



CITY OF PORTLAND
Stormwater
Management
Manual

FORM 2

OPERATIONS & MAINTENANCE FORM

PRIVATE STORMWATER MANAGEMENT FACILITIES

This O&M Form supercedes document number _____

(for official county use only)

PROJECT NAME _____

PERMIT INFORMATION

Permit # _____

Permit Submittal Date _____

SITE INFORMATION *(include all parcels)*

R# (6 Digits) _____

Site Address _____

City / State / Zip _____

Preparation Date: _____

OWNER INFORMATION (ALL LEGAL OWNERS)

Name (1) _____

Name (2) _____

Address *(Mailing)* _____

City / State / Zip _____

O&M PREPARER INFORMATION

Name _____

Address *(Mailing)* _____

City / State / Zip _____

Phone *(area code required)* _____

Email _____

Site Legal Description:

Responsible Party for Maintenance *(check one)*

Homeowners Association Property Owner

Property Management Company Tenant

Other (describe) _____
(not Contractor or Consultant)

Contact Information for Responsible Party

Contact Name _____

Contact Organization _____

Phone *(area code required)* _____

Email: _____

Maintenance Practices and Schedule

These operation and maintenance practices are required in accordance with Portland City Code, Chapter 17.38.

The requirements are based on the current version of the *City of Portland Stormwater Management Manual* on the date of permit submittal.

For the **Simplified Approach**, please attach the current O&M Specifications for each facility type from the *Stormwater Management Manual*, Chapter 3.3.1.

For the **Presumptive and Performance Approaches**, please attach the approved, site specific O&M Plan per the *Stormwater Management Manual*, Chapter 3.3.2.

OPERATIONS & MAINTENANCE FORM

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SITE PLAN

Provide a site plan sketch in the area provided below, or attach a scaled site plan to this submittal that includes all of the information required as shown in Appendix D6 on page D.6-1, in Operations & Maintenance Form Instructions, Site Plan.

STEP 1 – COMPLETE THE FOLLOWING TABLE

Stormwater Facility Type (Chapter 2)	Stormwater Facility Size (sf)	Drainage is from Roof or Lot?	Impervious Area Treated (sf)	Discharge Point
Totals				

Maintaining the stormwater management facility or facilities listed above shown on the following (or attached) site plan is a required condition of building permit approval for the identified property. Property owners are required to operate and maintain facilities in accordance with the O&M plan on file with the City of Portland. This requirement is binding on all current and future owners of the property. Failure to comply with the O&M plan can trigger an enforcement action, including penalties. The O&M plan may be modified by written consent of current owners and written approval of the Bureau of Environmental Services.

STEP 2 – REQUIRED SITE PLAN

(insert or draw here, or attach separate sheet)

I Have Attached a Site Plan

OPERATIONS & MAINTENANCE FORM

PRIVATE STORMWATER MANAGEMENT FACILITIES

SIGNATURE AND ACKNOWLEDGEMENT

By signing below, the owner accepts and agrees to the terms and conditions contained in this O&M Form and in any document executed by filer and recorded with it. The owner further acknowledges that this documentation has been prepared on their behalf and that they are responsible for the quality and completeness of the O&M Plan. Any failure to comply with the terms of these plans may result in enforcement actions by BES requiring the property owner to restore the stormwater facilities to a functional state as approved under original requirements.

The owner also accepts that the City requires property owners to submit and record, with the County, complete and accurate O&Ms enforceable under City Code 17.38 and that substantial changes to the O&M require City approval prior to County recording. A revised O&M must state that it supersedes a previous O&M (with cited county document number; See Page 1).

THIS PAGE MUST BE SIGNED IN THE PRESENCE OF A NOTARY.

Property Owner or Authorized Representative (1) Signature

Property Owner or Authorized Representative (2) Signature

NOTARY SIGNATURE AND STAMP

INDIVIDUAL Acknowledgement

This acknowledgement is intended for property owned by individuals or trusts.

STATE of OREGON county of: _____

This instrument was acknowledged
before me on: *(date)* _____

By: *(owner 1)* _____

By: *(owner 2)* _____

Notary Signature _____

My Commission Expires _____

Notary Seal:

OR CORPORATE Acknowledgement

This acknowledgement is intended for corporation, government agencies, school districts, or other formal entities

STATE of OREGON county of: _____

This instrument was acknowledged
before me on: *(date)* _____

By: *(representative)* _____

As: *(Title)* _____

Of: *(Corporation)* _____

Notary Signature _____

My Commission Expires _____

Notary Seal:

Stormwater Management Facilities

Private Operations & Maintenance Plan

ODOT Parking Lot

Prepared By:



**Humber
Design
Group, Inc.**

110 SE Main St. Suite 200
Portland, OR 97214
(P) 503 946 6690

Date: April 19, 2022

Site O&M Responsible Party

This facility is to be maintained by property owner Oregon Department of Transportation.

