

City of Savage  
Engineering Department  
Stormwater and Erosion Control checklist  
Updated 11/27/2007

	Requirement	City Ordinance Reference
1.	<b>Existing Site Map</b>	9-26-4.B.1.a - h
2.	<b>Site Construction Plan</b>	9-26-4.B.2.a - d
3.	<b>Hydrology modeling (stormwater calculations) 2-yr(2.5”), 10-yr(4.2”) and 100-yr(5.9”). Report Summary required</b>	9-26-4.B.3.a - c
4.	<b>Stormwater Abstraction Plan</b>	9-26-4.B.4
5.	<b>Storm sewer calculations for 10-yr rain event</b>	
6.	<b>Plan of Final Site Conditions</b>	9-26-4.B.5.a - f
7.	<b>Retention Pond Design</b> (Some additional requirements in 9-26-6.H)	
	Dead pool design to contain the 2-yr event	
	Ave dead pool (vol/area) $\geq 4' \leq 10'$	
	EOF with riprap to control the 100-year storm event	
	Basin slopes $\leq 3:1$	
	Discharge rate approaches 0.1 cfs/acre at 1% (100-yr) storm event	
	10' 10:1 aquatic/safety bench	
	10' 10:1 maintenance bench	
	Access road with slope $\leq 5:1$	
	Vegetative buffer $\geq 16.5'$ from NWL	
	Vegetative buffer with specified seed mix	
	2-stage outlet designed to maintain discharge of 2-yr, 10-yr and 100-yr storm event below predevelopment rate.	
	Distance between inlet and outlet maximize	
	Provision for oil skimming at outlet	
	Maintenance agreement (if pond to be maintained by the City)	
	Drainage easement	
	HWL contained within pond	
8.	<b>Infiltration Facility Design consistent with 9-26-6.H</b>	
9.	<b>Storm sewer piping</b>	
	Minimum slope = 0.5%	
	Non-scouring ( $\geq 10$ fps requires scour protection)	
	Manhole drops $\leq 3'$ or up to 10' with City approval	
	Min 15” diameter for public sewers	
	Sized for 10-year storm	
	Min cover outside pavement = 3'	
	Min cover under pavement = 1.5'	
	Proper crossing separation from other utilities (18” vertical and 10' horizontal)	
	EOF provided on road way	
	Utility easement provided for pipes outside ROW	

<b>10.</b>	<b>Construction Erosion and Sediment Control (ESC)</b>	
	Reference City of Savage Code Title 9 Chapter 9-26-10, 9-26-12 and 9-26-12 for erosion control requirements. Additional and/or restated requirements are as identified below. <b>SUBMIT REQUIREMENTS FOR SWPPP AS REQUIRED BY THE MPCA NPDES PERMIT AS A SEPARATE DOCUMENT FROM CITY OF SAVAGE EROSION AND SEDIMENT CONTROL REQUIREMENTS (SPECIFIED BELOW).</b>	
	City of Savage Erosion Control Notes inserted on Erosion Control Plan (attached to this checklist)	
	No earthmoving activities can commence until ESC have been installed and inspected by City staff	9-26-11.C
	ESC must be maintained to the satisfaction of the City Engineer throughout the construction process until adequate soil stabilization has been achieved	9-26-11.C
	Site dewatering requires pretreatment	9-26-6.B and NPDES
	Designated waste disposal practices, including concrete truck wash outs	9-26-6.C
	MPCA permit (NPDES) verified for City	9-26-6.D
	Street cleaning ( <b>daily</b> ) if sediment on streets	9-26-6.E and NPDES
	Inlet protection (Must have sediment storage and removal) prior to earth disturbance.	9-26-6.F and NPDES
	New catch basins must have inlet protection within 24 hours of installation of curb and gutter	
	Rock entrances (rock size $\geq 2''$ ) ( $\geq 16'$ wide by 50' long)	
	Rock entrances must be cleaned or replenished when 75% or more of the original surface open pore space is plugged with sediment	
	Silt fence or other perimeter sediment control	NPDES rqmnt
	Pipe outlet onto unprotected surface or turf ( $\leq 4$ fps)	
	Proper class and quantity of riprap, or other appropriate energy dissipation at pipe outlets. Must be installed <b>within 24 hours of connection</b> . Riprap to extend below pond NWL.	NPDES rqmnt
	No stockpiling of soils outside of erosion containment system	NPDES rqmnt
	ESC system inspected weekly AND after any 0.5" rain event.	NPDES rqmnt
	ESC system in place before earth disturbing activities begin	NPDES rqmnt
	Erosion protection timing per NPDES requirements and at a minimum Slope $\geq 3:1$ Immediate Slope $\geq 10:1 \leq 14$ days Slope $\leq 10:1 \leq 21$ days	NPDES rqmnt
	Horizontal slope ( $\geq 10:1$ ) tracking <b>at the end of each day</b> . For shorter slopes (less than 50' from top to bottom), slope tracking can be replaced with 2" to 6" ridge cuts across the slope at intervals of $\leq 20'$ .	NPDES rqmnt
	Check dams or other energy dissipaters in areas of sustained concentrated flow	
	All sediment containment features must be cleaned out when 1/3 of the capacity is diminished.	NPDES rqmnt

