per 1000 sq. ft.)  
 Oats - 120 lbs./ac. (2.75 lbs. per 1000 sq. ft.)

**Seeding Periods:**  
 Fescue or Brome: March 1 to June 1  
 August 1 to October 1  
 Wheat or Rye: March 15 to November 1  
 Oats: March 15 to September 15

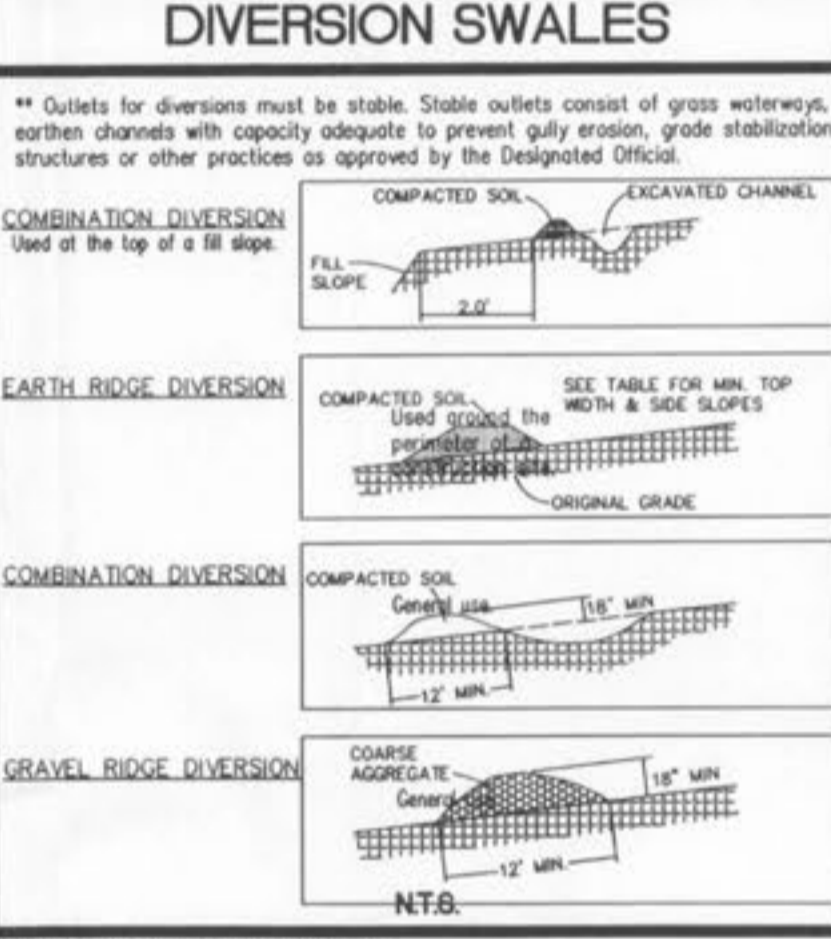
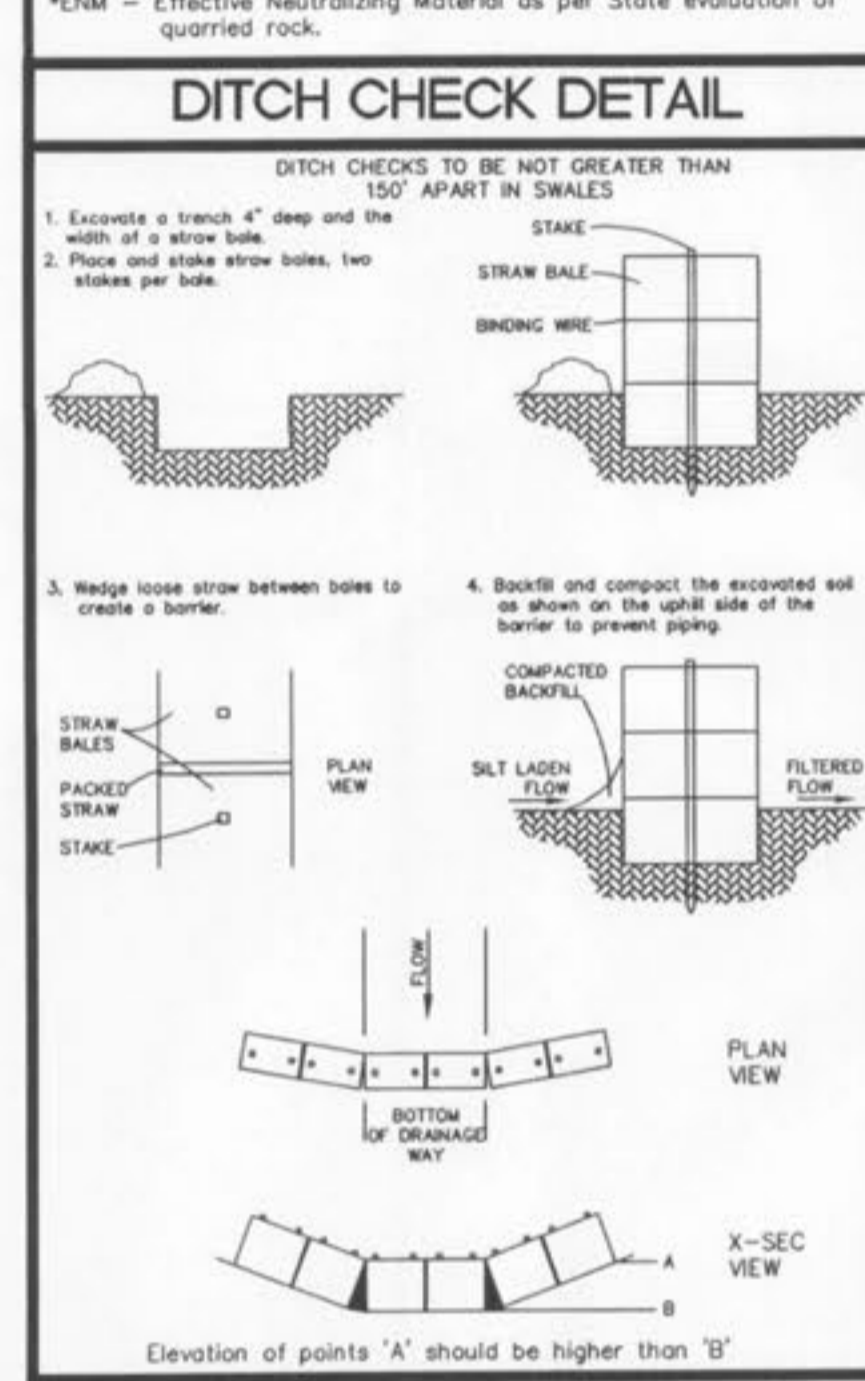
**Mulch Rates:**  
 100 lbs. Per 1,000 sq. ft. (4,356 lbs. per acre)

