Municipality of Anchorage

Handout AG.21

Storm Water Treatment Plan Review for New and Redevelopment Projects

Procedures

1. Review the Municipality of Anchorage's Storm Water Treatment Plan Review requirements presented, in part, in this handout and in the *Stormwater Treatment Plan Review Guidance Manual* available on the Municipality's website in the Watershed Management Services section (http://wms.geonorth.com/permit_guidance/PermitGuidance.aspx) or through the Project Management and Engineering Department.

2. Identify what plan for temporary controls during construction of your project is required (whether it requires a Type 1, 2, or 3 *Storm Water Pollution Prevention Plan* (SWPPP)) and locate the associated Plan Review Checklist in this packet. Develop a plan for temporary controls using "Best Management Practices" appropriate to your project site.

3. For sites 1 acre and larger, after preparing the Type 3 SWPPP, send your Notice of Intent (NOI) to the Environmental Protection Agency, Region 10, in accordance with their National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) requirements. The Municipality requires proof of your compliance with the EPA permit before your building permit may be issued.

4. For projects that are not either single family residential or duplex, develop a plan for permanent stormwater quality control and prepare the additional information required for plan approval.

5. Submit to the Municipality of Anchorage, Development Services, Building Safety Permitting, two (2) copies of the appropriate signed Stormwater Site Plan Review Checklist and, as required, the Stormwater Treatment Plan including documentation, drawings, and specific details with your building permit application and supporting documents, and permit fee. Identify the project name and number, subdivision, lot, block, tract, and parcel numbers on all documents for easy filing and tracking.

6. Type 2 and Type 3 SWPPPs (as applicable) and Permanent Storm Water Quality Control Plans shall be approved before a building or clearing and grading permit may be issued.

7. Prior to ground disturbance, prepare and implement erosion and sediment controls on your construction site and maintain them throughout your project. Keep your SWPPP easily accessible on your project site. BMPs must be implemented and installed prior to disturbing the ground and maintained throughout construction until the site is permanently stabilized.

8. Revisions to plans for permanent storm water controls must be submitted to the Municipal Plan Storm Water Reviewer for plan approval.

Program Information

To prevent new construction sites from becoming additional sources of pollution for Anchorage's water bodies, the Alaska Department of Environmental Conservation (ADEC) established project permitting and plan review requirements to improve and better manage stormwater runoff to conform to state and federal laws and regulations. Authority for plan review by ADEC is vested in 18 AAC 72.600(a). ADEC transferred the plan review responsibilities for all private projects within Municipality of Anchorage jurisdiction to the Municipality of Anchorage on May 10, 1999. The Municipality and ADEC agreed that plan review activities and implementation and enforcement of stormwater runoff controls would be best accomplished at the local government level.

New projects shall be constructed under the requirements of the Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit No. AKS05255-8. Prior to the commencement of any work, Storm Water Treatment Plans shall be submitted to Project Management and Engineering Department, Watershed Management Services, for plan review and approval. Included with this submittal shall be details showing the proposed methods to be used for stormwater control and treatment, as described in the Municipality's "*Stormwater Treatment Plan Review Guidance Manual.*"

Control of runoff must be addressed at the construction, post construction, and operational phases. A Storm Water Treatment Plan shall include (1) temporary erosion, sediment, dewatering, and materials management controls to be implemented during construction, and (2) permanent site controls for stormwater quality and the operations and maintenance procedures and responsibilities for those controls. Compliance with stormwater runoff control requirements is demonstrated through the preparation and implementation of a stormwater treatments plan specific to site and development characteristics and which includes the selection, design, and implementation of *"Best Management Practices."*

"Best Management Practices" (BMPs) *are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control facility site runoff, spills or leaks, sludge or waste disposal, or drainage from raw material storage.*

The following criteria shall be factored into designs for sizing all BMPs.

