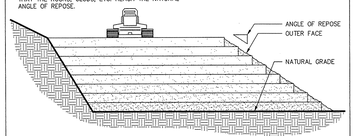
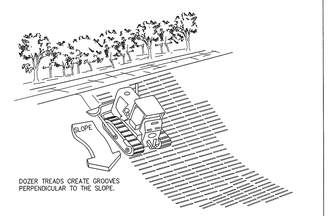
FILL SLOPE TREATMENT

EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.



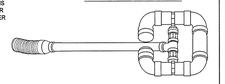
TRACKING



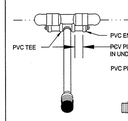
Sk-1 - TEMPORARY SEDIMENT POND

NOTE: SKIMMER CONFIGURATION SHOWN IS TYPICAL. THE DESIGNER / ENGINEER MAY SUBMIT AN ALTERNATE SKIMMER DETAIL FOR REVIEW.

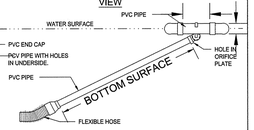
SKIMMER PERSPECTIVE



SKIMMER FRONTAL SECTION VIEW



SKIMMER SIDE SECTION VIEW



TO BE SHOWN ON THE EROSION, SEDIMENT AND POLLUTION CONTROL PLAN

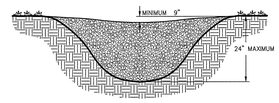
When a FLOATING SURFACE SKIMMER is used, show the following information along with each sediment pond, trap or basin being used on the site:

1. Pond, trap or basin size, length* (top and bottom) width* (top and bottom) and depth = 10.1M CUFT; TOP LENGTH = 93 FT; BOTTOM LENGTH = 33 FT; TOP WIDTH = 40 FT; BOTTOM WIDTH = 10 FT; DEPTH = 4 FT.
2. Time to Drain (hrs) = 72
3. Skimmer Dimensions (orifice and head size)**: 2.5" SKIMMER WITH 1.6" ORIFICE DIAMETER
4. Manufacturer's name. J.W. FARLOTH & SON, INC.

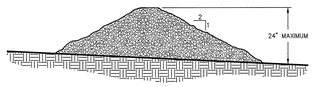
*feet, ** inches

Cd-S - STONE CHECK DAM

CROSS SECTION



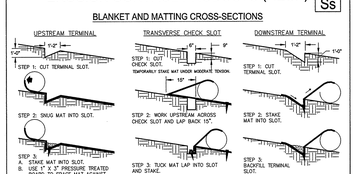
PROFILE VIEW



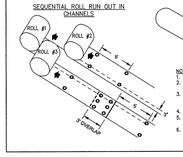
NOTES:
1. CHECK DAMS ARE TO BE USED ONLY IN SMALL OPEN CHANNELS (THEY ARE NOT TO BE USED IN LIVE STREAMS).
2. THE DRAINAGE AREA FOR STONE CHECK DAMS SHALL NOT EXCEED TWO ACRES.
3. THE CENTER OF THE CHECK DAM MUST BE AT LEAST 9 INCHES LOWER THAN THE OUTER EDGES.
4. THE DAM HEIGHT SHOULD BE A MAXIMUM OF 2 FEET FROM CENTER TO RIM EDGE.
5. THE SIDE SLOPES OF THE CHECK DAM SHALL NOT EXCEED A 2:1 SLOPE.
6. GEOTEXTILE SHALL BE USED TO PREVENT THE MITIGATION OF SUBGRADE SOIL PARTICLES INTO THE STONES (REFER TO AASHTO M288–96, SECTION 7.3, TABLE 3).