**Fertilizer Rates:**  
 Nitrogen: 30 lbs./ac.  
 Phosphate: 30 lbs./ac.  
 Potassium: 30 lbs./ac.  
 Lime: 600 lbs./ac. ENM\*

\*ENM - Effective Neutralizing Material as per State evaluation of quarried rock.

### MAINTENANCE

- Filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately.
- Should the fabric decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.
- Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.
- Any sediment deposits remaining in place after the site fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.

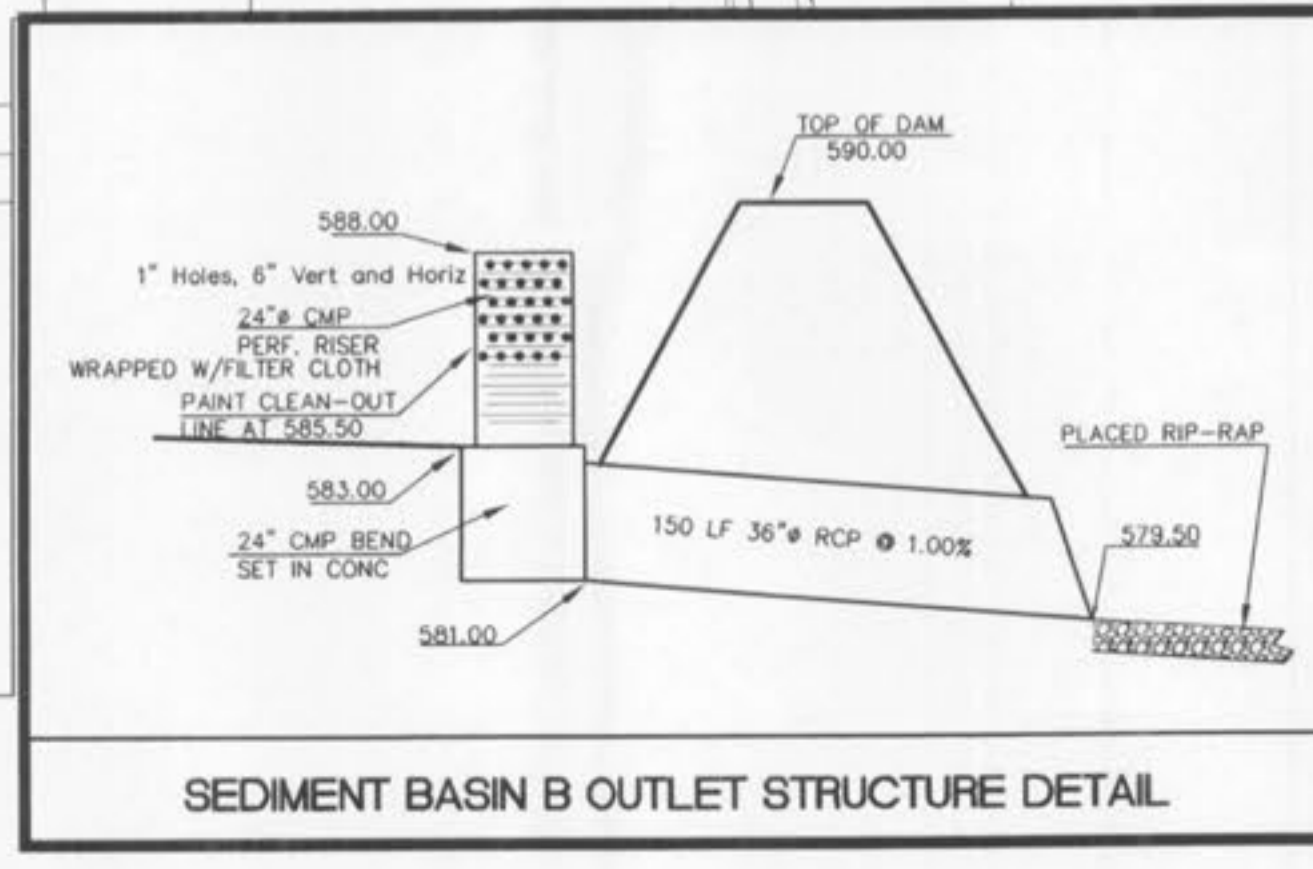
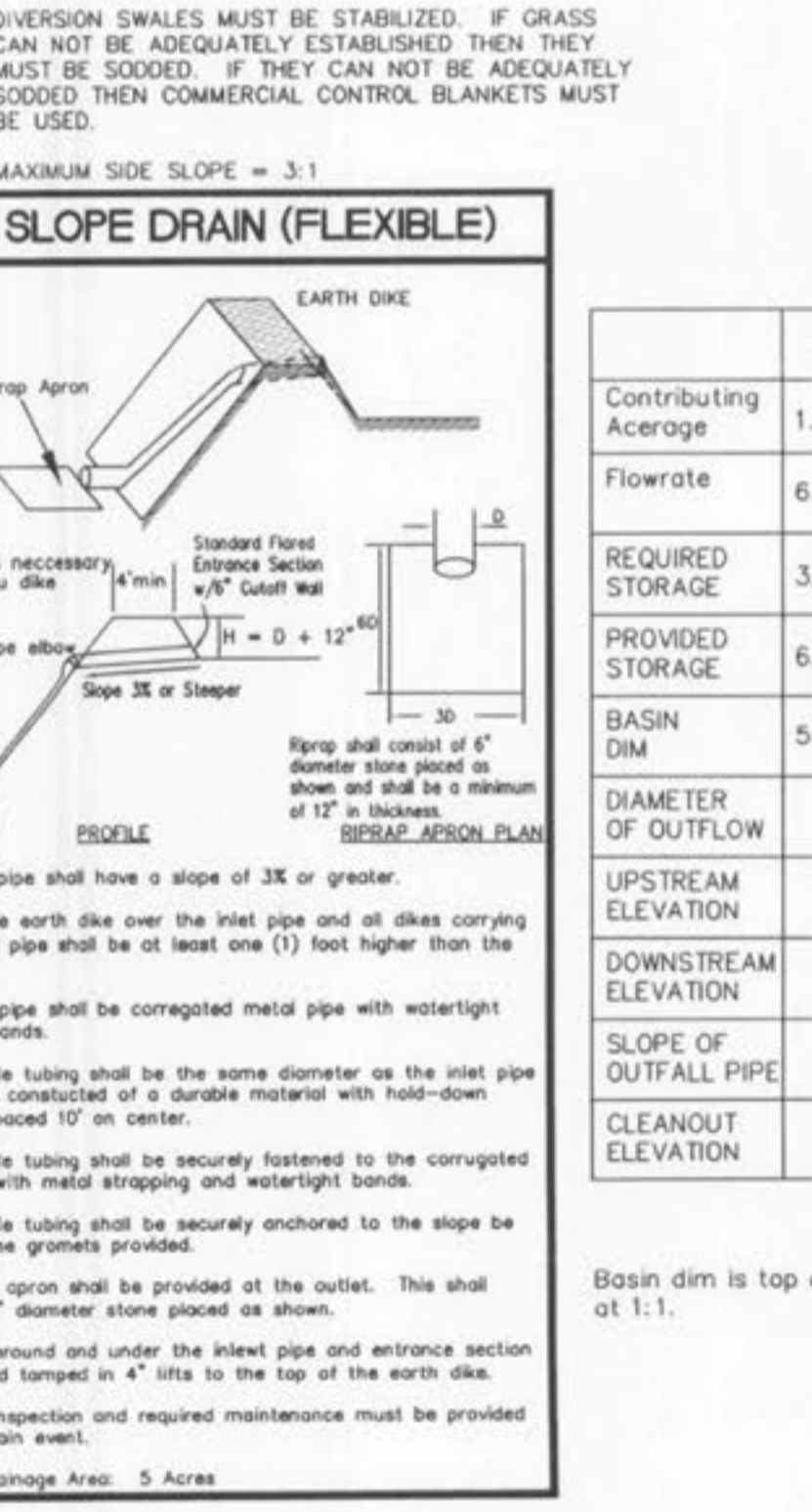
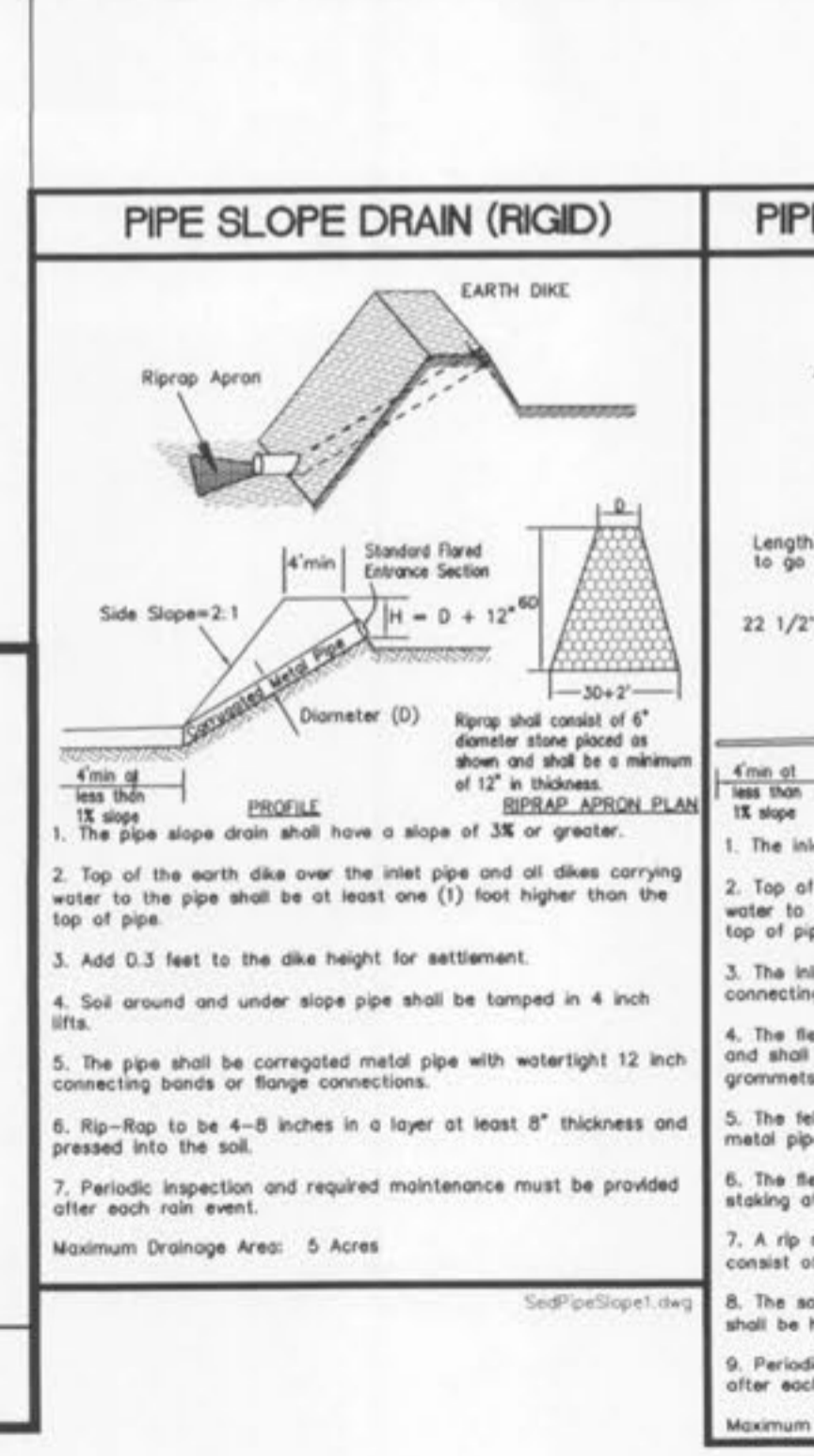