Onsite Stormwater System Description

The proposed stormwater management plan for the ODOT parking lot is to intercept the existing stormwater laterals and convey them to a 48 inch diameter, 35 foot deep drywell with perforated depths of 10 feet. Sizing of the proposed drywell includes all site area uncovered by the Highway 30 bridge running above the site totaling approximately 11,500 sf. BES has confirmed this is an accurate assumption as the bridge manages stormwater that falls directly onto the surface and conveys it away from the site to a regional facility. The drywell is therefore capable of completely infiltrating the 100 yr storm event.

Infiltration Testing Results

Geodesign Inc. performed (2) falling head infiltration tests. The first was at a depth of 20 ft BFG with an infiltration rate of 1.9 in/hr. The second was at a depth of 27.5 ft BFG with an infiltration rate of >100 in/hr.

Table 1 - Facility Description Table

Facility Name	Type	Facility Size (sf)	Source	Impervious Area Managed (sf)	Discharge Point
Drywell	Drywell	48" dia. x 35' deep	Parking lot	11,500	Infiltration

Inspection & Maintenance Schedule

All stormwater facilities must be inspected at least:

First two years: Quarterly

Thereafter: Twice a year

After major rainfall events: Within 48 hours of major rainfall events (more than 1 inch of rain over a 24-hour period)

Inspection & Stormwater Maintenance Prodecures

The following items shall be inspected and maintained as stated.

Drywell and Soakage Trenches Clean gutters, rain drains, and silt traps twice a year.
Repair/seal cracks. Replace when repair is insufficient.
Prevent large root systems from damaging subsurface structural components.
Remove sediment and debris from all accessible components to prevent ponding.
Ponding/lack of infiltration may require decommissioning and replacement. Consult with the City prior to subgrade work.

Overflow Drains, Area Drains, and Piped Storm System Sediment shall be removed biannually.
Debris shall be removed from inlets and outlets quarterly.
Quarterly inspection for clogging shall be performed.
Grates shall be tamper-proof.
Repair/seal cracks. Replace when repair is insufficient.

Vectors Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Multnomah County Vector Control at 503-988-3464 for immediate assistance to eradicate vectors. Record the time/date, weather, and site conditions when vector activity is observed.

Best Management Practices (BMPs) BMPs prevent pollutants from mixing with stormwater. Typical nonstructural control measures include raking and removing leaves, street sweeping, vacuum sweeping, and limited and controlled application of pesticides, herbicides, and fertilizers.

Spill Prevention Spill prevention measures shall be exercised when handling substances that can contaminate stormwater. Virtually all sites, including residential and commercial, present dangers from spills. It is important to exercise caution when handling substances that can contaminate stormwater. Activities that pose the chance of hazardous material spills shall not take place near collection facilities.

- The proper authority and the property owner shall be contacted immediately if a spill is observed.
- A spill kit shall be kept near spill-prone operations and refreshed annually.
- Employees shall be trained on spill control measures.
- Shut-off valves shall be tested quarterly.
- Releases of pollutants shall be corrected within 12 hours.

Access Access shall be maintained for all facilities so O&M can be performed as regularly scheduled.

Inspection & Maintenance Logs

The facility owner shall keep a log to record all inspection and maintenance activities (see Sample Log). Record date, description, and contractor (if applicable) for all inspections and any maintenance or repairs performed. Keep work orders and invoices on file and make available upon request of the city inspector.

- Inspection Log** Record the date and the personnel who conducted the site inspection. Record the infiltration rate if water continues to pond longer than 48 hours after storm event, a description of any and all spills and vector issues, sediment & oil depth, the percentage of vegetation coverage (desirable and undesirable), and the condition of the system components every quarter for the first 2 years of operation and twice a year after a major storm event thereafter.
- Pollution Prevention** All sites shall implement BMPs to prevent hazardous wastes, litter, or excessive oil and sediment from contaminating stormwater. Contact Spill Prevention & Citizen Response at 503-823-7180 for immediate assistance with responding to spills. Record time/date, weather, and site conditions if site activities are found to contaminate stormwater.
- Vectors**
(mosquitoes and rodents) Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Multnomah County Vector Control at 503-988-3464 for immediate assistance with eradicating vectors. Record time/date, weather, and site conditions when vector activity is observed.
- Depth of Sediment & Oil** Take and record measurement at catch basins, conveyance systems, inlets, outlets and within the facility itself. Compare to capacity thresholds defined in the *Stormwater Management Manual* Section 3.2.4, Summary of Thresholds for Maintenance, or the site-specific O&M Plan.
- Percent Vegetation Coverage** Record percent cover of desirable, dead, and invasive vegetation.
- Condition of Structural Components** Record type and size of missing or broken components (i.e. width of cracks and/or extent of settling.)
- Maintenance** Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities.

