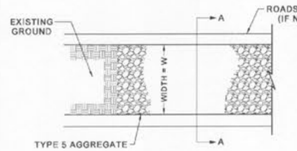
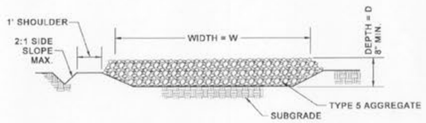
NEW	REVISIONS		
1/15/04	7/1/04	8/7/07	



PLAN VIEW



SECTION A-A

GENERAL NOTES:

1) SEE PLANS FOR CONSTRUCTION ROAD LOCATION, D AND W DIMENSIONS.

2) MINIMUM WIDTH IS 14 FEET FOR ONE-WAY TRAFFIC AND 24 FEET FOR TWO-WAY TRAFFIC. TWO-WAY TRAFFIC WIDTHS SHALL BE INCREASED A MINIMUM OF 4 FEET FOR TRAILER TRAFFIC. DEPENDING ON THE TYPE OF VEHICLE OR EQUIPMENT, SPEEDS, LOADS, CLIMATIC AND OTHER CONDITIONS UNDER WHICH VEHICLES AND EQUIPMENT OPERATE AN INCREASE IN THE MINIMUM WIDTH MAY BE REQUIRED.

3) ROADWAY SHALL FOLLOW THE CONTOUR OF THE NATURAL TERRAIN TO THE EXTENT POSSIBLE.

4) GRADE ROAD AND DITCHES TO PROVIDE POSITIVE DRAINAGE AND PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

5) ASPHALTIC CONCRETE OR PORTLAND CEMENT CONCRETE MAY BE REQUIRED FOR LONG TERM PROJECTS OR UNSTABLE SOILS.

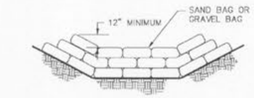
SAINT LOUIS COUNTY
DEPARTMENT OF HIGHWAYS AND TRAFFIC
CLAYTON, MISSOURI

TYPICAL BMP DETAIL
CONSTRUCTION ROAD

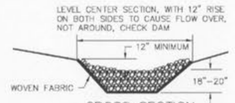
REVISION DATE: August 7, 2007

DRAWING TC-3

NOTE: TEMPORARY WASH OFF AREA IS NOT REQUIRED, ALL EQUIPMENT WILL BE BROUGHT IN BY TRAILER AND REMOVED BY TRAILER. NO HAUL ON OR HAUL OFF WILL BE REQUIRED FOR THIS PHASE



CROSS SECTION



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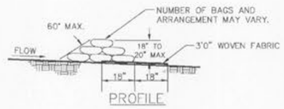
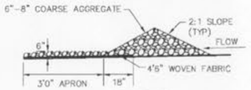


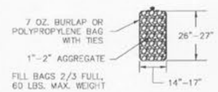
PROFILE

SAND BAG OR GRAVEL BAG CHECK DAM



PROFILE

ROCK CHECK DAM



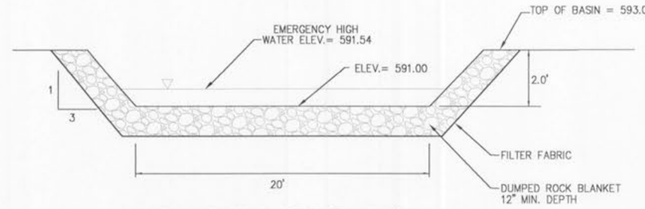
GRAVEL BAG

NOTE:
1. CHECK DAMS MAY BE CONSTRUCTED OF SEVERAL ESC CHECK DAM PRODUCTS, SUCH AS TRIANGULAR SILT DIKE®.
2. SEE TABLE 60-12 AND ESC 1 FOR CHECK DAM SPACING.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

CHECK DAMS

DATE: APRIL 2008 | DRAWING: ESC-11



NOTE: DUMPED ROCK BLANKET TO BE A MIN. 12" DIA. QUARRY RUN STONE.

1 OVERFLOW DETAIL SEDIMENT TRAP

SCALE: N.T.S. REF. DWG.