1. Construction site controls: BMPs for the construction phase shall be designed to handle two-year, 24-hour duration storm without damage to the BMP itself and without any degradation to the water quality of the receiving water body. The two-year 24-hour storm event is defined in Chapter 2 of the *Municipality of Anchorage Design Criteria Manual.*
2. Permanent site controls. As required by Chapter 2 of the *Municipality of Anchorage Design Criteria Manual*, permanent storm drainage water quality improvements, or BMPs, shall be designed to treat the first one-half inch of runoff from each storm and must be able to treat at a rate of 0.005 inches per minute.

The Environmental Protection Agency regulations related to the Clean Water Act of 1987 require that construction projects in Alaska resulting in the disturbance of one or more acres comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. These are requirements are adopted as Municipal requirements as described in the *Stormwater Treatment Plan Review Guidance Manual.*

The Municipal Stormwater Plan Reviewer can be contacted for more information at (907) 343-8078.

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Project Classifications

Review the Development Scenarios in the table below. Scenarios and submittal requirements are described in greater detail in the *Stormwater Treatment Plan Review Guidance Manual.*

1. *Temporary (construction phase) controls:* Determine whether the project will require a Type 1, 2, or 3 Storm Water Pollution Prevention Plan.
2. *Permanent Controls:* As indicated on the Development Scenarios table, the Storm Water Treatment Plan must include permanent stormwater controls if the development is any project other than a single family residence or duplex.

Development Scenarios

	Single Family or Duplex	All other projects [2]
Construction Controls		
If Area of Disturbance is:	Type of SWPPP required	
less than 500 square feet, less than 4 feet in depth, and sufficient buffer [1]	No submittal required. Must comply with Type 1 SWPPP standards.	
less than 500 square feet and less than 4 feet in depth and insufficient buffer	Type 1	Type 1
500 to 10,00 square feet OR 4 feet or more in depth	Type 1	Type 1
10,000 square feet or greater but less than 1 acre	Type 1	Type 2
1 acre or greater [3]	Type 3	Type 3
Permanent Controls	No	Required

[1] There is sufficient buffer if the distance between the disturbed area and adjacent creeks or wetlands is the greatest of one of the following:
-- 25 feet if the slope is flatter than 4:1 and 50 feet if the slope is steeper than 4:1
-- The stream setback width required under Anchorage Municipal Code Title 21
-- A distance specifically required by MOA

[2] "All other projects" includes, but is not limited to, triplexes and larger multi-housing projects; other commercial developments; road, street, and drainage construction projects; and utility construction.

[3] In addition to submittal of the Storm Water Treatment Plan, these projects must obtain coverage under the EPA's NPDES General Permit for stormwater discharges from construction activities (the CGP) which can be found at http://www.epa.gov/npdes/pubs/cgp2003_entirepermit.pdf.

Dewatering. Projects planning dewatering activities must include a detailed dewatering plan in the Stormwater Treatment Plan. Projects greater than 10,000 square feet or 4 feet in depth that do not plan to dewater must have a contingency dewatering plan. Projects that discharge 250,000 gallons or more may require written approval from the Department of Environmental Conservation (ADEC) under its Wastewater General Permit. Projects involving dewatering that will discharge less than 250,000 gallons do not require written approval from ADEC; however effluent from the site must meet State of Alaska water quality standards. More information is provided in the Municipality's *Stormwater Treatment Plan Review Guidance Manual.*

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Submittal Requirements for Storm Water Treatment Plan Review

