Section G

Stormwater Management Plan

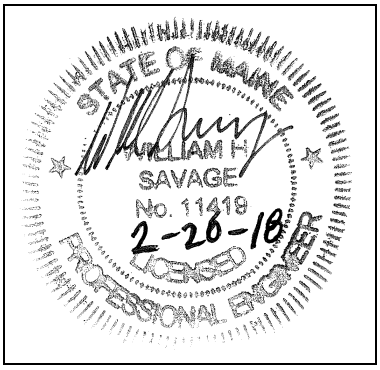
G. STORMWATER MANAGEMENT REPORT

Prepared For:

Tom Watson & Co., LLC
Portland, Maine 04101

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



February 2018

INTRODUCTION

Acorn Engineering, Inc. has been retained by Tom Watson & Co., LLC to provide civil engineering services for the proposed redevelopment of 82 Hanover Street. The proposed project includes the renovation of the existing building with associated utility upgrades and site/landscaping improvements.

A stormwater analysis was prepared to demonstrate that the project will meet the following requirements of the City of Portland (the City):

- City of Portland Land Use Ordinance Chapter 14, Article V. Site Plan Section 14-523. Required Approvals and Applicability (F) Level III Site Plan Review.
- City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards and Maine DEP Chapter 500 Stormwater Management.

The property consists of approximately 1.3 acres of land in Portland's Bayside neighborhood. The site is currently comprised of entirely impervious area. The proposed project will decrease the impervious area by approximately 600 SF.

EXISTING CONDITIONS

The proposed project site is located on Hanover Street. A boundary plan has been prepared by Titcomb Associates of Falmouth, Maine Dated January 25, 2018.

The property is in the B-7 Urban Commercial Business Zone. Abutting Uses include:

- North B-7 – Urban Commercial Business
- West B-7 – Urban Commercial Business
- South B-2b – Business Community
- East B-7 – Urban Commercial Business

The existing property is covered by 100% impervious surfaces including one structure, pavement, gravel, and concrete. The existing gravel/pavement area is relatively flat; however, the majority of the site slopes upgradient to the south at 3 – 6%.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting and existing impervious surfaces, a field inventory of significant natural features was not undertaken. The project is not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The proposed development is a two-story office building with an accompanying parking lot in the front of the building and a patio area to the rear. Pedestrian access to the site shall be provided off all three adjacent streets. The development will be served by Portland Water

District, Department of Public Works (sewer/storm), Unitil (natural gas), CMP (electric), Charter (cable), and Fairpoint (telephone).

The proposed project will decrease the site's impervious area by approximately 600 square-feet. Additionally, the amount of redeveloped non-roof area will not exceed 5,000 square feet. The majority of the parking lot improvements will be classified as a maintenance activity defined by the Maine Department of Environmental Protection – "an activity undertaken to maintain operating condition, original line and grade, hydraulic capacity, and original purpose of the project. Paving an_impervious gravel surface at original line, grade and hydraulic capacity is considered maintenance. Replacement of a building is not considered maintenance of the building". Based on this definition, the amount of "redeveloped" impervious area will be minimal and will not trigger the City's water quality requirement.

Since the project will not meet either threshold for water quality, the project has not been designed to meet Chapter 500 General Standards. However, the implementation of two catch basins on site with hoods and three-foot sumps will improve the quality of the stormwater that enters the City's system. Additionally, the increase in pervious area through landscaping will improve the site's ability to retain water on site, reducing the overall runoff from the site.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Given the soils information, listed above, no onsite wastewater is proposed; the applicant does not intend to perform a more intense hydric soil boundary delineation because the waiver requirements set forth in the City of Portland Technical Manual – Section 7 – Soil Survey, Rev. 6/17/11 are met.

The area within and surrounding the project includes soil types listed in the table below. The susceptibility of soils to erosion is indicated on a relative "K" scale of values over a range of 0.02 to 0.69. Higher "K" values indicate more erodible soils.

Table 1 - "K" Value		
Soils Type	**Subsurface**	**Substratum**
Au Gres Loamy Sand	.15	.15

The soil "K" value for the soil, listed above, shows a low susceptibility to erosion. The site's susceptibility to erosion is from the Soil Conservation Service Medium Intensity Soil Survey for Cumberland County. Although the soil "K" value shows a low susceptibility to erosion, implementation of the proposed Erosion & Sedimentation Measures by the contractor will be of the utmost importance given the sustained slope throughout the site.

Conclusion

The proposed development was designed to meet the requirements implemented by the MDEP under the Stormwater Management Statute (38 M.R.S.A. § 420-D) as well as the City of Portland Technical Manual – Section 5 – Portland Stormwater Management Standards. The proposed project as designed is not anticipated to cause flooding or erosion problems within the subject site, abutters' sites, nor within the right-of-way.

