

6 Church Street, Gardiner, Maine 04345 Phone (207) 582-4200

Site Plan Review Application

Project Name: P&M Realty, LLC		Project Cost: \$7,000,000
Date of Submission: September 25 th , 2023	Received by:	Fees: \$250.00
A complete written description of the propose	ed project including	all other local, state and federal permits required
for the project. The applicant is proposing to	o construct a 6,770	0-sf addition onto the west side of the 35,310 sf
(footprint) car museum currently under co	nstruction with as	sociated paved areas. The detention pond has
been relocated as shown on the plans just n	orth of the propos	sed addition mentioned above.
Anticipated beginning/completion dates of con	nstruction: <u>July 20</u>)23/December 2023
1. General Information:		
Name of Property Owner: P&M Realty, LLC	2	
Address: PO Box 600 Gardiner, ME 04345		
Phone/Fax No: <u>207-582-1851/207-582-5637</u>		
Applicant/Agent Name: P&M Realty, LLC		
Address: PO Box 600 Gardiner, ME 04345		
Phone/Fax No <u>207-582-1851/207-582-5637</u>		
Design Professional(s)/Contractor(s): ☑ Sun	rveyor 🛛 Engine	eer Architect Contractor
<u>Civil Engineer:</u>		
Name: E.S. Coffin Engineering & Surveying	g (c/o Jim Coffin)	
Address: P.O. Box 4687 Augusta, ME 04330)	
Phone/Fax No 207-623-9475/207-623-0016		
Surveyor:		
Name: Kane Coffin (PLS #1292)		
Address: P.O. Box 4687 Augusta, ME 04330)	
Phone/Fax No 207-623-9475/207-623-0016		

Architect:	
Name:	
Address:	
Phone/Fax No	
Signature:	Date: April 10, 2023
2. Property Information:	
Property Location: 24 Griffin Street	
Deed Ref: Book 6716 Page: 303 City Tax Maj	p(s): Lot(s):64
Property Size/Frontage: Acres: <u>5.1</u> Sq. Ft. <u>224,110</u>	Road: 480' Shore: N/A
Zoning District(s): Mived Use Village (MIV)	

3. <u>Development Information</u>:

One or more site maps drawn to scale, prepared and sealed by a professional engineer or architect showing the following:

- **a**.) The existing conditions on the property including:
 - 1. The property boundaries;

The property boundaries are shown on the Topographic Survey Plan and Site Plan.

- 2. The zoning district and zoning district boundaries if the property is located in more than one zone; The entire property is within the Mixed-Use District (MUV) District.
- 3. The location of required setbacks, buffers and other restrictions:

 <u>All setbacks and buffering can be found on the Site Plan (C-1).</u>
- 4. The location of any easements or rights-of-way;

 All easements and rights-of-way can be found on the Topographic Survey (TS) Plan.
- 5. The locations of existing structures and other existing improvements on the property including a description of the current use of the property;

 There are three buildings on site with one being utilized as a vehicle service shop for the owner's private vehicle collection. The other 60's by 105's single-story building is lessed by On Target. There

private vehicle collection. The other 60' by 105' single-story building is leased by On Target. There is a 20' by 40' Lean-To in the rear of the property being used for sand/salt storage.

- 6. The locations of existing utilities on and adjacent to the property including sewers, water mains, stormwater facilities, gas mains, and electric and other telecommunication facilities;

 All existing utilities mentioned above can be found on the Topographic Survey Plan.
- 7. The location of the nearest source of a fire protection water supply (hydrant, fire pond, etc.)

 There is a fire hydrant located on Griffin Street between the two buildings closest to the street, which is shown on the Site Plan.
- 8. The general topography of the property indicating the general slope of the land and drainage patterns. The CEO and/or Planning Board may require a topographic survey of all or a portion of the property for projects involving the construction of new or expanded structures or site modifications.

 A topographic survey is included with this submission.

9. The location, type and extent of any natural resources on the property including wetlands, vernal pools, floodplains, waterbodies, significant wildlife habitats, rare or endangered plants or animals, or similar resources; and

Vaughn Smith Associates has verified that the water body between the American Legion and applicant's property is a drainage ditch and not a stream. The Maine Department of Inland Fisheries & Wildlife have provided a letter indicating that there are not any significant wildlife habitats. The Department of Agriculture, Conservation & Forestry has included a letter indicating that there are not any rare or endangered plants on the parcel.

10. The location and type of any identified historic or archeological resource on the property.

The Maine Historical Preservation Committee has provided a letter stating that there are not any historical or archeological resources with this property.

- **b.**) The proposed development activity for which approval is requested including:
 - 1. The estimated demand for water supply and sewage disposal together with the proposed location and provisions for water supply and wastewater disposal including evidence of soil suitability if on-site sewage disposal is proposed;

The building will be sprinkled and a letter has been received from Paul Gray of the Gardiner Water District indicating that the district has sufficient water capacity for the proposed project. The project will connect to the public sewer system on Griffin Street.

2. The direction of proposed surface water drainage across the site and from the site together with the proposed location of all stormwater facilities and evidence of their adequacy;

The runoff from the proposed building will be directed to the northwest corner of the proposed 6,770 sf addition into the relocated detention pond that will provide quantitative treatment. The pond will outlet through a 15" diameter polyethylene pipe that will connect to a catch basin on site and then to an existing catch basin in Griffin Street as shown on the site utility plan (C-2). All stormwater will eventually flow into the stormwater system on Griffin Street.

- 3. The location, dimensions, and ground floor elevations of all proposed buildings and structures including expansions or modifications to existing buildings that change the footprint of the building;

 These elements can be found on the site plan (C-1).
- 4. The location, dimensions and materials to be used in the construction of drives, parking areas, sidewalks and similar facilities;

These elements can be found on the site plan (C-1) and detail sheets.

- 5. The proposed flow of vehicular and pedestrian traffic into and through the property;

 There is a fence around the property with gates at the two entry points and traffic will continue to flow as it does today. Pedestrians are not allowed to access the site as shown on the site plan (C-1).
- The location and details for any signs proposed to be install or altered;
 The only sign will be on the building as there are no free-standing signs proposed.
- The location and details for any exterior lighting proposed to be installed or altered;
 All exterior lights will be wall packs (dark sky) that are attached to the building.
- 8. Provisions for landscaping and buffering; and **Buffering and landscaping is shown on the site plan.**
- Any other information necessary to demonstrate compliance with the review criteria or other standards of the Land Use Ordinance.
 None at this time.
- **c.**) Evidence that the applicant has or can obtain all required permits necessary for the proposal. **ES Coffin Engineering will obtain all pertinent permits needed.**

Additional Information Required:

Building and structure drawings showing the footprint, height, front, side and rear profiles and all design features necessary to show compliance with this Ordinance;

ES Coffin Engineering & Surveying have provided the revised architectural drawings for the proposed building.

An estimate of the peak hour and average daily traffic to be generated by the project and evidence that the additional traffic can be safely accommodated on the adjacent streets;

We have included a revised traffic report to show a maximum of 19.1 22.2 peak hour trips associated with this development.

An erosion and sedimentation control plan; and

The erosion & sedimentation control plan is shown on Sheet C-3.

A stormwater management plan demonstrating how any increased runoff from the site will be handled if the project requires a stormwater permit from the Maine Department of Environmental Protection or if the Planning Board determines that such information is necessary based on the scale of the project and the existing conditions in the vicinity of the project.