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
SEDIMENT TRAP

August 6, 2010

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	33.25
Channel Bottom Slope (ft/ft)	0.01
Manning's Roughness Coefficient (n-value)	0.033
Channel Left Side Slope (horizontal/vertical)	3.0
Channel Right Side Slope (horizontal/vertical)	3.0
Channel Bottom Width (ft)	20.0

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.54
Flow Velocity (fps)	2.84
Froude Number	0.706
Velocity Head (ft)	0.13
Energy Head (ft)	0.67
Cross-Sectional Area of Flow (sq ft)	11.70
Top Width of Flow (ft)	23.25

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Dodson & Associates, Inc., 5629 FM 1960 West, Suite 314, Houston, TX 77069
Phone:(281)440-3787, Fax:(281)440-4742, Email:software@dodson-hydro.com
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SECTION A-A

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
TYPICAL YARD SWALE WITH 1% SLOPE

September 21, 2007

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	4.0
Channel Bottom Slope (ft/ft)	0.01
Manning's Roughness Coefficient (n-value)	0.027
Channel Left Side Slope (horizontal/vertical)	3.0
Channel Right Side Slope (horizontal/vertical)	3.0
Channel Bottom Width (ft)	0.01

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.71
Flow Velocity (fps)	2.66
Froude Number	0.789
Velocity Head (ft)	0.11
Energy Head (ft)	0.82
Cross-Sectional Area of Flow (sq ft)	1.50
Top Width of Flow (ft)	4.25

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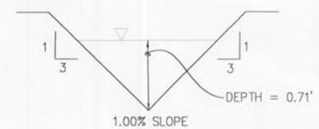

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION
TYPICAL YARD SWALE WITH 8% SLOPE

September 26, 2007

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	2.16
Channel Bottom Slope (ft/ft)	0.08
Manning's Roughness Coefficient (n-value)	0.027
Channel Left Side Slope (horizontal/vertical)	3.0
Channel Right Side Slope (horizontal/vertical)	3.0
Channel Bottom Width (ft)	0.01

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.38
Flow Velocity (fps)	4.99
Froude Number	2.02
Velocity Head (ft)	0.39
Energy Head (ft)	0.77
Cross-Sectional Area of Flow (sq ft)	0.43
Top Width of Flow (ft)	2.28

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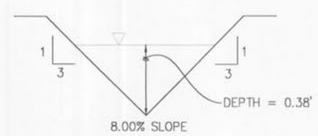
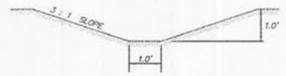


TYPICAL TEMPORARY DIVERSION SWALE

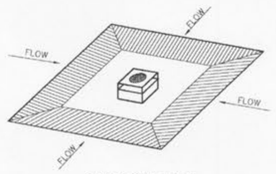
SWALE IS TO BE SEEDED.



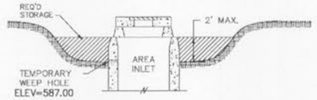
DIVERSION SWALE

N.T.S.
n = 0.02

SWALE @ 1.0% – Q = 19.86 c.f.s.
SWALE @ 10.0% – Q = 62.79 c.f.s.



PERSPECTIVE VIEW



ELEVATION

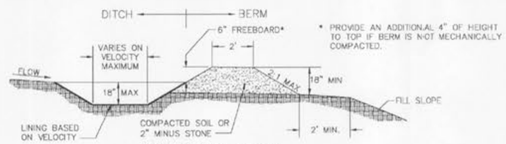
DESIGN CRITERIA

1. MAXIMUM DRAINAGE AREA – 3 ACRES.
2. DEPTH OF STORAGE AREA SHALL BE A MINIMUM OF 1 FT AND A MAXIMUM OF 2 FT.
3. BASIN VOLUME SHALL BE AS MEASURED BELOW THE INLET SILL. VOLUME TO BE 67 CU YD/DRAINAGE AREA IN ACRES.
4. USE BASIN DIMENSIONS FOUND ON PLANS.
5. CLEAN OUT WHEN HALF FULL.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

AREA INLET SEDIMENT TRAP

DATE: MARCH 2008 | DRAWING: ESC-20

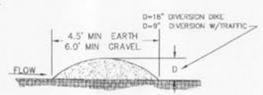


* PROVIDE AN ADDITIONAL 4" OF HEIGHT TO TOP IF BERM IS NOT MECHANICALLY COMPACTED.

DIVERSION BERM

DESIGN CRITERIA

1. DIVERSIONS SHALL BE USED FOR DRAINAGE AREAS ≤ 3 ACRES.
2. DIVERSION CHANNELS SHALL BE DESIGNED TO CONVEY THE 6-MO STORM AT NON-EROSIVE VELOCITIES.
3. CRITICAL LOCATIONS SHALL BE DESIGNED FOR THE 10-YR STORM.
4. MAXIMUM CHANNEL SLOPE OF 3% WITHOUT CHECK DAMS.
5. SWALE SEDIMENT TRAPS ARE TO BE USED IN HIGHLY EROSIVE AREAS.
6. CHANNELS SHALL BE PROTECTED USING APPROPRIATE CHANNEL LINERS.
7. CHANNEL OUTLETS MUST BE STABILIZED.
8. STORM SEWERS MAY BE USED IN LIEU OF OPEN CHANNELS.