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP) Ss

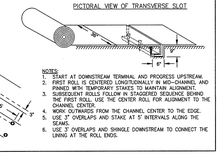
BLANKET AND MATTING CROSS-SECTIONS



SEQUENTIAL ROLL RUN OUT IN CHANNELS



PICTORIAL VIEW OF TRANSVERSE SLOT



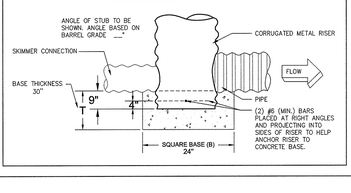
NOTES:
1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW IN STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. PROGRESS AWAY FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.

TEMPORARY SEDIMENT POND

TYPICAL TRASH RACK

TEMPORARY SEDIMENT BASIN

CONCRETE RISER BASE DETAIL



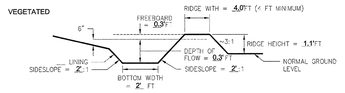
Cd-S - STONE CHECK DAM

SPACING BETWEEN CHECK DAMS

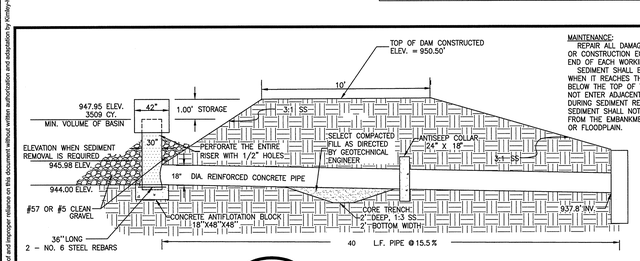
A = THE TOE OF THE UPSTREAM CHECK DAM.
B = TOP OF THE DOWNSTREAM CHECK DAM.
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION.

Di – DIVERSION

N.T.S.

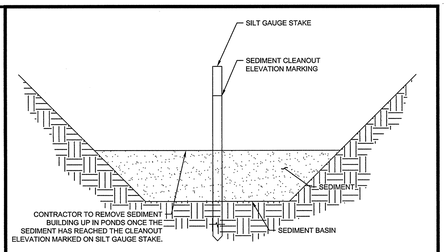


*THE FLOW DEPTH IS THE SAME FOR BOTH DIVERSIONS



MAINTENANCE:
REPAIR ALL DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY.
SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE SPECIFIED DISTANCE BELOW THE TOP OF THE RISER. SEDIMENT SHALL NOT ENTER ADJACENT STREAMS OR DRAINAGEWAYS DURING SEDIMENT REMOVAL OR DISPOSAL. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.

Sd3-1 TEMPORARY SEDIMENT BASIN 1
N.T.S.



SILT GAUGE DETAIL
N.T.S.

Temporary Sediment Basin Design Sheet

Project Name: **Circle 75 Phase II** Computed By: ACB Date: 10/27/2015
Project Number: 018459002 Checked By: SD Date: 10/24/2015
Basin No.: **Basin Sd3-1**

Total Area — Drainng To Basin = 1.94 acres
Disturbed Area — Drainng To Basin = 1.94 acres

Volume:

1. Compute minimum required storage volume (Vs).
   Vs = 67 cy/acre * 1.94 acres = 129.98 cy — 3509 cf
2. Compute volume of basin at clean-out (Vc).
   Vc = 22 cy/acre * 1.94 acres = 42.68 cy — 1152 cf
3. Determine elevation corresponding to minimum required storage volume, Vs.
   Minimum riser crest elevation = 947.95 *feet (determined by stage/storage relationship)
4. Determine elevation corresponding to clean-out volume, Vc
   Clean-out elevation = 946.21 feet (determined by stage/storage relationship)
   Note: *Clean-out elevation shall be clearly marked on the riser or marked by a post near the riser*
5. Compute Length of riser.
   Riser length = Minimum elevation of riser crest - Lowest elevation of pipe at riser
   Riser length = 947.95 feet - 944.00 feet
   Riser length = 3.95 feet

Stormwater Runoff:

6. Compute peak discharge from a 2-yr, 24-hr storm event. Q=ciA c = 0.95
   Q2 = 7.52 cfs i = 4.08
7. Compute peak discharge from a 25-yr, 24-hr storm event. c = 0.95
   Q25 = 11.94 cfs i = 6.48

Surface Area/Configuration Design:

8. Compute minimum basin surface area (Sa,min)
   Sa,min = 0.01 ac/cfs * Q2 cfs
   Sa,min = 0.01 ac/cfs * 7.52 cfs
   Sa,min = 0.08 ac * 43560 sf/ac = 3275.47 sf
9. Check available area at elevation of riser crest.
   Available Area = 3802.00 sf (determined by stage/storage relationship)
   Available Area ≥ Sa,min? Yes/No: Yes
10. Compute required length at elevation of riser crest.
    Average Width = 44.00 ft
    Required length = 2 * average width
    Required length = 2 * 44.00 ft = 88.00 ft
    Required length = 88.00
    Available Length = 90.00 ft
    2:1 L:W ratio satisfied? Yes
    If "no," refer to Figure 6-22.2 for baffle designs.
    Note any required baffles on E&SC plan and include calculations and details for baffle(s).

Principal Spillway (ps)

11. Determine maximum principal spillway capacity.
    Qmax = **Q2** = 7.52 cfs
12. Compute the vertical distance between the centerline of the outlet pipe and the emergency spillway crest (H).
    H = 11.15 ft
13. Compute the total pipe length of the principal spillway, L, using Figure 6-22.3.
    L = [A+(B+Cr)(Zu+Zd)+T+E
    A = 950.50 ft Top Of Dam Elevation
    B = 944.00 ft Lowest Elevation of Pipe At Riser
    C = 937.80 ft Lowest Elevation of Pipe At Outlet
    E = 5.00 ft Extended length of pipe beyond toe of dam
    T = 8.00 ft Top Width of Dam
    Zu = 2.00 :1 Upstream Side Slope
    Zd = 2.00 :1 Downstream Side Slope
    L = 67.00 ft
14. Determine diameter of principal spillway (Dps) and flow through the principle spillway (Q) from Table 6-29.1 using H and Qmax.
    Dps = 18.00 in **Q** = 19.00 cfs (value directly from table)
15. Compute actual flow through the principal spillway, using Table 6-29.1 to determine the correction factor for pipe length, L.
    Qps = Q * correction factor
    Factor = 1.36
    Qps = 25.84
16. Compute riser diameter (Dr).
    Dr = 1.5 * Dps
    Dr >= 1.50 * 18.00 in = 27.00
    Dr = 30.00 in
17. Compute trash rack diameter (Dt).
    Dt = 1.4 * Dr
    Dt = 1.40 * 30.00 in = 42.00
    Dt = 42.00 in
18. Determine the minimum distance between the riser crest and the emergency spillway crest, **h**, using Table 6-29.2, Dr, and Qps.
    h = 1.00 feet

Concrete Riser Base Design

19. Determine the volume of concrete per vertical foot of riser height needed, from Table 6-29.3 to prevent flotation.
    Required volume of concrete per vertical foot: = 4.29 cf/v.f.
20. Compute total volume of concrete required.
    Total volume of concrete required = Required volume per vertical foot * Riser length
    Total volume of concrete required = 4.29 cf/v.f. * 3.95 ft
    Total volume of concrete required = 16.95 cf
21. Assume base thickness, B (usually 18").
    B = 18.00 in = 1.50 ft
22. Compute required surface area.
    Required surface area = Total volume required/B
    Required surface area = 16.95 cf / 1.50 ft
    Required surface area = 11.30 sf
23. Compute riser base length (l) and width (w) (assume square base).
    l = w = (required surface area)^1/2
    l = w = 3.36 ft = 40.33 in
    l = w = 48.00 in

Anti-Seep Collar Design

24. Determine if anti-seep collar is required. If yes to any of the following conditions, a collar is required:
    N — The settled height of the dam is greater than 15 feet.
    N — The principal spillway diameter (Dps) is smooth pipe larger than 8".
    Y — The principal spillway diameter (Dps) is corrugated metal pipe larger than 12".
25. Determine size of anti-seep collar required.
    N — **18-inch projection** (for heads (H) less than or equal to 10 feet).
    Y — **24-inch projection** (for heads (H) greater than 10 feet).