A revised stormwater report is included indicating a decrease in flow for the 2-, 10- and 25-year peak storm events.

Elevation drawings prepared by a professional engineer or architect showing the façade and roof of the side of all proposed structures facing the road, and the side facing the customer entrance. The drawings shall clearly illustrate the profile of the roof. All façade and roof materials shall be identified including color and texture.

Revised building elevations are provided by ES Coffin Engineering & Surveying.

Photographs or similar photo representations or drawings showing the architectural design and context of the proposed structures and adjacent properties on the both sides of the road.

<u>Photographs are included for the project depicting buildings on site and in the immediate area. Drawings are included showing the proposed car museum.</u>

Survey Requirements

The Planning Board may require the applicant to submit a survey of the perimeter of the tract, giving complete descriptive data by bearing and distances, made and certified by a Registered Land Surveyor. The survey may be required for the construction of new structures or any construction proposed on a undeveloped parcel or tract of land, whenever the Planning Board finds that a survey is necessary to show compliance with the requirements of this Ordinance due to the size of the lot, location of the lot or the placement of existing or proposed structures on the lot or neighboring properties.

A topographic survey is included depicting the boundaries of the parcel.

Additional Studies

The Planning Board may require the applicant to perform additional studies or may hire a consultant to review the application or portions thereof. The cost to perform additional studies or hire a consultant shall be borne by the applicant.

4. Review Criteria

An applicant shall demonstrate that the proposed use or uses meet the review criteria listed below for the type of application. The Planning Board shall approve an application unless one or the other of them makes a written finding that one or more of the following criteria have not been met.

6.5.1.1 The application is complete and the review fee has been paid.

The application is complete and the Site Plan Review fee of \$250.00 has been submitted.

6.5.1.2 The proposal conforms to all the applicable provisions of this Ordinance.

The project conforms to all applicable provisions of the LUO.

6.5.1.3 The proposed activity will not result in water pollution, erosion or sedimentation to water bodies.

The application contains all pertinent erosion and sediment control devices needed for the project. All runoff from the new building flows west to the proposed detention pond.

6.5.1.4 The proposal will provide for the adequate disposal of all wastewater and solid waste.

<u>Public sewer is available for the project and all wastewater associated with the bathrooms will be sent to the sewer main located on Griffin Street. A letter from Doug Clark (Director) of the Gardiner Sewage District is included indicating that the District has sufficient capacity to serve the proposed building.</u>

6.5.1.5 The proposal will not have an adverse impact upon wildlife habitat, unique natural areas, shoreline access or visual quality, scenic areas and archeological and historic resources.

The Maine Department of Inland Fisheries & Wildlife have provided a letter indicating that there are not any significant wildlife habitats. The Department of Agriculture, Conservation & Forestry has included a letter indicating that there are not any rare or endangered plants on the parcel.

6.5.1.6 The proposal will not have an adverse impact upon waterbodies and wetlands.

<u>Vaughn Smith Associates has verified that the water body between the American Legion and applicant's property is a drainage ditch and not a stream.</u> There will be 3,490 sf of wetland impacts associated with the project.

6.5.1.7 The proposal will provide for adequate storm water management.

A revised stormwater report is included indicating a decrease in flow for the 2-, 10- and 25-year peak storm events.

6.5.1.8 The proposal will conform to all applicable Shoreland Zoning requirements.

The project is not within Shoreland Zoning and this section is not applicable.

6.5.1.9 The proposal will conform to all applicable Floodplain Management requirements.

The project is not within the 100-year flood elevation as shown on the attached FIRM Map and this section is not applicable.

6.5.1.10 The proposal will have sufficient water available to meet the needs of the development.

A letter has been received from Paul Gray of the Gardiner Water District indicating that the district has sufficient water capacity for the proposed project.

6.5.1.11 The proposal will not adversely affect groundwater quality or quantity.

The project will connect to public water along Griffin Street for domestic and fire suppression water services. The Gardiner Water District has the capacity per Paul Gray's letter to serve the proposed development. Groundwater quality and quantity will not be adversely affected with the proposed project.

6.5.1.12 The proposal will provide for safe and adequate vehicle and pedestrian circulation in the development.

The proposed building will be utilized for storage of antique vehicles with maintenance bays associated with the applicant's operation. Pedestrians will not be able to walk around on site as this is a car storage facility. Tractor trailer trucks can access and negotiate the site as needed as the site has been designed to allow 67' long tractor trailer trucks to enter off Griffin Street and drive around the north side of the proposed building and exit between the two existing buildings without multiple turning movements. There is more than enough area for vehicle circulation associated with the site.

6.5.1.13 The proposal will not result in a reduction of the quality of any municipal service due to an inability to serve the needs of the development.

A letter has been received from Jerry Douglass (Previous Public Works Director) stating that the project will not have any negative impacts to the public works department.

6.5.1.14 The applicant has the adequate financial and technical capacity to meet the provisions of this Ordinance. **E.S. Coffin Engineering & Surveying has the technical ability to complete the project.** The applicant will provide a financial statement indicating that they have adequate financing to complete the project.

6.5.2 Site Plan Review Criteria

All applications for Site Plan Review shall meet the Review Criteria contained in 6.5.1 and the additional criteria contained in this section.

6.5.2.1. The proposal will be sensitive to the character of the site, neighborhood and the district in which it is located including conformance to any zoning district specific design standards;

There are residential properties along the west side of the property and some further down along the east side of Griffin Street, but there aren't any residents within 300' of the proposed building. Adequate buffering is in place or will be installed along property lines adjacent to the proposed building. The entire site will be fenced in to not allow access onto the parcel unless it's through one of the gates. Commercial activities that are taking place on site today will be very similar to what will be taking place once the building is constructed and will not be unsensitive to the neighborhood.

6.5.2.2 The proposal will not have an adverse impact upon neighboring properties;

The parcel is bordered on the north and west by residential properties and to the south by the American Legion and to the east by a commercial use. The building is primarily being used to store vehicles with some maintenance taking place inside the building on the first floor. All activities will take place inside the building so the project will not have an adverse impact on neighboring properties.

6.5.2.3 The proposal contains landscaping, buffering, and screening elements which provide privacy to adjacent land uses in accordance with the appropriate performance standards;

The west property line has a 6' high stockade fence, which complies with the buffer standards for Semi-Full Screen Option #1 in the Land Use Ordinance. We are proposing a 6' high vinyl fence along the south property line as well. Along Griffin Street Option #3 for Partial-Screen Options will be used consisting of 6 understory trees and 6 shrubs per 100'.

6.5.2.4 The building site and roadway design will harmonize with the existing topography and conserve natural surroundings and vegetation to the greatest practical extent such that filling, excavation and earth moving is kept to a minimum;

The two existing curb cuts on Griffin Street will continue to be utilized. The building will be two-stories along the east side and one-story along the west side of the parcel. This is due to the topography of the parcel being much higher along the west side. This will help keep excavation to a minimum.

6.5.2.5 The proposal will reflect the natural capabilities of the site to support the development. Buildings, structures, and other features should be located in the areas of the site most suitable for development. Environmentally sensitive areas including waterbodies, steep slopes, floodplains, wetlands, significant plant and wildlife habitats, scenic areas, aquifers and archeological and historic resources shall be preserved to the maximum extent;

The proposed building is situated on the most desirable location on the parcel. It allows the building to be viewed as a two-story building from Griffin Street, but only one-story from the west side of the parcel. There will be 3,490 sf of wetland impacts along the south side of the property, which does not rise to the threshold of requiring an NRPA permit from the DEP. The Maine Department of Inland Fisheries & Wildlife have provided a letter indicating that there are not any significant wildlife habitats. The Department of Conservation has included a letter indicating that there are not any rare or endangered plants on the parcel.

