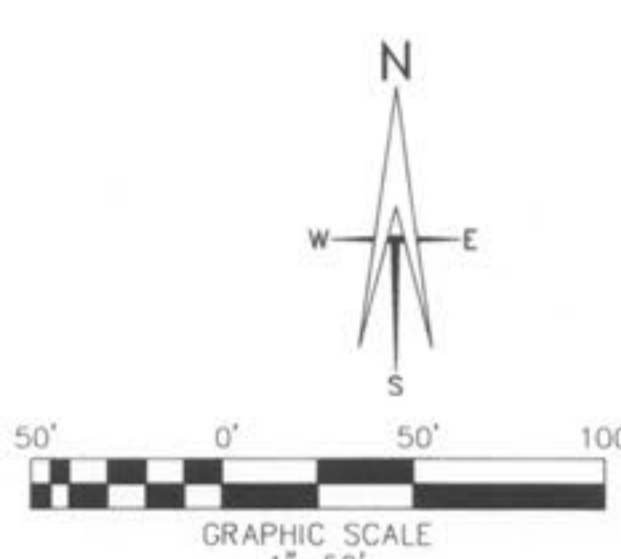


THE UNDERGROUND UTILITIES SHOWN HEREIN WERE PLOTTED FROM AVAILABLE INFORMATION AND DO NOT NECESSARILY REFLECT THE ACTUAL EXISTENCE OR NON-EXISTENCE, SIZE, TYPE, NUMBER OR LOCATION OF THESE OR OTHER UTILITIES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ALL UNDERGROUND UTILITIES, SHOWN OR NOT SHOWN, AND SAID UTILITIES SHALL BE LOCATED IN THE FIELD PRIOR TO ANY GRADING, EXCAVATION OR CONSTRUCTION OF IMPROVEMENTS. THESE PROVISIONS SHALL IN NO WAY ABSOLVE ANY PARTY FROM COMPLYING WITH THE UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION ACT, CHAPTER 319, RSMO.



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.