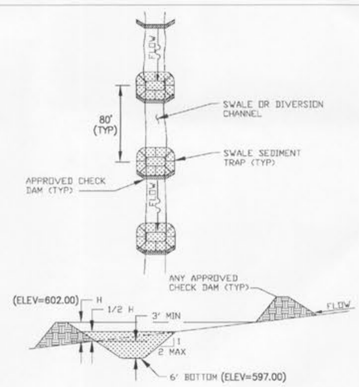


DIVERSION DIKE

St. Charles County
Erosion & Sediment Controls
Standard Drawings

DIVERSION BERMS & DIKES

DATE: MARCH 2008 | DRAWING: ESC-10



DITCH PROFILE

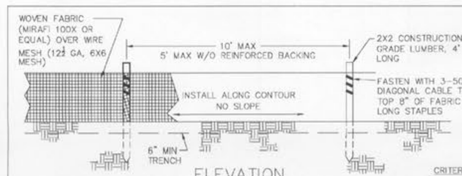
DESIGN CRITERIA

1. SEDIMENTATION TRAPS TO BE USED IN HIGHLY EROSIVE OR STEEP AREAS.
2. SEDIMENT TRAPS ARE TO BE USED IN CONJUNCTION WITH ANY APPROVED CHECK DAM OR DIVERSION CHANNEL SYSTEM, EXCEPT STRAW BALES.
3. STRAW BALE CHECK DAMS SHALL NOT BE USED IN THIS APPLICATION.
4. SEE ESC 1 FOR CHECK DAM SPACING WITH TRAP. MAXIMUM CHANNEL SLOPE 9%.

St. Charles County
Erosion & Sediment Controls
Standard Drawings

SWALE SEDIMENT TRAP

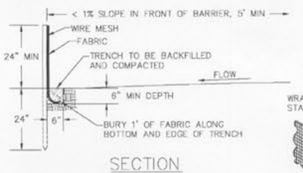
DATE: APRIL 2008 | DRAWING: ESC-13



ELEVATION

CRITERIA

1. SILT FENCE SHALL BE 30 INCHES HIGH.
2. SILT FENCE SHALL NOT BE USED FOR CONCENTRATED FLOWS.
3. GEOSYNTHETIC REINFORCED SILT FENCE BACKING MAY BE USED IN LIEU OF WIRE MESH.



SECTION

NOTE: IF FABRIC IS INSTALLED BY EQUIPMENT DESIGNED TO SLICE INTO THE GROUND, THE TRENCH IS NOT REQ'D.

JOINING SECTIONS OF SILT FENCE

St. Charles County
Erosion & Sediment Controls
Standard Drawings

SILT FENCE INSTALLATION
SHEET FLOW (ONLY)

DATE: MAY 2005 | DRAWING: ESC-5

DATE	NO	REVISION DESCRIPTION
8/9/10	1	CITY COMMENTS

DEVELOPER/OWNER:
PULTE GROUP
16640 CHESTERFIELD GROVE, SUITE 200
CHESTERFIELD, MO 63005
PHONE: (636) 537-7129

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS PURSUANT TO SECTION 327.411 RSMo ANY RESPONSIBILITY FOR ALL OTHER PLANS, SPECIFICATIONS, PLATS, REPORTS, ETC. PREPARED FOR THIS PROJECT NOT BEARING HIS/HER SEAL. ANY REPORTS, ETC. SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO, OR INTENDED TO BE USED FOR, ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

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CORPORATE ENGINEERING CERTIFICATE #001185

STATE OF MISSOURI
JAMES T. ROTH
NUMBER E-2000150085
REGISTERED PROFESSIONAL ENGINEER
JAMES T. ROTH
CIVIL ENGINEER
PE NO. E-2000150085
6/9/10

PRESTON WOODS – PHASE 5
MASS GRADING PLANS
PRESTON WOODS LANE
O'FALLON, MO. 63366

DETAILS

planning • engineering • surveying • landscape architecture
Cole and ASSOCIATES INCORPORATED
10777 sunset office drive
saint louis, missouri 63127
p: 314 984 9887 f: 314 984 0587
1243 tom pioneer avenue
o'fallon, missouri 63366
p: 636 978 7508 f: 636 978 7509

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