Sample Log Form

Date: _____	Time: _____	Initial: _____
Work performed by: _____		
Work performed: _____		
Details: _____		

Date: _____	Time: _____	Initial: _____
Work performed by: _____		
Work performed: _____		
Details: _____		

Date: _____	Time: _____	Initial: _____
Work performed by: _____		
Work performed: _____		
Details: _____		

Date: _____	Time: _____	Initial: _____
Work performed by: _____		
Work performed: _____		
Details: _____		

NW THURMAN ST

ROW

PROPERTY LINE

ODOT PARKING LOT

NW 19TH AVE

ROW

APPROX. LIMIT OF BRIDGE ABOVE

PROPOSED DRYWELL

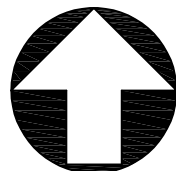
ROW

NW SAVIER ST

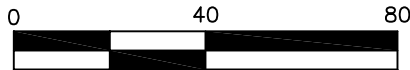
2" G

ODOT PARKING LOT

O&M MAP



GRAPHIC SCALE



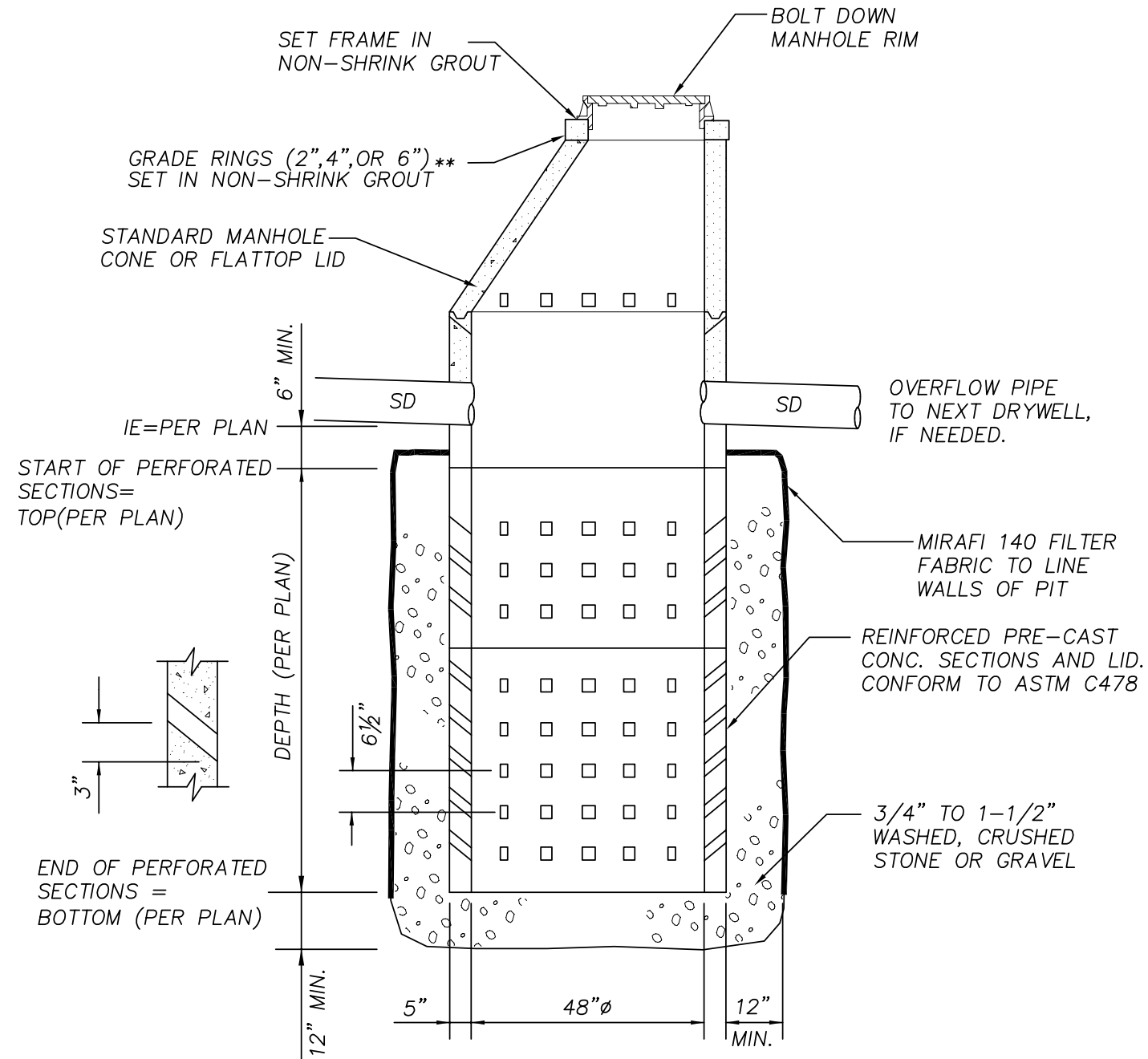
1 inch = 40 ft.