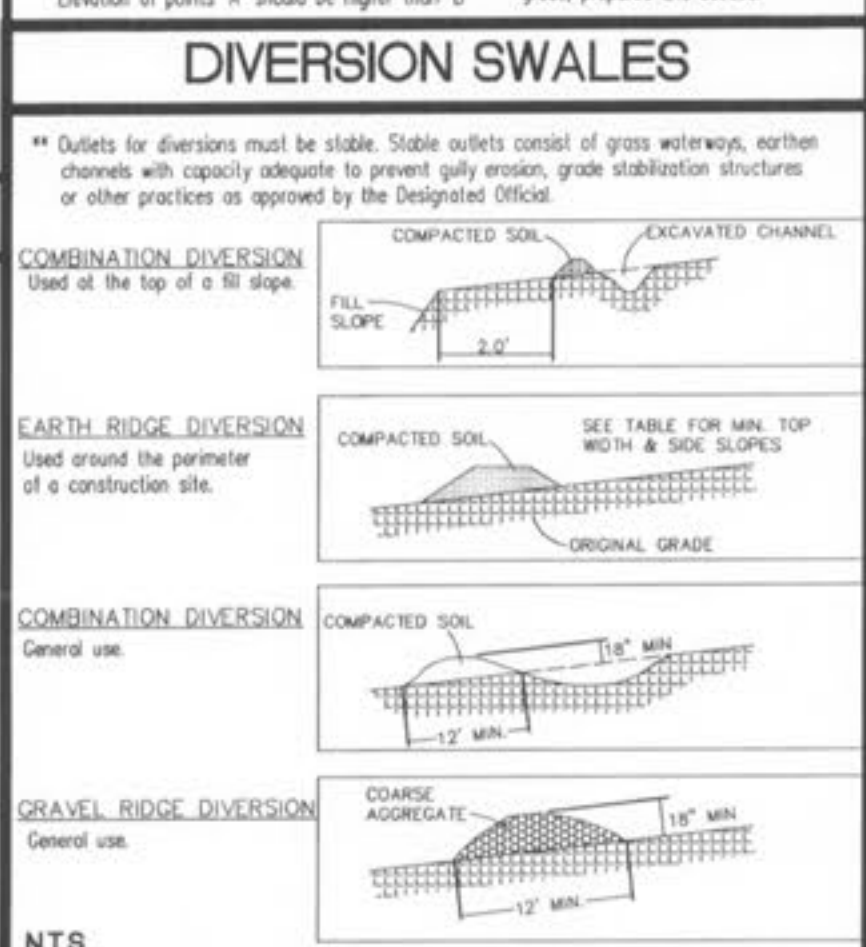
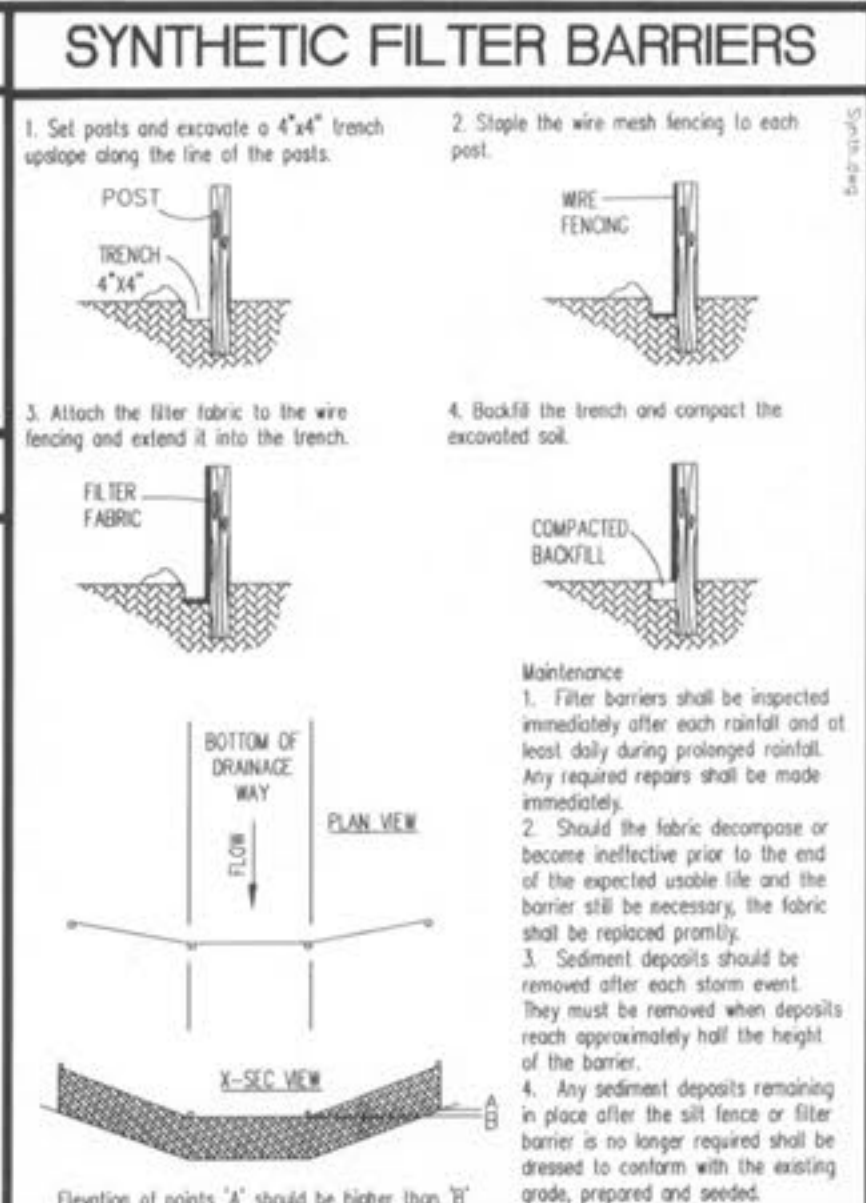
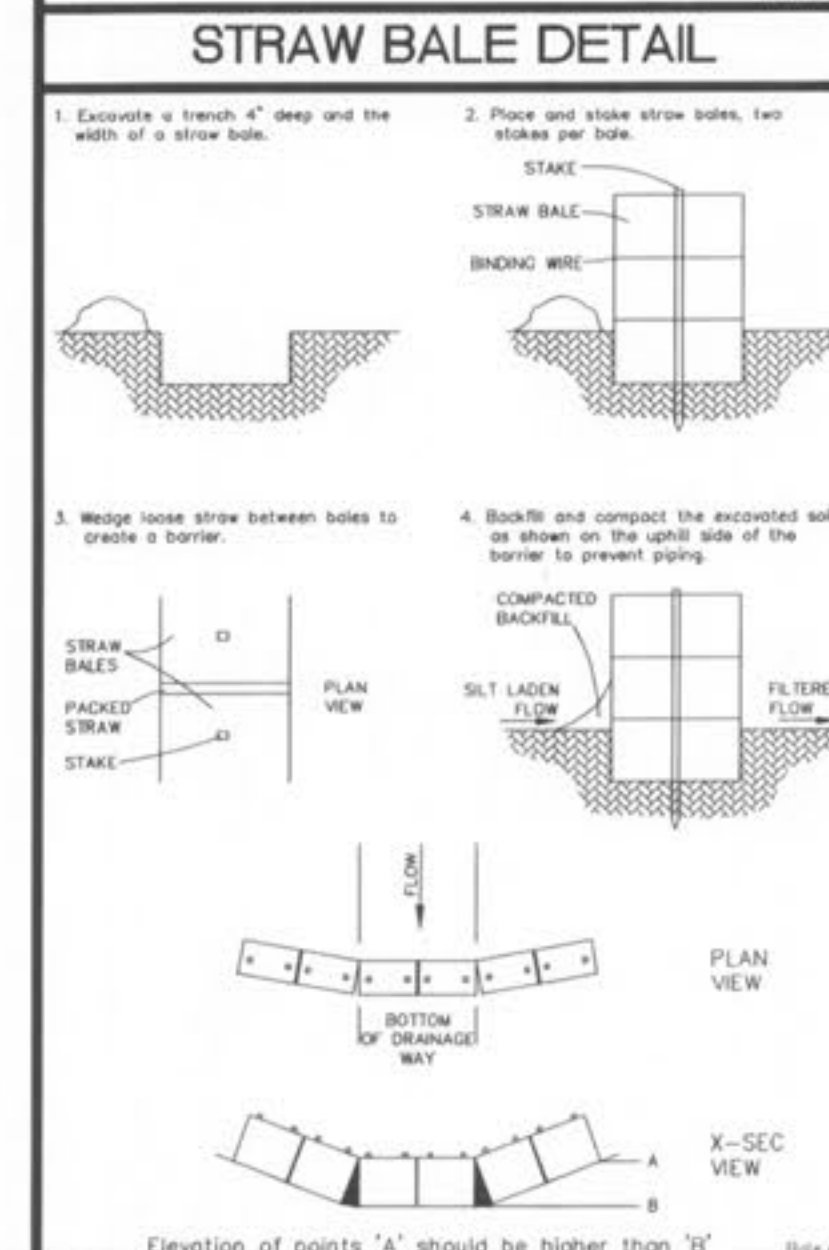
Temporary:
Wheat or Rye - 150 lbs./ac. (3.5 lbs. per 1000 sq. ft.)
Oats - 120 lbs./ac. (2.75 lbs. per 1000 sq. ft.)