		Any	Single family or duplex			Commercial and other			
	Land disturbance area or depth and project setting	Less than 500 sq ft, less than 4 ft in depth, and sufficient buffer [1]	Less 500 sq feet and less than 4 feet but insufficient buffer [1]	Greater than 4 feet in depth OR 500 sq feet or more and less than 1 acre	1 acre or greater	Less 500 sq feet and less than 4 feet but insufficient buffer *	500 to 10,000 sq feet OR more than 4 feet deep	Greater than 10,000 square feet but less than 1 acre	1 acre or greater
	SWTP Element								
1	Applicable checklist and signed certification from **MOA Handout AG.21**	No submittal required	Checklist #1	Checklist #1	Checklist #2	Checklists #1 and #2	Checklists #1 and #2	Checklist #2	Checklist #2
2	Existing and Proposed **Conditions**	No	No	No	Yes	No	Yes	Yes	Yes
3	Plot **Plan**	No	Yes	Yes	Yes	Nod	Yes	Yes	Yes
4	Stormwater Pollution Prevention Plan (**SWPPP**)	Follow checklist #1 [4]	Type 1 [6]	Type 1 [6]	Type 3 [8]	Type 1 [6]	Type 1 [6]	Type 2 [7]	Type 3 [8]
5	Copy of Notice of Intent (**NOI**) for CGP	No	No	No	Yes	No	No	No	Yes
6	**Dewatering** Plan [2]	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	Permanent Stormwater **Quality** Control Plan	No	No	No	No	No	Yes	Yes	Yes
8	Permanent **Maintenance and Operations** Plan	No	No	No	No	No	Yes	Yes	Yes
9	Other information [3]	No	No	No	Yes	No	Yes	Yes	Yes

[1] There is sufficient buffer if the distance between the disturbed area and adjacent creeks or wetlands is the greatest of one of the following:
-- 25 feet if the slope is flatter than 4:1 and 50 feet if the slope is steeper than 4:1
-- The stream setback width required under Anchorage Municipal Code Title 21
-- A distance specifically required by MOA

[2] A dewatering plan is required if groundwater or pumped discharges will be involved.

[3] Other information includes a Drainage Plan, if prepared in compliance with Title 21.07 and the DCM; special reports and studies, such as soils, geotechnical, wetlands, or hydrological reports or analysis; and copies of other permits

[4] These projects will be inspected as part of building, grading, right-of-way and other MOA permits but no submittal is required.

[5] SWPPP – Storm Water Pollution Prevention Plan

[6] Type 1 SWPPP – certify to and follow minimum requirements for Erosion and Sediment Control as shown in Checklist #1 and in the *Stormwater Water Treatment Plan Review Guidance Manual*

[7] Type 2 SWPPP – prepare, certify, and implement a Storm Water Pollution Prevention Plan

[8] Type 3 SWPPP –certify and implement a Storm Water Pollution Prevention Plan prepared in accordance with the Environmental Protection Agency's NPDES General Permit for stormwater discharges from construction activities (the CGP)

[9] NOI – Notice of Intent (for coverage under the CGP)

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CHECKLIST #1 – page 1 of 4

Type 1 Storm Water Pollution Prevention Plan

Project Name: _____ Permit Number_____

Single Family/Duplex or Commercial? _____Area of Disturbance (sq. ft)_____ Project Depth (ft): _____

Subdivision:_____ Lot:_____ Block:_____ Tract:_____ Parcel:_____

Street Address: _____

Contact Name_____ Phone Number:_____

The Minimum Requirements that may apply to any proposed new development or redevelopment are identified here and, if applicable, satisfied through the submission of this completed Checklist 1. Contents of Stormwater Treatment Plans vary with the size of parcel, type and size of proposed development, individual site characteristics, and other information required by the Municipality to assess compliance with Chapter 21 of the Municipal Code.

A Type 1 SWPPP must be submitted if your project is within the MOA and if it is:

- A Single Family or Duplex project disturbing 500 square feet up to 1 acre OR 4 feet or more in depth
- Commercial disturbing 500 to 10,000 square feet or 4 feet more in depth
- Smaller than either of the above categories, but for which there is not sufficient buffer between the disturbed area and any creek or wetlands

In particular, the operators of these projects must:

- Submit a site plan sketch showing the project and the location of:
  - ✓ stabilized construction exits
  - ✓ silt fencing
  - ✓ sediment trap (if necessary)
  - ✓ areas to be stabilized and method of stabilization
- Conduct work in a "good housekeeping" manner.
- Implement appropriate BMPs for control of stormwater runoff during construction, including:
  - ✓ Isolate construction materials from rainfall and snowfall events
  - ✓ Prevent the transport of sediment beyond site boundaries
  - ✓ Stabilize soil on non-building site areas
- Perform inspections and properly maintain erosion and sediment controls
- Achieve final site stabilization

If your project is smaller than those listed above and has sufficient buffer, a submittal is not required, but the practices on this Checklist #1 must put in place. ALL projects will be inspected as part of building and right-of-way permits and other MOA Plan reviews.