<b>11.</b>	<b>Wetlands</b>	
	Hydrology maintained to wetlands	
	Wetland NWI and classification shown on plans	
	Buffer requirements shown and met	9-26-6.I
	Proper seed mix specified for buffer	9-26-6.I
	Drainage easement provided	
	Wetland markers shown at buffer edge	9-26-6.I
<b>12.</b>	<b>Miscellaneous</b>	
	100% of runoff managed on site	
	Lowest floor elevation $\geq$ 2' above pond HWL (1% (100-yr) flood)	9-21-6.F
	Min building opening elevation 3' above pond HWL	9-21-6.F
	Drainage swales between lots. Not across them.	

## City of Savage Standard Erosion Control Notes

11/27/2007

### EROSION CONTROL PROGRAM

1. NO EARTHWORK ACTIVITIES MAY COMMENCE UNTIL EROSION CONTROLS ARE INSPECTED AND APPROVED BY THE CITY. CONTRACTOR MUST CONTACT THE CITY OF SAVAGE ENGINEERING DEPARTMENT AT 952-882-2671 FOR A SITE INSPECTION ONCE EROSION CONTROLS ARE INSTALLED PER THE APPROVED PLAN.
2. SILT FENCE, OR OTHER CITY OF SAVAGE-APPROVED PERIMETER CONTROL MUST BE INSTALLED AT ALL LOCATIONS WHERE CURRENT, PROPOSED OR INTERIM GRADES MAY RESULT IN SEDIMENT LEAVING THE SITE.
3. ALL NEWLY CONSTRUCTED PONDS OR INFILTRATION AREAS MUST HAVE SILT FENCE, OR OTHER CITY OF SAVAGE-APPROVED SEDIMENT CONTROL INSTALLED AT THE NORMAL WATER ELEVATION IMMEDIATELY UPON COMPLETION OF EXCAVATION.
4. CITY OF SAVAGE-APPROVED CATCH BASIN INLET PROTECTION MUST BE INSTALLED PRIOR TO EARTH-DISTURBANCE.
5. NEW CATCH BASINS MUST HAVE INLET PROTECTION INSTALLED WITHIN 24-HOURS OF INSTALLATION OF CURB AND GUTTER.
6. THE SPECIFIED CLASS AND QUANTITY OF RIPRAP, OR OTHER CITY OF SAVAGE-APPROVED ENERGY DISSIPATION MUST BE INSTALLED AT ALL PIPE OUTLETS WITHIN 24 HOURS OF CONNECTION.
7. ROCK CONSTRUCTION ENTRANCES MUST BE INSTALLED AT ALL LOCATIONS WHERE VEHICLES OR EQUIPMENT MAY EXIT THE SITE. ROCK ENTRANCES MUST BE CONSTRUCTED AT LEAST 16 FEET WIDE AND 50 FEET LONG OF CLEAR ROCK THAT IS A MINIMUM OF 2 INCHES IN DIAMETER.
8. ALL DISTURBED-WETLAND BUFFER AREAS SHALL BE RESTORED ACCORDING TO CITY OF SAVAGE-APPROVED SPECIFICATIONS.
9. SUFFICIENT TOPSOIL SHALL BE STOCKPILED TO ALLOW FOR THE REPLACEMENT OF A MINIMUM OF 4" OF TOPSOIL FOR DISTURBED AREAS TO BE RE-VEGETATED.
10. NO SOIL WILL BE STOCKPILED OUTSIDE OF THE EROSION CONTAINMENT SYSTEM.
11. All SLOPES IN EXCESS OF 10 PERCENT WILL BE HORIZONTALLY TRACKED AT THE END OF EACH WORKING DAY. FOR SHORTER SLOPES (LESS THAN 50' FROM TOP TO BOTTOM), SLOPE TRACKING CAN BE REPLACED WITH 2" TO 6" RIDGE CUTS ACROSS THE SLOPE AT INTERVALS OF  $\leq 20'$
12. THE CONTRACTOR SHALL SCHEDULE SITE GRADING, UTILITY INSTALLATION AND ROADWAY CONSTRUCTION SO THAT THE GENERAL SITE CAN BE MULCHED AND RE-SEEDING SOON AFTER DISTURBANCE. ALL DISTURBED AREAS SHALL BE SEEDING AND MULCHED WITHIN 14 DAYS AFTER COMPLETION OF FINAL GRADING OR AFTER 14 DAYS OF GRADING INACTIVITY.
13. IMMEDIATELY FOLLOWING GRADING OF SLOPES 3:1 OR GREATER, SLOPES MUST BE STABILIZED WITH WOOD FIBER BLANKET (OR OTHER METHOD APPROVED BY THE ENGINEER) OVER APPROVED SEED MIXTURE AND A MINIMUM OF 4" TOPSOIL. GRADING OF SLOPES LESS THAN 3:1 SHALL BE STABILIZED AS SPECIFIED BELOW:  
SLOPE  $\geq 10:1 \leq 14$  DAYS  
SLOPE  $\leq 10:1 \leq 21$  DAYS

