Sediment Basin Data

Basin Number				
A. Total Contributing Watershed (ac.)	21.75			
B. Disturbed Area (ac.)	10.28			
C. Req. Dewatering Volume (A x 1,800 cu. ft./ac.)	39,150			
D. Req. Sediment Storage Zone Vol. (B* 1000)	10,280			
E. Total Required Capacity (C+D in cu ft)	49,430			
F. Dewatering Volume Provided (cu. ft./ac.)	218,789			
G. Sediment Storage Provided (cu. ft./ac.)	153,985			
H. Total Storage Provided in Crest of Riser (cu. ft./ac.)	372,774			
Principal Spillway				
Req. Principal Spillway Capacity (10 yr-24hr storm) (cfs)	21.96			
Principal Spillway Capacity Provided (cfs)	0.00			
Principal Spillway Elevation	912.65			
Riser (inches)	48" SQ			
Diameter of Barrel (inches)	24"			
Volume of Concrete to Prevent Riser Flotation (cu. ft.)	9			
Outlet Type				
Drawdown Time (Hours must exceed 48 hr drawdown)	72			
Mark selected outlet type (X)				
A. Non-perforated Riser with Stub & Faircloth Skimmer	X			
(Orifice size in inches)	3.2			
Stone pad provided at top of Sediment storage	X			
B. Protected Single Orifice				
(Orifice size in inches)				
C. Perforated Riser				
Hole size (inches)				
Number of Holes				
Protection of Perforations - sm holes (<3/4") typ need anti-clogging				
measure - aggregate > than hole size or wire cloth/fence & geotextile				
Pond Shape - 4:1 L:W for each inlet or baffle(s) applied	4:1			
Baffles Detailed (Yes or No)	Yes			
Bottom Elevation	904.00			
Sediment Storage Zone Elevation	908.50			
Crest of Principal Spillway Elevation (Min. 1 ft. below crest E. S.)	912.65			
Pool Depth at Riser (ft., ideally 3-5')	8.65			
Top of Embankment Elevation	913.65			
Embankment Side Slopes (Max 2:1, combined 5:1)	4:1			
Embankment Top Width (ft., baBOT on C/L Height, Min 8')	10			
Req. Emergency Spillway Capacity (25 yr-24hr storm) (cfs)	29.82			
Req. Emergency Spillway Discharge (25 yr-24 hr storm less Principal S.)	29.82			
Emergency Spillway Capacity Provided (cfs)	56.00			
Emergency Spillway Elevation	912.65			
Emergency Spillway Bottom Width	20.00			
Emergency Spillway Lining (Vegetated or Riprap)	Rip Rap			
Rock Outlet Protection (Size, gradation and quality of rock)				
Length	10.00			
Width	5.00			
Depth	1.50			
Gradation - O.D.O.T. unless specified otherwise	C			

4" *Faircloth Skimmer®* Surface Drain Cut Sheet

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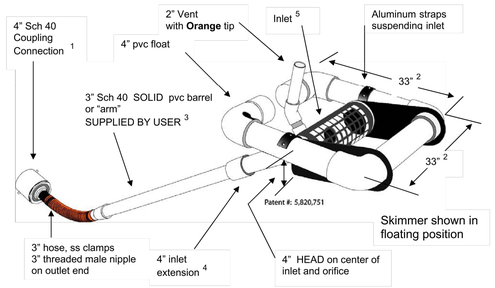


1. Coupling can be removed and hose attached to outlet using the threaded 3" nipple. Typical methods used: on a metal structure a steel stubout welded on the side at the bottom with a 3" threaded coupling or reducers; on a concrete structure with a hole or orifice at the bottom, use a steel plate with a hole cut in it and coupling welded to it that will fit over the hole in the concrete and bolted to the structure with sealant. It is possible to grout a 4" pvc pipe in a hole in the concrete to connect the skimmer but this is less secure than other methods.
2. Dimensions are approximate, not intended as plans for construction.
3. Barrel (solid, not foam core pipe) should be 1.4 times the depth of water with a minimum length of 8' so the inlet can be pulled to the side for maintenance. If more than 10' long weight may have to be added to inlet to counter the increased buoyancy.
4. Inlet tapers down from 4" maximum inlet to a 3" barrel and hose. Barrel is smaller to reduce buoyancy and tendency to lift inlet but is sufficient for flow through inlet because of slope. The inlet orifice can be reduced using the plug and cutter provided to control the outflow rate.
5. Inlet is 8" pipe between the straps with slots cut in the inlet and aluminum screen door (smaller than shown in illustration) for access to the 4" inlet and orifice inside.
6. **Capacity** 20,109 cubic feet per day maximum with 4" inlet and 4" head. Inlet can be reduced by installing a smaller orifice using the plug and cutter provided to adjust flow rate for the particular basin volume and drawdown time required.
7. Shipped assembled. User glues inlet extension and barrel, installs vent, cuts orifice in plug and attaches to outlet pipe or structure. Includes flexible hose, rope, orifice cutter, etc.