6.5.2.6 The proposal will provide for a system of pedestrian ways within the site appropriate to the development and the surrounding area. The system will connect building entrances/exits with the parking areas and with existing sidewalks, if they exist or are planned in the vicinity of the project;

There are not any pedestrians allowed on site unless an appointment is made. Vehicles can maneuver throughout the site with adequate parking available along the north side of the new building.

6.5.2.7 In urban and built—up areas, buildings will be placed closer to the road in conformance with setback requirements and parking areas shall be located at the side or rear of the building;

The proposed building setbacks are all 25' and are shown on the site plan (C-1). The proposed building is about 33' from the Griffin Street right-of-way. The parking is on the north side of the building as shown on the plan.

6.5.2.8 Proposals with multiple buildings will be designed and placed to utilize common parking areas to the greatest practical extent;

There is only one proposed building and this section is not applicable.

6.5.2.9 Building entrances will be oriented to the public road unless the layout or grouping of the buildings justifies another approach.

As mentioned above the two existing curb cuts will continue to be utilized.

6.5.2.10 Exterior building walls greater than 50 feet in length which can be viewed from the public road will be designed with a combination of architectural features with a variety of building materials and shall include landscaping abutting the wall for at least 50% of the length of the wall.

The two existing office buildings on site have vertical blue steel wall panels with three feet of concrete foundation shown. The proposed building will be similar in regard to the wall panels, but will utilize stone over the exposed foundation to utilize a combination of architectural features. Evergreen shrubs are shown on the site plan along the south and north building sections.

6.5.2.11 Building materials will match the character of those commonly found in the city and surrounding area including brick, wood, native stone, tinted/textured concrete block or glass products. Materials such as smooth-faced concrete block or concrete panels and steel panels will only be used as accent features. Materials shall be of low reflectance, subtle, neutral or earth tone colors. High-intensity and bright colors shall be prohibited except when used as trim or accent. Building materials for industrial or commercial buildings located within an approved industrial park or subdivision are not be required to comply with this provision.

The proposed building will be similar to the buildings currently on site in regard to the vertical wall panels and color. These colors are not bright or high intensity. As mentioned above stone will be placed over the exposed foundation and the roof will have the shape of a "vee" with the low point in the center of the gable end facing Griffin Street. The roof will slope towards the gable end on the west side of the building

6.5.2.12 Building entrances and points where the development intersects with the public road and sidewalk will be provided with amenities appropriate for the area such as benches, bike racks, bus stop locations and other similar landscape features.

The site is located on Griffin Street and the building is being utilized for vehicular storage. Pedestrians will not be able to walk on or around on site as this is a storage facility.

6.5.2.13 A proposal which includes drive-through service will be designed to minimize impact on the neighborhood. Drive-through lanes will be fully screened from adjacent residential properties and communication systems will not be audible on adjacent properties.

There are no drive-thru lanes associated with the project and this section is not applicable.

Applicant shall provide information that demonstrates that the proposal will be sensitive to the character of the site, neighborhood and the district in which it is located by considering the following:

In regard to the General Performance Standards in Section 8 of the LUO;

8.7 Exterior Lighting:

Wall-packs are depicted on the site plan and cut sheets of these fixtures are included with this submission. All of the fixtures will be shielded so that light shines in a downward direction.

Electricity will be brought in overhead from Griffin Street to a new pole and then run underground to the south side of the new building as shown on the utility plan (C-2).

8.8 Noise:

The only noise generated form the operation will be inside the proposed building from the maintenance of vehicles. There will be noise generated by construction vehicles during the site work and building erection.

8.11Bufferyard & Screening Standards:

The project is required to implement a Partial Screen along any property lines abutting commercial uses and a semi-full screen when abutting residential uses.

We are proposing to use Partial Screen-Option #3 for the screening required along Griffin Street, which includes 6 understory trees and 6 shrubs per 100'. A Semi-Full Screen Option #1 will be utilized on the south and west property lines, which consists of a 6' high vinyl fence.

In regard to Environmental Performance Standards in Section 9 of the LUO:

9.1 Air Quality:

<u>Dust will be controlled during construction will be implemented by applying calcium and water as needed.</u>

In regard to Special Activity Performance Standards in Section 10 of the LUO:

10.24.5.7.2 Free Standing Signs:

N/A

6. Waivers

Waiver of Submission Requirements

The Planning Board may, for good cause shown and only upon the written request of an applicant specifically stating the reasons therefor, waive any of the application requirements provided such waiver will not unduly restrict the review process. The Planning Board may condition such a waiver on the applicant's compliance with alternative requirements. Good cause may include the Planning Board's finding that particular submissions are inapplicable, unnecessary, or inappropriate for a complete review. Notwithstanding the waiver of a submission requirement, the Planning Board may, at any later point in the review process, rescind such waiver if it appears that the submission previously waived is necessary for an adequate review. A request for a submission previously waived shall not affect the pending status of an application.

The applicant is asking for a waiver in regard to the amount of parking required. The Standards for Number of Parking Spaces (11.4.5) does not include a "Storage" designation, but does include a "Warehouse" designation. However, the warehouse use calls for one space per 1,000 sf, which would equate to needing over 40 spaces. That does not make any sense for this use so we are asking for one space per employee (4) for the proposed use and another 8 spaces for visitors. This would mimic the standard that the City of Augusta utilizes and is included for your use.



(207) 623-9475 Fax (207) 623-0016 1-800-244-9475

September 25, 2023

Mr. Kris McNeill, Code Enforcement Officer City of Gardiner 6 Church Street Gardiner, Maine 04345

Subject: P&M Realty, LLC

Project Narrative

Dear Kris,

P&M Realty LLC, herein called the applicant is proposing erect an addition onto the previously planning board approved project. The addition will by 6,770 sf and will be installed on the west side of the building being constructed at this time. The detention pond has been relocated to the northwest side of this proposed addition. The stormwater exiting the pond will now be routed via 15" diameter polyethylene pipe to a new catch basin on site and then into the existing catch basin on Griffin Street as shown on sheets C-1 & C-2. The stormwater report has been updated to reflect these changes and the post-development flows for the 2-, 10- and 25-year peak storm events are still all less than the pre-development flows.

The traffic report has been updated to reflect the additional 6,770 sf of building and has been included with this submission. The maximum peak hour trips were 19.1 and are now 22.2 peak hour trips, which is still well below any threshold for a full-blown traffic study. If you should have any questions or concerns, please do not hesitate to contact me at 623-9475.

Respectfully Submitted,

James E. Coffin, PE

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432 Cony Road P.O. Box 4687 Augusta, ME 04330



(207) 623-9475 Fax (207) 623-0016 1-800-244-9475

September 25th, 2023

City of Gardiner
Ms. Debbie Willis, Planning Board Chairwoman
Gardiner City Hall
6 Church Street
Gardiner, Maine 04345

Subject: P&M Realty LLC

Traffic Report

Dear Ms. Willis,

P&M Realty LLC, herein called the applicant is proposing erect a building that will be utilized for the applicant's private vehicle collection at 24 Griffin Street in Gardiner. The parcel is identified as Lot 64 on Tax Map 28 in the City of Gardiner Tax Maps and is in the Mixed-Use Village (MUV) District as shown on the City's Zoning Map.