OWNER'S STATEMENT FOR TYPE 1 SWPPP PROJECTS

I have read the above checklist and have enclosed the necessary design information concerning the above referenced proposed project demonstrating it is a Type 1 SWPPP Project. By my signature I certify I will follow the Requirements for a Type 1 SWPPP, install or perform necessary BMPs and maintain them throughout the project, keep a copy of this signed checklist on the construction site, and that the project is (check one):

____ privately owned and that I am the owner.

____ privately owned and that I am the developer.

_____

Signature (please sign in ink) Date

_____

Name and Official Title (print or type)

_____

Company or Agency (if applicable)

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CHECKLIST #1 – page 2 of 4

Type 1 Storm Water Pollution Prevention Plan

Check appropriate blanks below and complete the site diagram with necessary information.

Com-pleted	Not Applicable	Site Characteristics
____	____	North arrow and site boundary. Indicate and name adjacent streets or roadways.
____	____	Location of existing drainage ways, streams, rivers, lakes, wetlands, or wells near the site.
____	____	Location of existing and planned storm sewer inlets and culvert crossings within 100 feet of the site.
____	____	Location of existing and proposed buildings and paved areas.
____	____	Limits and approximate dimensions of the proposed disturbed area on the site.
____	____	Approximate gradient and direction of slopes before grading operations
____	____	Approximate gradient and direction of planned slopes after grading operations.
____	____	Overland runoff (sheet flow) coming onto the site from adjacent areas.

Erosion Controls Practices

____	____	Location of temporary soil storage piles.
		Note: Soil storage piles should be placed behind a silt fence, 25-foot (minimum) wide vegetative strip, or be covered with a tarp and located more than 25 feet from any down slope road or drainage way.
____	____	Location of temporary gravel access drive(s).
		Note: Gravel drives shall have 2 to 3 inch aggregate stone laid at least 10 feet wide and 6 inches thick. Drives shall extend from the roadway 50 feet or to the building (whichever is less).
____	____	Location of sediment controls (filter fabric fence, rock sediment trap, 25-foot wide vegetative buffer strip or other planned practices) that prevent eroded soil from leaving the site.
		Note: Sediment controls should be installed along the downslope sides of the disturbed areas. Sediment Controls will be installed around soil storage piles, around inlets, at outlets of drainageways, and along adjacent drainageways which receive runoff from the site.
____	____	Location of sediment barriers around storm sewer inlets.
____	____	Location of diversions.
		Note: Concentrated flow (drainageways, ditches, channels) shall be diverted (redirected) around disturbed areas. Overland runoff (sheet flow) from adjacent areas greater than 10,000 sq. ft. shall also be diverted around disturbed areas in a manner that will not adversely impact adjacent landowners. 2) Diversions will be stabilized with seeding and mulching *within 24 hours* of diversion completion.
____	____	Location of practices that will control erosion in areas of concentrated flow.
____	___	Location of practices that will be applied to control erosion on steep slopes (greater than 12% grade)
		Note: Drainage ways will be stabilized with seeding, mulching, erosion control mats, in-channel fabric, or rock riprap. When used, a given in-channel barrier should not receive drainage from more than two acres of unpaved area, or one acre of paved area. In-channel practices should not be installed in perennial stream. Stabilization and other appropriate measures should be completed within 24 hours of drainageway completion. Sediment controls will be installed at the outlet ends of drainageways.

