OAKCREEK WISCONSIN

ENGINEERING DEPARTMENT

STORM WATER MANAGEMENT PERMIT

Application Fee $500.00
Permit No. _____
Project No. _____
Tax Key No. _____
Date _____

PROJECT NAME _____

PROJECT LOCATION _____

APPLICANT/DEVELOPER _____ **PHONE NO.** _____

MAILING ADDRESS _____

ENGINEER/DESIGNER _____ **PHONE NO.** _____

MAILING ADDRESS _____

NUMBER OF RUNOFF DISCHARGE POINTS: _____ **PROJECT SIZE:** _____ **ACRES**

PROPOSED INCREASE OF IMPERVIOUS SURFACE AREA: _____ **SQ. FT.** (not applicable for single and two family residential developments)

DATA SUMMARY FOR DETENTION BASINS (complete additional tables for each site discharge point) **Basin ID:**

Design Element	Design Data
Watershed	
Contributing drainage area to detention basin (including offsite areas)	
Land use of contributing drainage area (include % each land use)	
Proposed outfall conveyance system (with distances)	
Floodplains, shorelands or wetlands?	
Permanent pool surface area and normal water surface elevation	
Top of berm elevation (after settling) and width	
Freeboard (spillway elevation minus 100-year max. water elevation)	
Length/width (distances and ratio)	
Safety shelf design (length, grade, max depth)	
Average water depth (minus safety shelf/sediment)	
Sediment forebay size (and % of pool size) and depth	
Sediment storage depth	

SUMMARY OF DESIGN BASIN INFLOW, OUTFLOW AND STORAGE

Design Storm (SCS Type II)	**Inflow Peak** (cfs)	**Maximum Outflow Rate** (cfs)	**Maximum Water Elevation**	**Storage Volume at Max. Elevation** (ac-ft)	**Time to Drain** (hours)	**Outflow Control Structure**
1-year						
2-year						
100-year						

I understand that the development or redevelopment is required to comply with the City's storm water ordinance, and that non-compliance is cause for permit revocation or further enforcement action. I read and accept the standard conditions of this permit.

_____ _____
Applicant's Signature Date

*****OFFICE USE ONLY******

Attachments:
(____) Application Fee
(____) Storm Water Management Report
(____) Site and Drainage Map (Scale: 1"=100')
(____) Erosion Control Plan and Schedule
(____) Maintenance Agreement

Special Conditions (if required): _____

_____

Approval: _____ _____
City Engineer Date

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Storm Water Management Plan Checklist

This checklist shows what information needs to be provided and what issues need to be addressed when preparing a storm water management plan. Incomplete submittals will result in delays of approval.

Are the following items clearly labeled or delineated on maps (1"=100' minimum) & drawings? (Yes, No, or NA)

____ Existing and proposed drainage basins, subbasins, and land use boundaries. *(Contributing drainage basins that extend beyond the site boundaries may be delineated on a separate map.)*
____ Streams, lakes, ponds, existing drainage swales, floodplains, wetlands, natural storage and other physical or environmentally sensitive features within or adjacent to the project area.
____ Delineation of all existing and proposed impervious surfaces including locations of buildings, roads, parking areas and other permanent structures.
____ Existing and proposed contours at a minimum of 1-foot intervals, extending a minimum of 200-feet beyond the limits of the proposed development.
____ Existing and proposed Tc/Tt flow paths used to calculate pre/post development flows.
____ Proposed storm water discharge points *(water leaving the site by surface or subsurface flows)*.
____ Type, size, location and cross-section of all proposed storm water management major and minor conveyance systems *(grass swale, diversion, lined channel, storm sewer, etc.)*.
____ Location and type of all proposed storm water management structures. Detailed drawings, including cross-sections, profiles, and elevations are also required. *(stilling basin, grade stabilization structure, detention basin, filtering/infiltration practices, etc.)*
____ Property lines, protective areas, existing and proposed drainage easements.
____ Soil types and boundaries and locations of areas with steep slopes or highly erodible soil.
____Proposed access locations for future maintenance of storm water management facilities.

Is the following supporting information included in the submittal? (Yes, No, or NA)

____ Plan narrative describing the project, location and watershed, existing and proposed conditions, site drainage, storm water management facilities, and how the proposed storm water management plan will meet the requirements and be implemented.
____ Summary of calculations and results.
____ Erosion and sediment control description including schedule and sequence.
____ Time to drain the detention basin (*hours*).
____ Watershed, subwatershed and land use areas *(in acres – by watershed, not ownership lines)*.
____ Impervious surface areas *(in acres)*, except for planned single and two family residences.
____ Pre/post development TR-55 runoff curve numbers and Tc/Tt values and calculations.
____ Pre/post development peak flows and hydrographs for the 1-yr, 2-yr and 100-yr./24 hour storm events for all proposed storm water discharge points from the site.
____ Support data for all storm water practice designs, such as inflow/outflow rates, stage/storage/discharge data, hydrographs, outlet designs, infiltration rates, water elevations, etc.
____ Soil and Site Evaluation Report.
____ Other hydraulic and hydrologic computations critical to the plan/designs.
____ Impact assessment for discharges to wetlands.
____ Maintenance agreement including responsible party and program schedule.