The applicant is proposing to construct a new 35,340 sf 42,110 sf (footprint) partial two-story museum, which will contain a large vehicle display area with offices, bathroom, mechanical room, etc. The building will be sprinkled and there will be 42,635 sf 49,405 sf of floor available for the entire building.

There isn't a section for storage in the 8th Edition of the Institute of Transportation Engineers (ITE) Manual. Warehouse uses are the only logical choice listed in the ITE Manual. The peak hour trips generated are calculated from the ITE Manual (8th addition) under "Warehousing" and are shown below:

Based on Building Size (42,635 sf) (49,405 sf):

AM Peak Hour Rate = 0.42 (42,635 sf 49,405 sf /1,000 sf) x $0.42 = \frac{17.9}{20.8}$ peak hour trips.

PM Peak Hour Rate = 0.45 (42,635 sf 49,405 sf /1,000 sf) x $0.45 = \frac{19.1}{22.2}$ peak hour trips.

Maximum Peak Hour Trips = 19.1 22.2 (PM)

The maximum generator based on building size occurs during the PM peak hour (19.1 22.2 peak hour trips) for the proposed project. The project will not require a turning movement permit from the MDOT because there are less than 100-trips. The project will not cause unreasonable public road congestion and if you should have any questions or concerns, please do not hesitate to contact me at 623-9475.

Respectfully Submitted,

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James E. Coffin, PE

James Coffi

Warehousing

(150)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area

On a: Weekday,

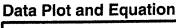
A.M. Peak Hour of Generator

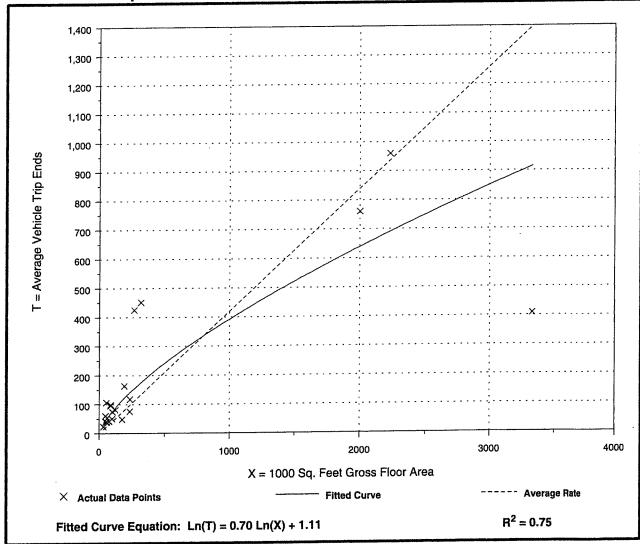
Number of Studies: 20 Average 1000 Sq. Feet GFA: 490

Directional Distribution: 65% entering, 35% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.42	0.12 - 1.93	0.74





Warehousing (150)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area

Weekday, On a:

P.M. Peak Hour of Generator

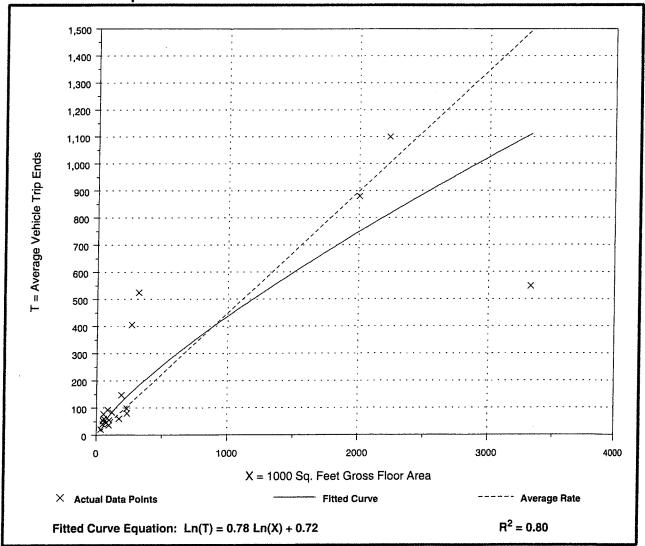
Number of Studies: 19 Average 1000 Sq. Feet GFA: 511

> **Directional Distribution:** 19% entering, 81% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rat	J	Standard Deviation
0.45	0.16 - 1.65	0.76

Data Plot and Equation





April 10, 2023

City of Gardiner
Ms. Debbie Willis, Planning Board Chairwoman
6 Church Street
Gardiner, Maine 04345

Subject: Stormwater Report

P&M Realty, LLC

Dear Ms. Willis,

P&M Realty LLC, herein called the applicant is proposing erect a building that will be utilized for the applicant's private vehicle collection at 24 Griffin Street in Gardiner. The parcel is identified as Lot 64 on Tax Map 28 in the City of Gardiner Tax Maps and is in the Mixed-Use Village (MUV) District as shown on the City's Zoning Map.

The applicant is proposing to construct a new 42,110 sf (footprint) museum, which will contain a large vehicle display area with a bathroom, mechanical room, shop area, etc. The building will contain a 70' by 104.2' mezzanine, which will be at the same elevation as the 2nd floor elevation in the rear of the parcel. The building will be fully sprinkled and a site plan has been included for your use.

The project results in 38,445 sf of new impervious area and therefore does not meet the threshold for a Department of Environmental Protection (DEP) Stormwater Permit Application. However, the project must comply with the City of Gardiner's Land Use Ordinance stating that the amount of flow (stormwater) in the post-development condition must be equal to or less then the flow in the pre-development condition for the 2-, 10- and 25-year peak storm events.

<u>Modeling assumptions:</u> The "Hydro-Cad" computer program was used to determine the peak storm water runoff for the pre- and post-development conditions. Hydro-Cad is a storm water modeling system, which utilizes the TR-20 method developed by the Soil Conservation Service (SCS).

The design assumptions used for this project are:

Design storm: 24-hour, Type III rainfall distribution.

Rainfall: 24-hour precipitation values from U.S. Weather Bureau Technical Release

No. 40:

2-year storm = 2.8 inches 10-year storm = 4.2 inches 25-year storm = 5.2 inches Site specific parameters for the project are listed below:

Soils:

Soils information to determine the hydrologic soil group for the site is derived from the Soil Survey of Kennebec County by the United States Department of Agriculture Soil Conservation Service. The soils and hydrologic group are listed below:

Soil Classification	<u>Hydrologic Group</u>		
Woodbridge (WrB)	"C"		
Lyman-Tunbridge (HrB)	"C"		

Ground Cover:

Pre-Development: The existing watershed ground cover is modeled as

impervious, lawn, meadow and woods.

Post-Development: The proposed watershed ground cover is impervious, lawn,

meadow and woods.

Cover Description	<u>Curve Number:</u>
Impervious	98
Lawn	74
Woods	70

Results:

The project will result in an increase of 38,445 sf of impervious area. These results are shown on the Hydro Cad output sheets enclosed at the end of the report. The project is broken up with one study point. A detention pond is being installed along the west side of the proposed driveway to reduce peak flows exiting the site.