### **EROSION CONTROL OPERATIONS AND MAINTENANCE**

1. ALL EROSION CONTROL INSTALLATIONS SHALL REMAIN IN PLACE AND MAINTAINED IN GOOD CONDITION, TO THE SATISFACTION OF THE CITY ENGINEER, UNTIL THE SITE HAS BEEN STABILIZED, AT WHICH TIME IT SHALL BE REMOVED. FOR PROPOSED PAVED SURFACE AREAS, THE CONTRACTOR MAY REMOVE NECESSARY EROSION AND SEDIMENT CONTROL DEVICES TO CONSTRUCT ROADWAYS WHILE MAINTAINING ADEQUATE EROSION CONTROL IN ADJACENT AREAS.
2. ALL SEDIMENT CONTAINMENT FEATURES SHALL BE CLEANED OUT WHEN 1/3 OF THE CAPACITY IS DIMINISHED.
3. ANY SITE DEWATERING REQUIRES TREATMENT. DISCHARGE OF SEDIMENT-LADEN WATER FROM THE SITE IS NOT ALLOWED.
4. WASHOUT OF CONCRETE TRUCKS AND SIMILAR ACTIVITIES MUST BE PERFORMED WITHIN A DESIGNATED CONTAINMENT AREA.
5. DAILY CLEANING IS REQUIRED OF SEDIMENT TRACKED ONTO PUBLIC STREETS.
6. ROCK CONSTRUCTION ENTRANCES MUST BE CLEANED OR REPLENISHED WHEN 75 PERCENT OR MORE OF THE ORIGINAL PORE SPACE IS PLUGGED.
7. ANY SEDIMENT REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER FABRIC IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED WITH THE APPROPRIATE SEED MIX, AS DIRECTED BY THE ENGINEER.
8. IN THOSE AREAS WHERE WOOD FIBER BLANKET OR OTHER SLOPE STABILIZATION METHOD HAS FAILED, THE SLOPE SHALL BE RE-ESTABLISHED, SEED AND TOPSOIL REPLACED, AND ADDITIONAL SLOPE TREATMENT INSTALLED.
9. REMOVAL OF SILT FENCE - SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPWARD SLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

### **EROSION CONTROL INSPECTION AND DOCUMENTATION**

1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSPECTED WEEKLY AND WITHIN 24 HOURS OF ANY RAIN EVENT OF 0.5 INCHES OR MORE.
2. ALL EROSION AND SEDIMENT CONTROL INSPECTIONS SHALL BE DOCUMENTED TO INCLUDE DATE AND TIME, NAME OF INSPECTOR, WEATHER CONDITIONS, ITEMS INSPECTED, RESULTS OF INSPECTION AND RESPONSE TO DEFICIENCIES.

### **NOTES: UTILITY PLANS**

1. CONTRACTOR MUST CONTACT THE CITY OF SAVAGE PUBLIC WORKS DEPARTMENT AT 952-224-3400 TO SCHEDULE AN INSPECTION 48-HOURS PRIOR TO HOOK-UP OF SANITARY SEWER AND WATERMAIN SERVICES.
2. CONTRACTOR MUST CONTACT THE CITY OF SAVAGE ENGINEERING DEPARTMENT AT 952-882-2671 TO SCHEDULE AN INSPECTION 48-HOURS PRIOR TO HOOK-UP TO PUBLIC STORM SEWER.
3. CONTRACTOR MUST VERIFY NPDES COVERAGE PRIOR TO ANY EARTH DISTURBING ACTIVITY.