### DIVERSION SWALE CALCULATION

LONGITUDINAL SLOPE (K)	DISCHARGE (CFS)	VELOCITY (FT/SEC)	DEPTH (FT)
0.50	4.00	1.89	0.84
1.00	4.00	2.46	0.74
2.00	4.00	3.12	0.65
3.00	4.00	3.71	0.60
4.00	3.54	4.00	0.54
5.00	2.51	4.00	0.46
6.00	1.91	4.00	0.40
7.00	1.52	4.00	0.36
8.00	1.24	4.00	0.32
9.00	1.04	4.00	0.29
10.00	0.89	4.00	0.24

DIVERSION SWALES MUST BE STABILIZED. IF GRASS CAN NOT BE ADEQUATELY ESTABLISHED THEN THEY MUST BE SOODED. IF THEY CAN NOT BE ADEQUATELY SOODED THEN COMMERCIAL CONTROL BLANKETS MUST BE USED.

MAXIMUM SIDE SLOPE = 3:1



	TRAP A	BASIN B
Contributing Acreage	1.73 Acres	14.62 Acres
Flowrate	6.06 cfs	85.60 cfs
REQUIRED STORAGE	3,114 ft <sup>3</sup>	26,316 ft <sup>3</sup>
PROVIDED STORAGE	6,050 ft <sup>3</sup>	26,500 ft <sup>3</sup>
BASIN DIM	55x55x2 ft	SEE PLANS
DIAMETER OF OUTFLOW	15"	36"
UPSTREAM ELEVATION	619.75	581.00
DOWNSTREAM ELEVATION	619.25	579.50
SLOPE OF OUTFALL PIPE	1.00%	1.00%
CLEANOUT ELEVATION		585.50

Basin dim is top of basin. Sides are sloped at 1:1.

REVISIONS AS PER CITY COMMENTS  
 10/24/07  
 10/20/07

**DETAILS**  
**KING ARTHUR'S**  
**HIGHLAND TERRACE**  
**INTERIM GRADING PLAN**

**S C S**  
**ST. CHARLES ENGINEERING & SURVEYING, INC.**  
 801 S. FIFTH STREET, SUITE 202  
 ST. CHARLES, MO 63801  
 TEL: (636) 947-0607 FAX: (636) 947-2448

**KARL ANTHONY SCHOENKE**  
 LICENSED PROFESSIONAL ENGINEER  
 NUMBER PE-2003015038

10/30/07

ORDER NO. 07-0069-01  
 DATE 09/19/07

IG-4  
 10/30/07-8240