Pre-development:

The hydrologic study evaluates a portion of the parcel that includes impervious (7,830 sf), lawn (57,360 sf) and woods (8,810 sf) and is broken down into one drainage area (see plan entitled "PRE"). The peak flows for the 2-, 10- and 25-year events (see node labeled "SP") in the predevelopment condition are 1.40 cfs, 3.17 cfs and 4.57 cfs.

Post Development:

The proposed site (see plan entitled "C-1") will be comprised of impervious area (46,275 sf), and lawn (27,725 sf). The post-development is broken down into four drainage areas and is shown on the plan entitled "POST".

A detention pond is being installed along the west side of the parcel to control the peak flows exiting the property along Griffin Street. The detention pond will contain an outlet control structure with two orifices. The one at the bottom of the pond will be 5.0 inches in diameter and the other 18" higher will be ten inches (10") in diameter (see detail on sheet C-5). The 5-inch orifice is small and would clog eventually. Therefore a 6" diameter pvc pipe with twenty-

four one-inch diameter holes, which equate to a 5-inch diameter hole, will be embedded in stone (see detail on sheet C-5).

Summary tables showing the input values and resulting peak flows for Sub Areas and reaches are also included at the end of the report. In the post development condition, the 2-, 10- and 25-year peak storm events for "SP" yield 1.38 cfs, 2.93 cfs and 4.23 cfs. See the tables below for results.

PRE- & POST-DEVELOPMENT HYDROLOGIC RESULTS (SP)								
<u>Event</u>	Pre-Develop.	Post-Develop.	<u>Difference</u>					
2 year	1.40 cfs	1.38 cfs	- 0.02 cfs					
10 year	3.17 cfs	2.93 cfs	- 0.34 cfs					
25 year	4.57 cfs	4.23 cfs	- 0.34 cfs					

Conclusion:

By comparing the node labeled "SP" in the post-development condition and in the predevelopment conditions, the results show that there will be a decrease in flow for the 2-, 10and 25-year events as shown in the table above. If you should have any questions or concerns, please do not hesitate to contact me at 623-9475.

Respectfully submitted,

James E. Coffin, PE



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



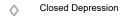
Soil Map Unit Points

Special Point Features

Blowout









Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

+ Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

__.._

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

△ Other

Water Features

Streams and Canals

Special Line Features

Transportation

Rails

Interstate Highways

~

US Routes
Major Roads

Lc Lc

Local Roads

Background

The same

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kennebec County, Maine Survey Area Data: Version 20, Aug 30, 2021

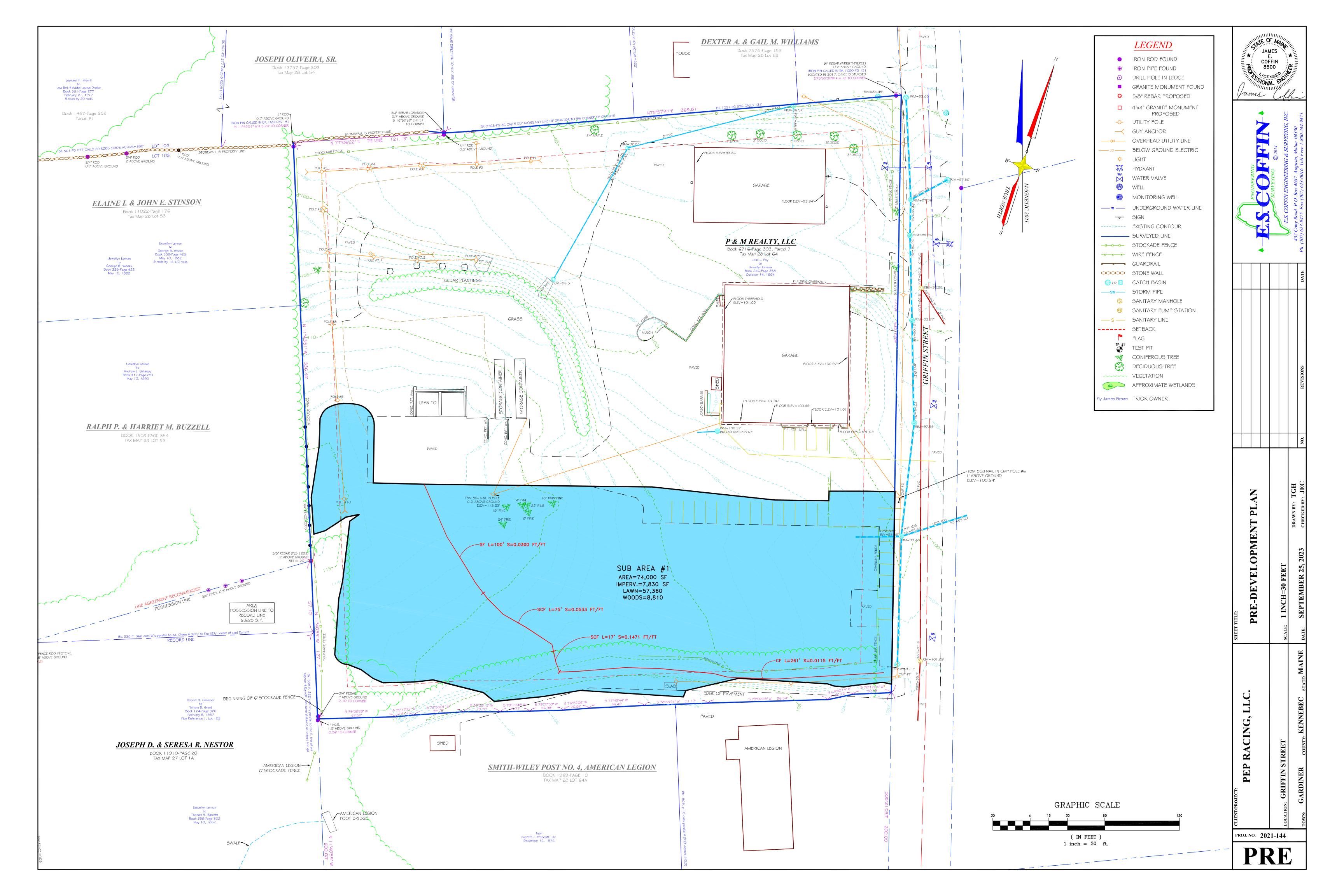
Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

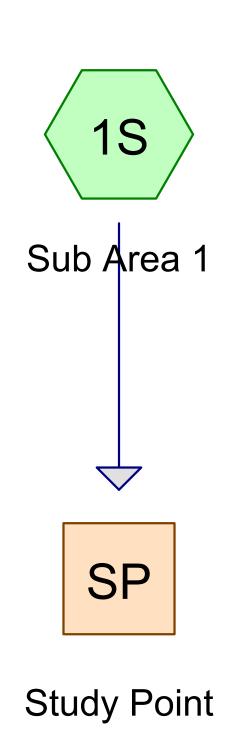
Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI 1.8%	
BuB2	Lamoine silt loam, 3 to 8 percent slopes	3.7		
CF	Cut and fill land	18.6	8.9%	
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	24.0	11.4%	
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	29.4	14.0%	
ML	Made land	3.7	1.8%	
PdB	Paxton-Charlton fine sandy loams, 3 to 8 percent slopes	14.0	6.6%	
PdC2	Paxton-Charlton fine sandy loams, 8 to 15 percent slopes, eroded	12.5	6.0%	
PeC	Paxton-Charlton very stony fine sandy loams, 8 to 15 percent slopes	17.7	8.4%	
RcA	Ridgebury fine sandy loam	4.7	2.3%	
SuC2	Suffield silt loam, 8 to 15 percent slopes, eroded	0.1	0.0%	
W	Water bodies	6.9	3.3%	
WrB	Woodbridge fine sandy loam, 3 to 8 percent slopes	70.0	33.3%	
WsB	Woodbridge very stony fine sandy loam, 3 to 8 percent slopes	4.9	2.3%	
Totals for Area of Interest		210.1	100.0%	