Emergency Spillway (es)

26. Compute minimum capacity of emergency spillway (Qes).
    Qes = Q25 - Qps
    Qes = -13.90 cfs
27. Determine stage (Hp), bottom width (b), velocity (V), and minimum exit slope (S) using Table 6-29.4 and Qes.
    Hp = 0.00 ft
    b = 8.00 ft
    V = 2.70 fps
    S = 3.90 %
28. Actual entrance channel slope,
    Se = 33.00 %
29. Actual exit channel slope,
    So = 33.00 %
    Is So Steeper than S (from Table 6-29.4)? Yes
    If Yes, calculate new exit velocity (Vo)
    Vo = V * (So/S)^0.5 fps
    Vo = 2.70 fps * 33.00 % / 3.90 %
    Vo = 5.12 fps
    Note: Refer to Channel Stabilization (Ch) to determine the proper lining for the emergency spillway.
    N — **Grass** (< 5 fps) Y — **Rip-Rap** (5-10 fps) N — **Concrete** (>10 fps)

Design Elevations

30. **Riser Crest Elevation =** 947.95 ft
31. Compute minimum emergency spillway crest elevation.
    Minimum emergency spillway crest elevation = Riser crest elevation + h
    Minimum emergency spillway crest elevation = 947.95 ft + 1.00 ft
    Minimum emergency spillway crest elevation = 948.95 ft — 948.95
32. Determine design high water elevation.
    Design high water elevation = Minimum emergency spillway crest elevation + Stage elevation (Hp)
    Design high water elevation = 948.95 ft
33. Determine elevation of top of dam
    Elevation of top of dam = Design high water elevation + 1 ft (at least) freeboard
    Elevation of top of dam = 948.95 ft + 1.00 ft
    Elevation of top of dam = 949.95

***PLEASE NOTE THAT DESIGN VALUES DETERMINED BY THIS SHEET REPRESENT THE MINIMUM REQUIREMENTS FOR A TEMPORARY SEDIMENT BASIN.

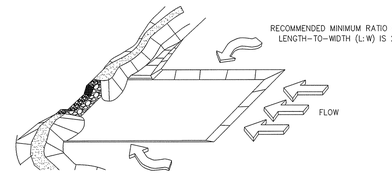
**REQUIRED EMERGENCY SPILLWAY CAPACITY IS NEGATIVE. NO EMERGENCY SPILLWAY IS REQUIRED.

TEMPORARY SEDIMENT TRAP

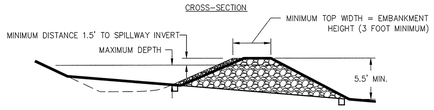
COURTESY OF CITY OF KNOXVILLE BMP EROSION AND SEDIMENT

ROCK OUTLET

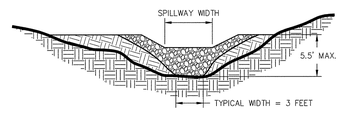
Sd4



CROSS–SECTION



PROFILE THROUGH EMBANKMENT



Excavated Inlet Sediment Trap No. 1

7405 Sq.Ft. OF DRAINAGE AREA
0.17 ACRES OF DRAINAGE AREA
308 Cu.Ft. of STORAGE VOLUME REQUIRED

CONTOUR ELEVATION	SURFACE AREA (SQ.FT.)	VOLUME (CU.FT.)	CUMULATIVE VOLUME (CU.FT.)	CUMULATIVE VOLUME (ACRE/FT.)
935	0			
		0		
935	0		0	0.000
		128		
938	85		128	0.003
		234		
939	382		361	0.008
		578		
940	774		939	0.022