Attachments

Attachment A: Soils Map
Attachment B: Pre-Construction Watershed Map
Attachment C: Post-Construction Watershed Map

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
SOILS

FILE:	CIVIL
DATE:	2/26/18
JN:	1093
SCALE:	NTS
DESIGN BY:	WHS
DRAWN BY:	ADG
CHECKED BY:	WHS

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ACORN ENGINEERING, INC. P.O. BOX 3372
PORTLAND, MAINE 04104 (207) 775-2655

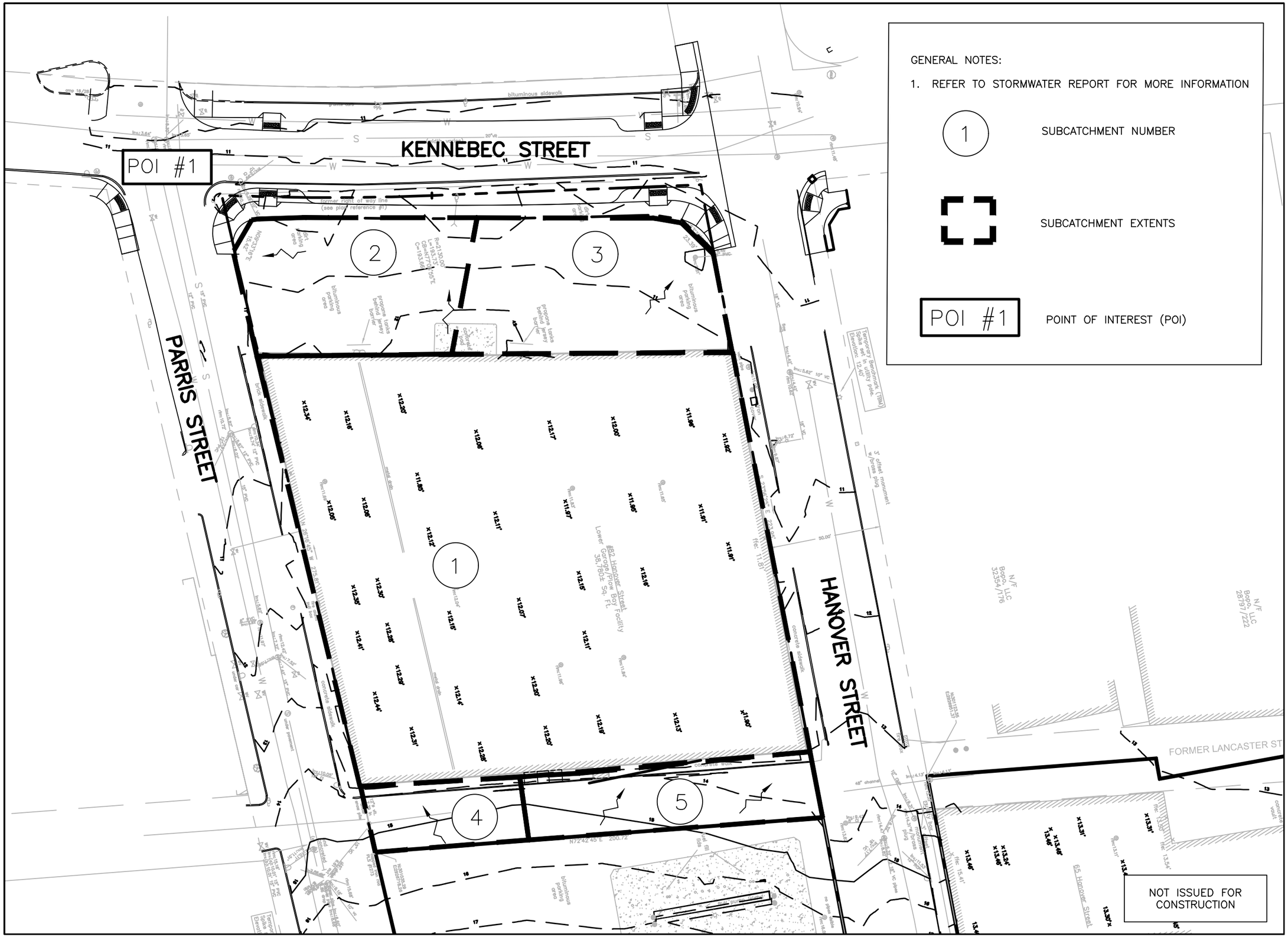
DRAWING NAME:
SOILS MAP

PROJECT NAME:
82 HANOVER STREET

CLIENT:
TOM WATSON & CO., LLC

ISSUED FOR	BY DATE
CITY APP.	WHS 2/26/18

REV. DATE



GENERAL NOTES:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

(1) SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 POINT OF INTEREST (POI)