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Summary for Subcatchment 1S: Sub Area 1

Runoff = 1.40 cfs @ 12.16 hrs, Volume= 0.114 af, Depth> 0.80"

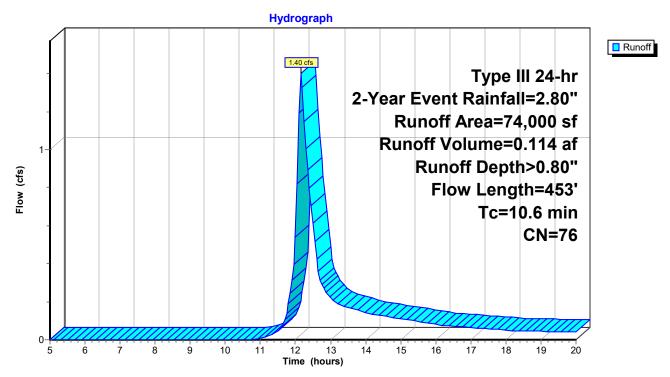
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Event Rainfall=2.80"

	Area (sf)	CN E	Description						
	7,830	98 F	98 Paved parking, HSG C						
	57,360	74 >	75% Ġras	s cover, Go	ood, HSG C				
	8,810	70 V	70 Woods, Good, HSG C						
	74,000	76 V	Veighted A	verage					
	66,170	8	89.42% Per	vious Area					
	7,830	1	0.58% Imp	pervious Ar	ea				
To	0	Slope	Velocity	Capacity	Description				
(min) (feet)	(ft/ft)	(ft/sec)	(cfs)					
8.8	100	0.0300	0.2		Sheet Flow, AB				
					Grass: Short n= 0.150 P2= 2.80"				
0.4	75	0.0533	3.5		Shallow Concentrated Flow, BC				
					Grassed Waterway Kv= 15.0 fps				
0.1	17	0.1471	1.9		Shallow Concentrated Flow, CD				
					Woodland Kv= 5.0 fps				
1.2	2 261	0.0115	3.6	14.23	Channel Flow, DE				
					Area= 4.0 sf Perim= 7.3' r= 0.55'				
					n= 0.030 Earth, grassed & winding				
10.6	453	Total							

Page 3

Subcatchment 1S: Sub Area 1



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Summary for Reach SP: Study Point

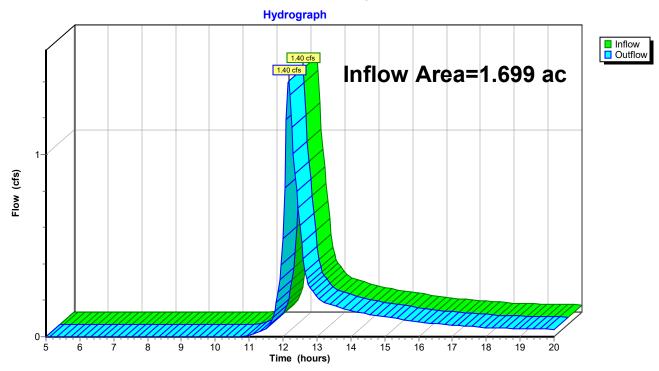
Inflow Area = 1.699 ac, 10.58% Impervious, Inflow Depth > 0.80" for 2-Year Event event

Inflow = 1.40 cfs @ 12.16 hrs, Volume= 0.114 af

Outflow = 1.40 cfs @ 12.16 hrs, Volume= 0.114 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point



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Summary for Subcatchment 1S: Sub Area 1

Runoff = 3.17 cfs @ 12.16 hrs, Volume= 0.247 af, Depth> 1.75"

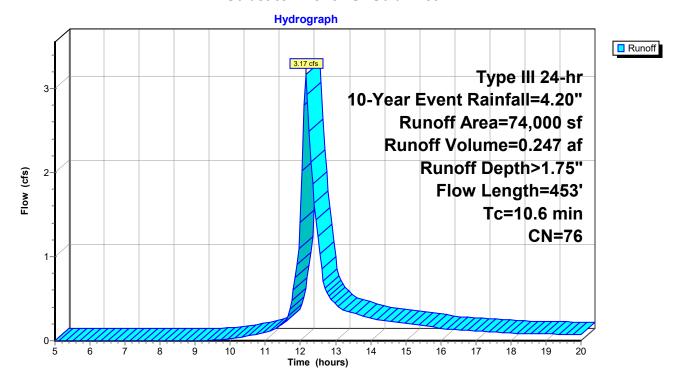
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Event Rainfall=4.20"

	rea (sf)	CN E	Description					
	7,830	98 F	98 Paved parking, HSG C					
	57,360	74 >	75% Gras	s cover, Go	ood, HSG C			
	8,810	70 V	Voods, Go	od, HSG C				
	74,000	76 V	Veighted A	verage				
	66,170	8	89.42% Per	vious Area				
	7,830	1	0.58% Imp	pervious Ar	ea			
Tc	Length	Slope	Velocity	Capacity	Description			
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)				
8.9	100	0.0300	0.2		Sheet Flow, AB			
					Grass: Short n= 0.150 P2= 2.80"			
0.4	75	0.0533	3.5		Shallow Concentrated Flow, BC			
					Grassed Waterway Kv= 15.0 fps			
0.1	17	0.1471	1.9		Shallow Concentrated Flow, CD			
					Woodland Kv= 5.0 fps			
1.2	261	0.0115	3.6	14.23	· · · · · · · · · · · · · · · · · · ·			
					Area= 4.0 sf Perim= 7.3' r= 0.55'			
					n= 0.030 Earth, grassed & winding			
10.6	453	Total						

Page 6

Subcatchment 1S: Sub Area 1



Page 7

Summary for Reach SP: Study Point

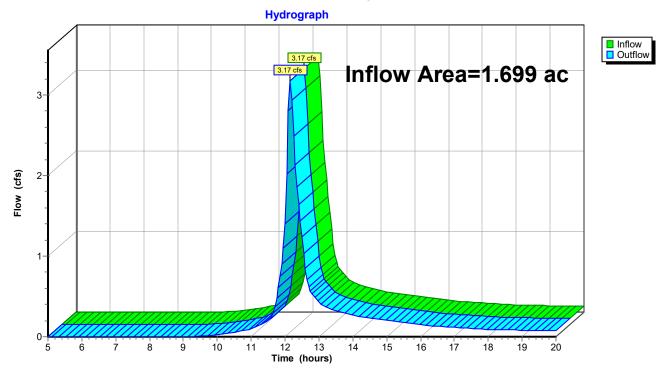
Inflow Area = 1.699 ac, 10.58% Impervious, Inflow Depth > 1.75" for 10-Year Event event

Inflow = 3.17 cfs @ 12.16 hrs, Volume= 0.247 af

Outflow = 3.17 cfs @ 12.16 hrs, Volume= 0.247 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point