Review Questions: (Yes, No or Not Applicable)

____ Is the plan stamped by a professional engineer licensed in Wisconsin?
____ Are all plan input parameters clearly stated and all geographic elements used in making the calculations clearly cross-referenced on maps?
____ Does the site drain to the detention facilities? Are overland flow routes identified and reserved?
____ Does the plan maintain natural drainage patterns, infiltration areas (depressions) and watershed boundaries as much as practical?
____ Does the plan minimize potential downstream/off-site impacts?
____ Does the plan discharge to a public right-of-way, wetland or drainageway?
____ Is adequate space reserved for storm water management practices?
____ Does the plan comply with the ordinance peak flow control requirements? Will it be adequate to prevent downstream gullies or streambank erosion?
____ Does the plan comply with the water quality requirements? *(control 80% total suspended solids of post development runoff, infiltration, etc.)*
____ Is it coordinated with erosion control efforts? *(combination sediment basin/wet detention)*
____ Will the plan minimize downstream impacts from increased runoff volumes, such as chronic wetness conditions/flooding?
____ Does the plan minimize hydrologic changes and pollutant loading to wetlands?
____ Does the proposed outlet device allow for future drawdown for maintenance?
____ Are inflow and outflow channels adequately armored to prevent erosion?
____ Is enough plan detail provided for correct installation of practices? *(rock channel cross-sections, profiles, elevations, etc)*
____ Does the plan allow adequate access to storm water practices for future maintenance?
____ Have other applicable permits been obtained or applied for by the applicant? *(Chapter 30 – DNR, NR 216 – DNR, 404 Wetlands-Army Corp., etc.)*

Storm Water Management Permit Conditions

STANDARD CONDITIONS: All permits issued under Section 13.107 of the Municipal Code shall be subject to the following conditions, and holders of permits issued under this section shall be deemed to have accepted these conditions. The City Engineer may suspend or revoke a permit for violation of a permit condition, following written notification to the permittee. An action by the City Engineer to suspend or revoke the permit may be appealed in accordance with Section 13.113 of the Municipal Code.

(1) Compliance with the permit does not relieve the permit holder of the responsibility to comply with other applicable federal, state, and local laws and regulations.

(2) The permit holder shall design, install, and maintain all structural and nonstructural storm water management practices in accordance with the approved storm water management plan, maintenance agreement, and the permit.

(3) The permit holder shall notify the City Engineer at least three (3) business days before commencing any work in conjunction with the storm water management plan, and within three (3) business days upon completion of the storm water management practices. If required as a special condition, the permit holder shall make additional notifications to the City Engineer according to a schedule set forth in the permit so that practice installations can be inspected during construction.

(4) Completed structural storm water management practices must pass a final inspection to determine if they are in accordance with the approved storm water management plan and ordinance. The City Engineer shall notify the permit holder in writing of any changes required in such practices to bring them into compliance with the conditions of the permit. The structural storm water management practice installation required as part of this ordinance shall be certified as built by a licensed professional engineer.

(5) The permit holder shall notify the City Engineer prior to any modifications he or she intends to make to an approved storm water management plan. The City Engineer may require that the proposed modifications be submitted for approval prior to incorporation into the storm water management plan and implementation.

(6) The permit holder shall maintain all storm water management practices specified in the approved storm water management plan until the practices either become the responsibility of the City, or are transferred to subsequent private owners as specified in the approved maintenance agreement.

(7) The permit holder authorizes the City to perform any work or operations necessary to bring storm water management practices into conformance with the approved storm water management plan, and to charge such costs against any performance bond or cash bond posted for the project.

(8) The permit holder shall provide a written guarantee for all structural storm water management practices dedicated to the City, installed as part of the storm water plan and accepted by the City. The terms of such guarantee shall be included in a recorded development agreement.

(9) If so directed by the City Engineer, the permit holder shall repair and restore, at the permit holder's own expense, all damage to municipal facilities and drainageways caused by storm water runoff, where such damage is caused by activities that are not in compliance with the approved storm water management plan.

(10) The permit holder shall permit property access to the City Engineer for the purpose of inspecting the property for compliance with the approved storm water management plan and the permit.

(11) Storm water management practices may discharge to public right-of-ways, wetlands or drainageways including but not limited to any ditch, channel, creek, river or storm sewer pipe line whether natural or manmade. If a proposed storm water management plan does not discharge to a public right-of-way, wetland or drainageway and involves significant changes in the direction of drainage (creates an increase in the peak rate of runoff), the permittee shall make appropriate arrangements with downstream property owners between the site discharge and the receiving public right-of-way, wetland or drainageway concerning the prevention of endangerment to downstream property or public safety. It shall be the responsibility of the developer to obtain from adjacent property owners any easements or other property, agreements or interests concerning the flowage of water. Any such easements, agreements or interests shall be signed, recorded and submitted to the Council prior to approval of the storm water plan.

(12) The permit holder is subject to the enforceable actions detailed in Sec.13.112 of the storm water management ordinance if the permit holder fails to comply with the terms of the permit.

PERMIT DURATION: Permits shall be valid from the date of issuance through the date the City Engineer provides written notice to the permit holder that all storm water management practices have passed the final inspection required under the Permit Conditions.

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