PROJECT NO.:	SER095
DRAWN BY:	NEG
DESIGN BY:	NEG
REVIEWED BY:	KAM
DATE:	04/19/22



Humber Design Group, Inc.

Portland, OR • 503.946.6690 • hdgpdx.com



NOTES:

1. BES STORMWATER INSPECTION REQUIRED AT TIME OF CONSTRUCTION. SEE GREEN BES INSPECTION CARD TO SCHEDULE. CONTACT AUTOMATED INSPECTION REQUEST (IVR) SYSTEM AT 503-823-7000 AND REQUEST INSPECTION #487 BES ONSITE STORMWATER FACILITY EVAL - OR - YOU MAY ALSO CONTACT BES OFFICE DIRECTLY AT 503-823-2059.

1

DRYWELL
NTS

DRYWELL TESTING NOTES

1. DRYWELL(S) SHALL HAVE THE CAPACITY TO DISPOSE OF STORMWATER AT THE RATE LISTED BELOW IN TABLE.
2. DRYWELL(S) SHALL BE TESTED AFTER CONSTRUCTION OF THE DRYWELL STRUCTURE (INCLUDING DRAIN ROCK AND PERIMETER BACKFILL) BUT PRIOR TO THE CONSTRUCTION OF THE TOP SLAB AND FINISH BACKFILL.
3. TESTING MUST BE COMPLETED BY A COMPANY CAPABLE OF PERFORMING DRYWELL TEST.
4. NOTIFY CIVIL AND GEOTECHNICAL ENGINEERS 7 DAYS PRIOR TO TESTING AND PROVIDE PLAN FOR TESTING INCLUDING WATER SOURCE.
6. CONTRACTOR SHALL CONTACT CITY OF PORTLAND WATER BUREAU OR APPLICABLE WATER DISTRICT TO ARRANGE FOR DRYWELL TEST WATER SUPPLY. CONTRACTOR SHALL BEAR RESPONSIBILITY FOR SECURING ALL NECESSARY PERMITS, AUTHORIZATION AND ANY FEES. IF NO WATER SUPPLY AVAILABLE, WATER TRUCK(S) MUST BE USED.
8. CONTRACTOR SHALL ARRANGE FOR THE PROVISION OF ALL DRYWELL TESTING EQUIPMENT, INCLUDING BUT NOT LIMITED TO FLOW METER, PIPING, AND TRAFFIC CONTROL.
9. CLEAN WATER SHALL BE PROVIDED TO TEST DRYWELLS, AS APPROVED. INTRODUCTION OF SEDIMENT MAY RESULT IN FAILURE OF THE DRYWELL CAPACITY TEST.
10. FILL DRYWELL ABOVE PERFORATED SECTIONS, SHUT OFF WATER, AND RECORD HEIGHT OF WATER EVERY 5 MINUTES DURING DRAWDOWN. IF DRYWELL WILL NOT FILL UP, MAINTAIN A CONSTANT FLOW RATE EQUAL TO THE DESIGN RATE FOR A MINIMUM OF 45 MIN. IF REDUCTION OF DRYWELLS IS DESIRED, CONTACT ENGINEER FOR PROCEDURE.
11. SHOULD DRYWELL(S) FAIL TO TEST AT THE MINIMUM DESIGN RATE, ADDITIONAL DRYWELLS MAY BE CONSTRUCTED, AS APPROVED, IN ORDER TO ACHIEVE THE REQUIRED MINIMUM DISPOSAL RATE. ALTERNATIVE DRYWELL LOCATIONS AND/OR ADDITIONAL DRYWELLS IN PIPED SERIES MUST BE PRE-APPROVED AND IDENTIFIED ON THE CONSTRUCTION DRAWINGS.

DRYWELL TESTING INFORMATION		
DRYWELL	DESIGN RATE PER DRYWELL (GPM)	ESTIMATED WATER VOLUME PER DRYWELL (GALLONS)
NORTH DRYWELL	135	6,075

* DESIGN RATE INCLUDES A FACTOR OF SAFETY APPLIED.