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Summary for Subcatchment 1S: Sub Area 1

Runoff = 4.57 cfs @ 12.15 hrs, Volume= 0.355 af, Depth> 2.51"

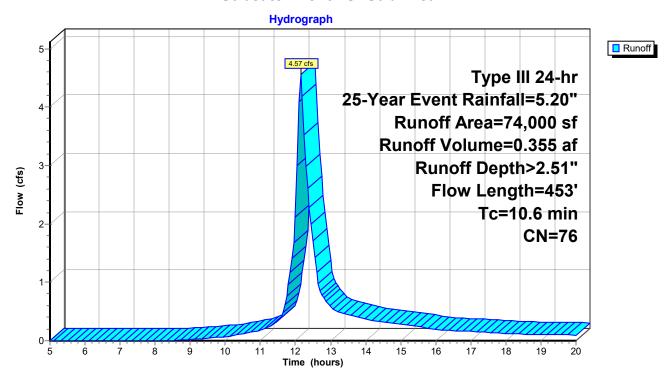
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Event Rainfall=5.20"

	rea (sf)	CN E	Description					
	7,830	98 F	98 Paved parking, HSG C					
	57,360	74 >	75% Gras	s cover, Go	ood, HSG C			
	8,810	70 V	Voods, Go	od, HSG C				
	74,000	76 V	Veighted A	verage				
	66,170	8	89.42% Per	vious Area				
	7,830	1	0.58% Imp	pervious Ar	ea			
Tc	Length	Slope	Velocity	Capacity	Description			
<u>(min)</u>	(feet)	(ft/ft)	(ft/sec)	(cfs)				
8.9	100	0.0300	0.2		Sheet Flow, AB			
					Grass: Short n= 0.150 P2= 2.80"			
0.4	75	0.0533	3.5		Shallow Concentrated Flow, BC			
					Grassed Waterway Kv= 15.0 fps			
0.1	17	0.1471	1.9		Shallow Concentrated Flow, CD			
					Woodland Kv= 5.0 fps			
1.2	261	0.0115	3.6	14.23	· · · · · · · · · · · · · · · · · · ·			
					Area= 4.0 sf Perim= 7.3' r= 0.55'			
					n= 0.030 Earth, grassed & winding			
10.6	453	Total						

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Subcatchment 1S: Sub Area 1



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Summary for Reach SP: Study Point

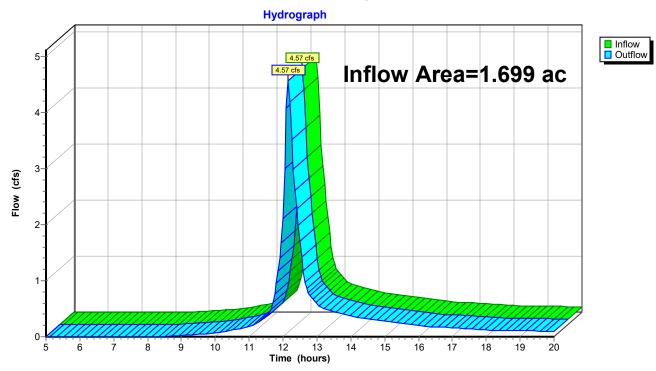
Inflow Area = 1.699 ac, 10.58% Impervious, Inflow Depth > 2.51" for 25-Year Event event

Inflow = 4.57 cfs @ 12.15 hrs, Volume= 0.355 af

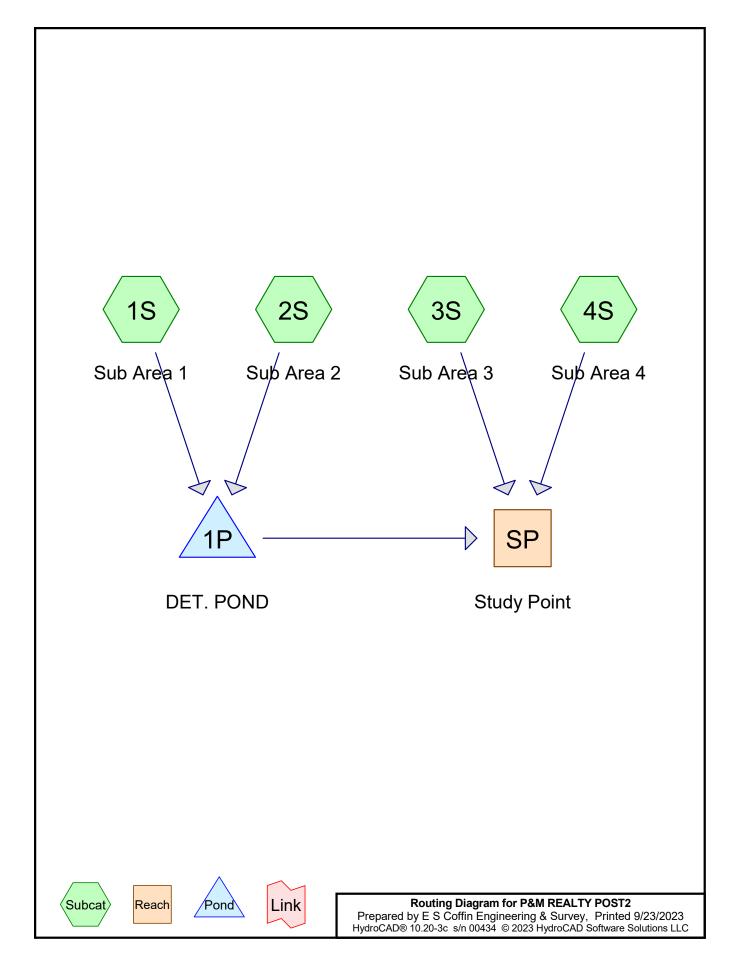
Outflow = 4.57 cfs @ 12.15 hrs, Volume= 0.355 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point







Page 2

Summary for Subcatchment 1S: Sub Area 1

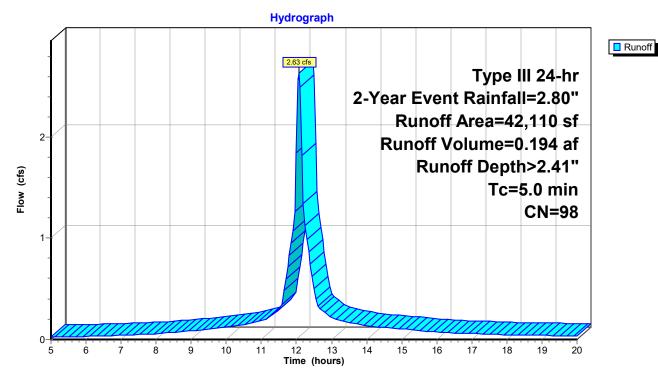
Runoff = 2.63 cfs @ 12.07 hrs, Volume= 0.194 af, Depth> 2.41"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Event Rainfall=2.80"

A	rea (sf)	CN [N Description						
	42,110	98 F	Paved parking, HSG C						
•	42,110	1	100.00% Impervious Area						
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
5.0	•				Direct Entry, ROOF				