CHECKLIST #1 – page 3 of 4

Type 1 Storm Water Pollution Prevention Plan

Planned	Not Planned	**Management Strategies**
____	____	Temporary stabilization of disturbed areas.
		Note: Disturbed areas and soil piles left inactive for more than 14 days must be stabilized by seeding (between May 1 and September 1) or by other cover, such as a tarp or heavy mulching.
____	____	Permanent stabilization of site by revegetation, lawn establishment, or other means as soon as possible .
		Indicate re-vegetation method: Seed ___ Sod ___ Other _____
		Expected date of permanent re-vegetation _____
		Revegetation the responsibility of: Builder ____ Owner/Buyer _____
		Planned temporary stabilization if site is not seeded by September 1 or sodded by September 15?
		_____
____	____	Use of downspout to direct runoff away from structures and onto sod or pavement until vegetation is stable. After grass is well established, downspouts shall be permanently directed to grass areas.
____	____	Trapping sediment during site dewatering operations. Location:_____
		Note: Sediment laden discharge should be temporarily ponded behind a sediment barrier until most of the sediment settles out. If dewatering is anticipated, a dewatering plan must be submitted with this checklist.
____	____	Proper disposal of building material waste so that pollutants and debris do not are not carried off-site by wind or water.

Inspection Requirements

Site operator must inspect disturbed areas, areas used for storage of materials that are exposed to precipitation, physical controls, and vehicle exits at a minimum every 14 days from March until freeze-up. Inspections must also be conducted throughout the year within 24 hours after events that produce runoff or during runoff events that last more than 24 hours.

Maintenance Requirements

If inspections reveal erosion and sediment control practices that are not effective, or appear likely to be ineffective for anticipated conditions (due to anticipated site activities and weather), the practices must be adjusted (including repair, modification, replacement, sediment removal, or additional practices) as soon as practicable, but no later than 7 calendar days following the inspection.

Final Stabilization Requirements

At the completion of land disturbing activities, all disturbed and exposed soil shall be stabilized. Areas that are uphill of installed ESC practices shall be stabilized prior to removal of those controls.

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CHECKLIST #1 – page 4 of 4

Type 1 Storm Water Pollution Prevention Plan

Instructions:

1. Complete this plan by filing in the requested information, completing the site diagram, and marking appropriate boxes on pages 2 and 3.
2. When completing the site diagram, give consideration to potential erosion that may occur before, during, and after grading. Water runoff patterns can change significantly as a site is reshaped.
3. Submit this plan and the rest of the checklist at the time of building permit application.

	Erosion Control Plan Legend
	Property Line
	Temporary Diversion
	Existing Drainage
	Finished Drainage
	Limits of Grading
	Silt Fence
	Gravel Exit
	Vegetation Specification
	Tree Preservation
	Stockpiled Soil
	Please indicate north
	↑ ← N → ↓

Project Location: _____
(Address) (Street) (Lot)

Builder: _____ Owner: _____

Worksheet completed by: _____

Installation and maintenance of
erosion control practices responsibility of:

Name: _____ Phone: _____

Permanent seeding/sodding responsibility of:

Name: _____ Phone: _____

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CHECKLIST #2 – page 1 of 2

Commercial Projects – All SWPPP Types and Projects Requiring Permanent Storm Water Quality Control Plans

Project Name: _____ Permit Number_____

Area of Disturbance (acres):___ Project Type (single family/duplex/commercial/other): _____

Subdivision:_____ Lot:_____ Block:_____ Tract:_____ Parcel:_____

Street Address: _____

Contact Name_____ Phone Number:_____

The Minimum Requirements that may apply to any proposed new development or redevelopment are identified here and, if applicable, satisfied through the submission of an acceptable Stormwater Site Plan. Contents of Stormwater Site Plans vary with the size of parcel, type and size of proposed development, individual site characteristics, and other information required by the Municipality to assess compliance with Chapter 21 of the Municipal Code. Below is a checklist of the minimum components required for a complete submission of a Stormwater Treatment Plan.