939 **Cu.Ft. of TRAP STORAGE VOLUME PROVIDED**
939 STORAGE ELEVATION

Excavated Inlet Sediment Trap No. 2

8276 Sq.Ft. OF DRAINAGE AREA
0.19 ACRES OF DRAINAGE AREA
344 Cu.Ft. of STORAGE VOLUME REQUIRED

CONTOUR ELEVATION	SURFACE AREA (SQ.FT.)	VOLUME (CU.FT.)	CUMULATIVE VOLUME (CU.FT.)	CUMULATIVE VOLUME (ACRE/FT.)
935	0			
		0		
935	0		0	0.000
		0		
935	246		0	0.000
		0		
935	658		0	0.000
		904		
936	1150		904	0.021

904 **Cu.Ft. of TRAP STORAGE VOLUME PROVIDED**
939 STORAGE ELEVATION

Excavated Inlet Sediment Trap No. 3

20038 Sq.Ft. OF DRAINAGE AREA
0.46 ACRES OF DRAINAGE AREA
832 Cu.Ft. of STORAGE VOLUME REQUIRED

CONTOUR ELEVATION	SURFACE AREA (SQ.FT.)	VOLUME (CU.FT.)	CUMULATIVE VOLUME (CU.FT.)	CUMULATIVE VOLUME (ACRE/FT.)
936	0			
		0		
936	0		0	0.000
		199		
937	397		199	0.005
		624		
938	850		822	0.019
		1106		
939	1361		1928	0.044

1928 **Cu.Ft. of TRAP STORAGE VOLUME PROVIDED**
939 STORAGE ELEVATION

Excavated Inlet Sediment Trap

28400 Sq.Ft. OF DRAINAGE AREA
0.65 ACRES OF DRAINAGE AREA
1179 Cu.Ft. of STORAGE VOLUME REQUIRED

CONTOUR ELEVATION	SURFACE AREA (SQ.FT.)	VOLUME (CU.FT.)	CUMULATIVE VOLUME (CU.FT.)	CUMULATIVE VOLUME (ACRE/FT.)
957.5	0			
		106		
958	425		106	0.002
		608		
959	790		714	0.016
		1019		
960	1247		1732	0.040
		669		
960.5	1430		2402	0.055

1732 **Cu.Ft. of TRAP STORAGE VOLUME PROVIDED**
960 STORAGE ELEVATION

GSWCC Georgia Soil and Water Conservation Commission

GREGORY MAXEY
Level II Certified Design Professional
CERTIFICATION NUMBER 0000000130
ISSUED: 6/03/2014 EXPIRES: 6/03/2017

24 HOUR CONTACT:
BEN CURRAN
(404) 591-2492

COBB COUNTY GEORGIA APPROVED FOR CONSTRUCTION

No.	DATE	BY
1	LDP SUBMITTAL	SD
2	REVISED PER COUNTY COMMENTS	SD
3	GMP SET	SD
4	APPROVED LDP	SD
5		
6		
7		
	05/26/2017	SD
	04/03/2017	SD
	02/16/2016	SD
	11/04/2015	SD

REVISIONS

Kimley»Horn
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PHONE (770) 619-4280
WWW.KIMLEY-HORN.COM

GEORGIA REGISTERED No. 34806 PROFESSIONAL ENGINEER GREGORY M. MAXEY 5/26/17

SCALE: AS NOTED | DRAWN BY: SD | DESIGNED BY: SD | CHECKED BY: GMM

CLIENT: ATLANTIC REALTY PARTNERS, INC
3378 PEACHTREE RD
ATLANTA GA 30326
PHONE: 404-591-2492

PROJECT: REVEL AT THE BALLPARK II
COBB COUNTY, GA

TITLE: EROSION CONTROL DETAILS

DATE 11/04/2015
PROJECT NO. 018459002
SHEET NUMBER C5-81