4inchCut TM 11-07 November 14, 2007

TEMPORARY SEDIMENT CONTROL CALCULATIONS

Use a Temporary Skimmer

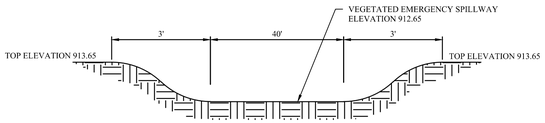
Total Drainage Area:	21.75 Ac.
Disturbed Earth Area:	10.28 Ac.
Sediment Storage Volume Required (1,000 C.F./Ac.):	10,280 C.F.
Sediment Storage Volume Provided Below Skimmer Orifice:	153,985 C.F.
Dewatering Volume Required (1,800 C.F./Ac.)	39,150 C.F.
Dewatering Volume Provided Below Principal Spillway:	218,789 C.F.
Design Detention Volume:	293,827 C.F.
Bottom of Temporary Sediment Basin:	904.00
Invert of Skimmer device:	908.50
Normal Water Level:	908.50
Cleanout Elevation:	905.80
Set Crest of Principal Spillway at:	912.65
Set Crest of Emergency Spillway at:	912.65
Top of Bank:	913.65

TEMPORARY SEDIMENT CONTROL VOLUME CALCULATIONS

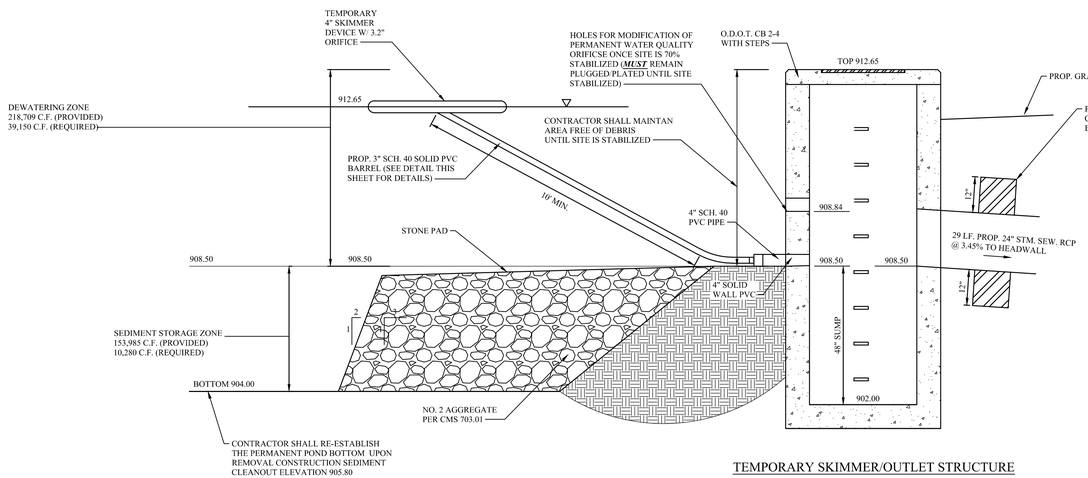
	Elevation	Area, S.F.	Volume (C.F.)	Volume Sum (C.F.)
	904.00	27,002	0	0
	904.00	27,002	0	0
	904.00	27,002	0	0
BOT	904.00	27,002	0	0
	905.00	30,091	28,546	28,546
	906.00	33,295	31,693	60,239
	907.00	36,613	34,954	95,193
	908.00	40,046	38,329	133,522
DEW	908.50	41,805	20,463	153,985
	909.00	45,408	21,803	175,788
	910.00	49,587	47,497	223,286
	911.00	54,580	52,083	275,369
	912.00	60,368	57,474	332,843
	913.00	69,395	64,881	397,724
TB	913.65	78,305	48,002	445,726

TEMPORARY SKIMMER DEVICE

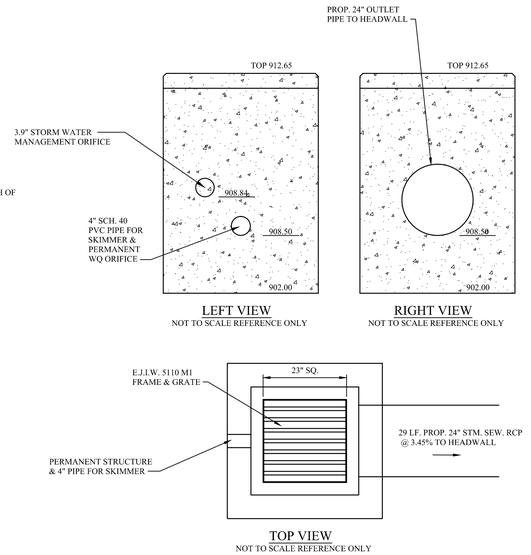
Calculate Skimmer Size				
Basin Volume in Cubic Feet	39,150 Cu.Ft		**Skimmer Size**	**4.0** Inch
Days to Drain*	3 Days		Orifice Radius	**1.6** Inch[es]
			Orifice Diameter	**3.2** Inch[es]
*In NC assume 3 days to drain				



EMERGENCY SPILLWAY
REFERENCE ONLY



TEMPORARY SKIMMER/OUTLET STRUCTURE



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01-25-2016
02-05-2016
02-11-2016
02-25-2016
06-01-2016
06-29-2016
08-10-2016
09-08-2016
10-03-2016
10-10-2016
03-27-2017

SWP3 DETAILS

C108C
Project No. 2014-226