ISSUED FOR	BY / DATE
CITY APP.	WHS 2/26/18

REVISION	REV. DATE

DRAWING NAME: PRE-DEVELOPMENT WATERSHED MAP

PROJECT NAME: 82 HANOVER STREET

CLIENT: TOM WATSON & CO., LLC
PORTLAND, ME

ACORN ENGINEERING, INC

158 DANFORTH ST
PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1093_CIVIL
JN:	1093
SCALE:	1"=40'
DESIGN BY:	ADG
DRAWN BY:	ADG
CHECKED BY:	WHS

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DRAWING NO.
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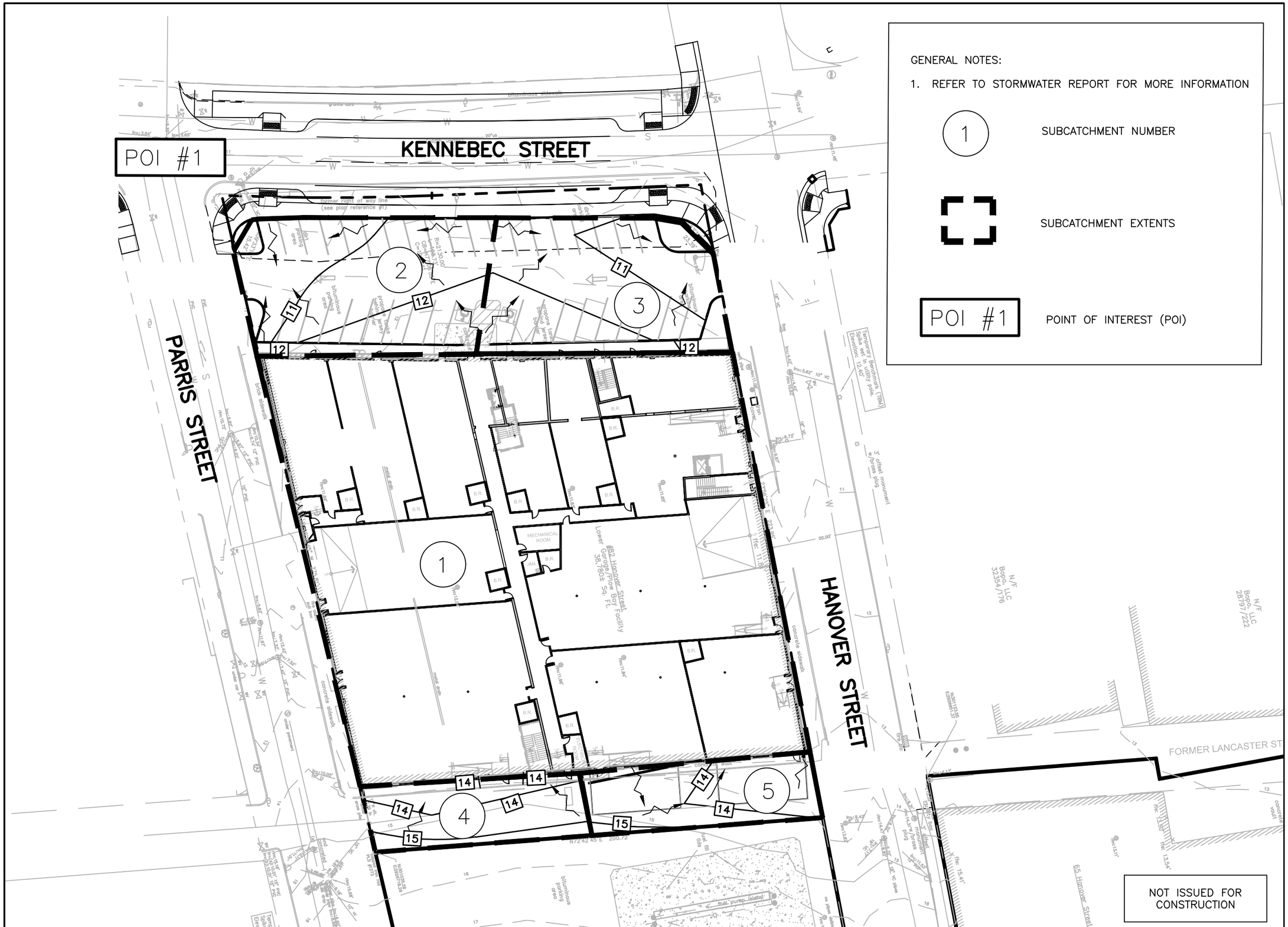

GENERAL NOTES:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

(1) SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 POINT OF INTEREST (POI)

NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
CITY APP.	WHS 2/26/18

REVISION	REV. DATE

DRAWING NAME: POST-DEVELOPMENT WATERSHED MAP

PROJECT NAME: 82 HANOVER STREET

CLIENT: TOM WATSON & CO., LLC
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DRAWING NO.
POST