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.
Phosphote: 30 lbs./ac.
Potassium: 30 lbs./ac.
Lime: 600 lbs./ac. ENM*

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

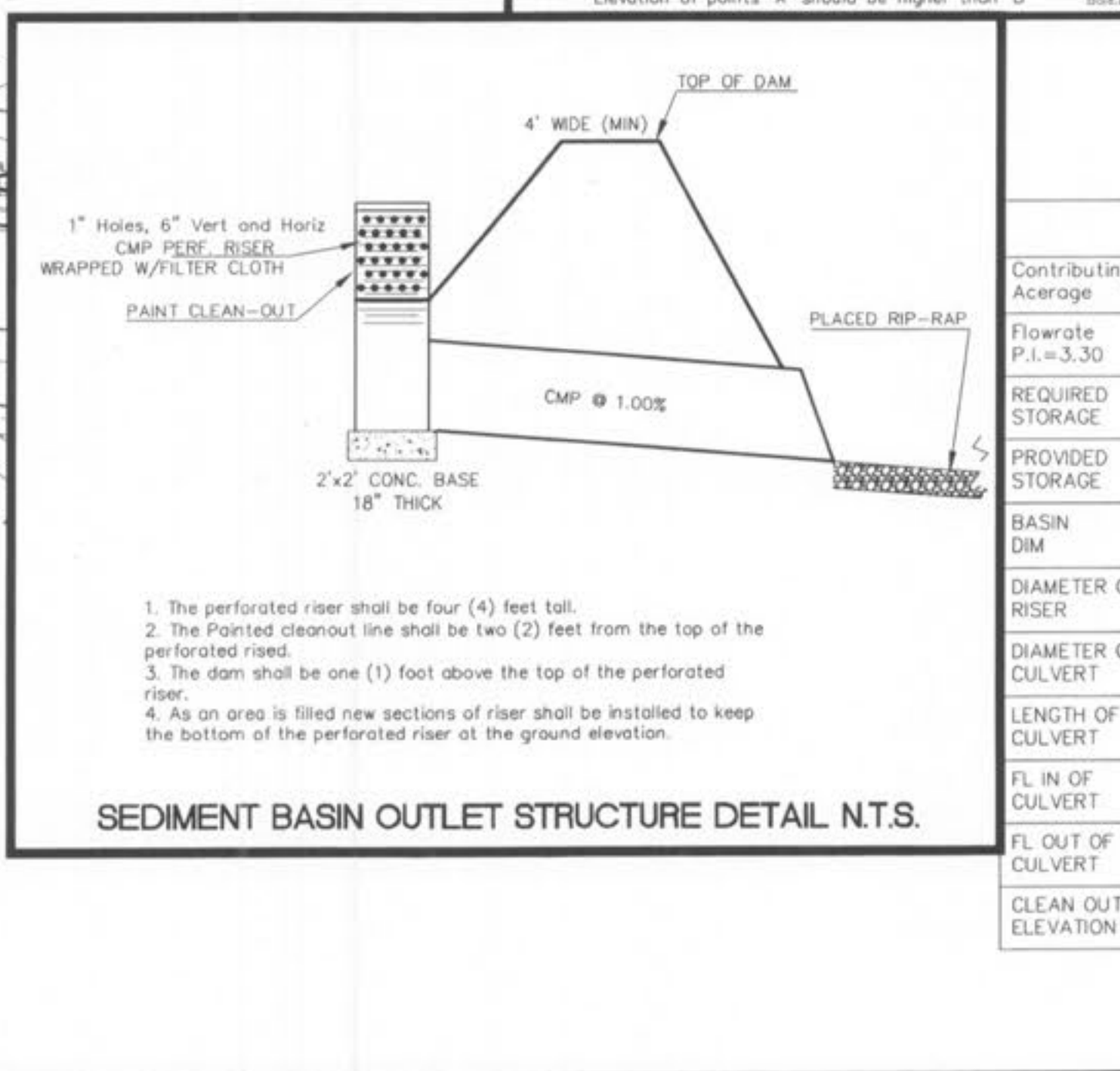


DIVERSION SWALE CALCULATION

LONGITUDINAL SLOPE (%)	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	TRAP B	TRAP C	TRAP D	TRAP E
Contributing Acreage	3.24 Acres	3.37 Acres	7.35 Acres	3.62 Acres	2.97 Acres
Flowrate P.I.=3.30	10.69 cfs	11.12 cfs	24.26 cfs	11.95 cfs	9.80 cfs
REQUIRED STORAGE	5,832 ft ³	6,066 ft ³	13,230 ft ³	6,516 ft ³	5,346 ft ³
PROVIDED STORAGE	6,830 ft ³	7,055 ft ³	14,405 ft ³	6,520 ft ³	8,400 ft ³
BASIN DIM	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS	SEE PLANS
DIAMETER OF RISER	18"	18"	24"	24"	18"
DIAMETER OF CULVERT	18"	18"	24"	24"	18"
LENGTH OF CULVERT	60 ft	70 ft	90 ft	100 ft	50 ft
FL IN OF CULVERT	496.60	493.70	492.90	487.00	499.50
FL OUT OF CULVERT	496.00	493.00	492.00	486.00	499.00
CLEAN OUT ELEVATION	505.00	503.00	497.00	505.00	503.00

REVISED PER CITY COMMENTS:
07/18/08
08/06/08
09/25/08
10/02/08

REVISED STORM SEWERS
REVISED PHASE PLAN
REVISED PHASE PLAN

BELLEAU CROSSING GRADING

ST. CHARLES ENGINEERING & SURVEYING, INC.
801 S. FIFTH STREET, SUITE 202
ST. CHARLES, MO 63301
TEL: (636) 947-0607 FAX: (636) 947-2448

ORDER NO. 04-1419-01
DATE

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