	Area of Disturbance		
SWTP Element	Less than 10,000 square feet	10,000 square feet or more but less than acre	One acre or greater
	Submittal of SWTP Element Required?		
Existing and Proposed Conditions, including: Description of • Existing conditions • proposed development • timetable of construction activities • site drainage and receiving waters Calculations used to determine runoff quantity and to design/select BMPs	No	Yes	Yes
Construction Stormwater quality control	Type 1 SWPPP [2]	Type 2 SWPPP [3]	Type 3 SWPPP [3]
• site plan showing location of ESC practices	Yes	Yes	Yes
• dewatering plan	Yes [1]	Yes [1]	Yes [1]
• copy of NOI	No	No	Yes
Preliminary Conditions Summary	Yes	Yes	Yes
Permanent Stormwater Quality Control Plan including Site plan showing location of permanent BMPs Calculations used to determine runoff quantity and to design/select BMPs	Yes	Yes	Yes
Special Reports and Studies	Yes	Yes	Yes
Other Permits	Yes	Yes	Yes
Operations and Maintenance Manual for permanent BMPs	Yes	Yes	Yes

[1] Required if groundwater or pumped discharges will be involved
[2] Type 1 SWPPP projects must submit Checklist #1
[3] Type 2 and Type 3 SWPPP projects must submit a SWPPP in accordance with the Stormwater Treatment Plan Review Guidance Manual

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CHECKLIST #2 – page 2 of 2

Commercial Projects – All SWPPP Types and Projects Requiring Permanent Storm Water Quality Control Plans

OWNER'S or OWNER'S REPRESENTATIVE STATEMENT FOR STORM WATER TREATMENT PLAN REVIEWS

I have completed the above checklist and have enclosed the necessary design information concerning the above referenced proposed project and BMPs for review. The above items are required for project plan review and I understand that a review does not necessarily guarantee that an approval to construct will be issued by this Department. By my signature I certify that I will install or perform necessary BMPs, maintain them throughout the project, keep a copy of my approved Storm Water Treatment Plan on the construction site, and that the project is (check one):

____ privately owned and that I am the owner or duly authorized representative responsible for the overall management of the project.

____ owned by a sole proprietorship and that I am the proprietor or duly authorized representative responsible for the overall management of the project.

____ owned by a partnership of which I am a general partner or duly authorized representative responsible for the overall management of the project.

____ owned by a corporation of which I am a principal executive officer of at least the level of vice-president, or a duly authorized representative responsible for the overall management of the project.

____ owned by a municipal, state, or federal or other public agency, of which I am a principal executive officer, ranking elected official, or other duly authorized employee

Signature (please sign in ink) Date

Name and Official Title (print or type)

Company or Agency (if applicable)

Ron Thompson, Building Official
Revised: December 2007
(Ref. 96-01, 00-03, 02-05; 03-09)

Jerry Hansen, PM&E

Construction Dewatering Request Form

Submit to the Municipality of Anchorage
Project Management & Engineering Department
Watershed Management Services
4700 Elmore Road P.O. Box 196650
Anchorage, Alaska 99519-6650
907-343-8105

Permit Number			
Project Name			
Location			
Project Description			
Contractor			
On-Site Contact Name			
Address			
City, State, Zip			
Phone		*Site Phone*	
E-mail		*Office Fax*	
Size of Area			

Volume in gallons per day (GPD)	
Pump rate in gallons per minute (GPM)	
Estimate of total volume to be discharged	
Start date of dewatering	*End date of dewatering*
Water Intake (pond, sump, well point, etc.)	
Discharge point (manhole, ditch, etc.)	
If discharging to ditch, provide analysis that the discharge will not adversely affect the rights of way or abutting	
If discharging to piped storm sewer, provide calculations that show pipe capacity to handle rate of discharge	
Site Dewatering Plan available?	
Description of method used to control solids:	
Remarks and unusual conditions:	
Signature of Applicant:	*Date:*
Signature of Approval:	*Date:*

Note: If discharging to a storm sewer system (pipe or ditch), a Municipal Right of Way permit is required. If discharging to the sanitary sewer, a permit from AWWU is required. **Post these permits at the site and include copies of them in the Site Dewatering Plan.**