Subcatchment 1S: Sub Area 1



Page 3

Summary for Subcatchment 2S: Sub Area 2

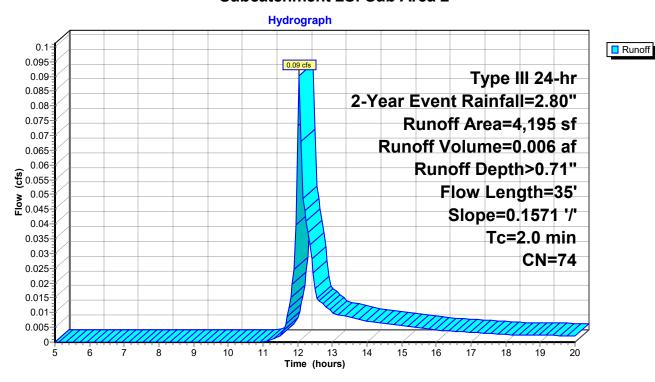
Runoff = 0.09 cfs @ 12.05 hrs, Volume= 0.006 af, Depth> 0.71"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Event Rainfall=2.80"

 Α	rea (sf)	CN	Description						
	4,195	74	>75% Grass cover, Good, HSG C						
	4,195		100.00% Pervious Area						
Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description				
2.0	35	0.1571	0.3		Sheet Flow, AB Grass: Short n= 0.150	P2= 2.80"			

Subcatchment 2S: Sub Area 2



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Summary for Subcatchment 3S: Sub Area 3

Runoff = 0.51 cfs @ 12.03 hrs, Volume= 0.031 af, Depth> 1.02"

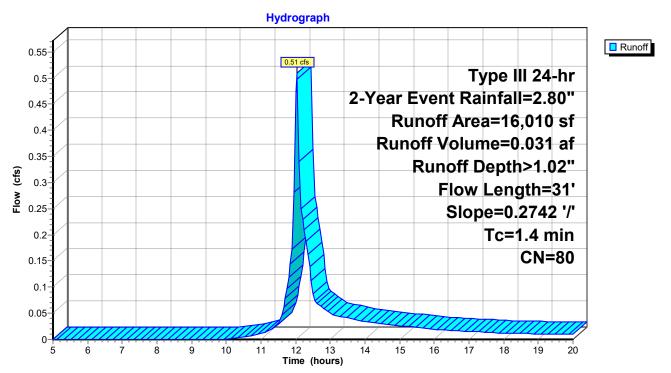
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Event Rainfall=2.80"

Area (sf)	CN I	Description					
4,165	98 I	Paved park	ing, HSG C				
11,845	74	75% Gras	s cover, Go	ood, HSG C			
16,010 80 Weighted Average							
11,845	-	73.99% Per	vious Area	a			
4,165	2	26.01% Imp	ervious Ar	rea			
3		,		Description			
(feet)	(ft/ft)	(ft/sec)	(cfs)				
31	0.2742	0.4		Sheet Flow, AB			
	4,165 11,845 16,010 11,845 4,165 Length (feet)	4,165 98 F 11,845 74 2 16,010 80 V 11,845 7 4,165 2 Length Slope (feet) (ft/ft)	4,165 98 Paved parking the pa	4,165 98 Paved parking, HSG 0 11,845 74 >75% Grass cover, G 16,010 80 Weighted Average 11,845 73.99% Pervious Area 4,165 26.01% Impervious A Length (feet) Slope Velocity Capacity (ft/ft) (feet) (ft/ft) (ft/sec) (cfs)			

Grass: Short n= 0.150 P2= 2.80"

Subcatchment 3S: Sub Area 3



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Summary for Subcatchment 4S: Sub Area 4

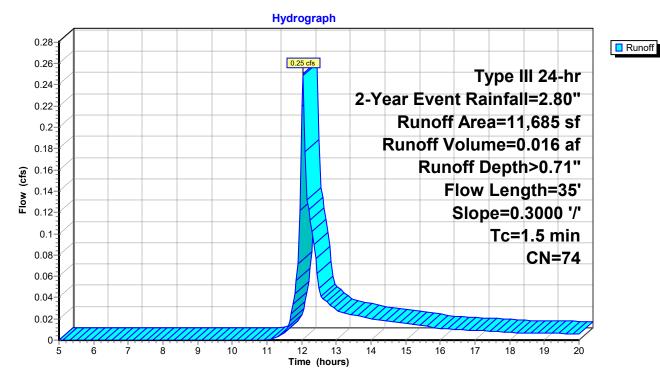
Runoff = 0.25 cfs @ 12.04 hrs, Volume= 0.016 af, Depth> 0.71"

Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 2-Year Event Rainfall=2.80"

 Α	rea (sf)	CN	N Description						
	11,685	74	>75% Gras	s cover, Go	ood, HSG C				
	11,685		100.00% Pe	ervious Are	ea				
Tc (min)	Length (feet)	Slope (ft/ft	,	Capacity (cfs)	Description				
1.5	35	0.3000	0.4		Sheet Flow, AB Grass: Short n= 0.150 P2= 2.80"				

Subcatchment 4S: Sub Area 4



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Summary for Reach SP: Study Point

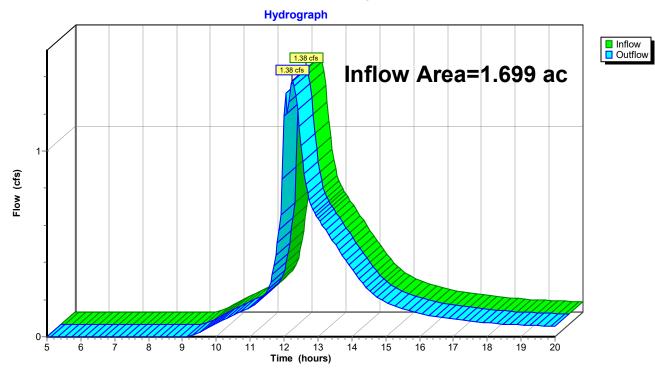
Inflow Area = 1.699 ac, 62.53% Impervious, Inflow Depth > 1.60" for 2-Year Event event

Inflow = 1.38 cfs @ 12.24 hrs, Volume= 0.227 af

Outflow = 1.38 cfs @ 12.24 hrs, Volume= 0.227 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point



P&M REALTY POST2

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Summary for Pond 1P: DET. POND

Inflow Area = 1.063 ac, 90.94% Impervious, Inflow Depth > 2.25" for 2-Year Event event

Inflow 2.72 cfs @ 12.07 hrs, Volume= 0.200 af

1.06 cfs @ 12.29 hrs, Volume= 1.06 cfs @ 12.29 hrs, Volume= Outflow 0.180 af, Atten= 61%, Lag= 13.2 min

Primary 0.180 af

Routed to Reach SP: Study Point

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 112.82' @ 12.29 hrs Surf.Area= 2,208 sf Storage= 3,115 cf

Plug-Flow detention time= 94.9 min calculated for 0.179 af (90% of inflow)

Center-of-Mass det. time= 60.5 min (802.1 - 741.6)

Volume	Inve	rt Avail.Sto	rage Storage	Description					
#1	111.0	0' 7,84	40 cf Custom	Stage Data (Conic	c) Listed below (Re	calc)			
Elevation	on :	Surf.Area	Inc.Store	Cum.Store	Wet.Area				
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	(sq-ft)				
111.0	00	1,250	0	0	1,250				
112.0	00	1,755	1,495	1,495	1,773				
113.0	00	2,315	2,029	3,524	2,356				
114.0	00	2,930	2,616	6,140	2,997				
114.5	50	3,890	1,699	7,840	3,962				
Device	Routing	Invert	Outlet Device	s					
#1	Primary	108.00'	15.0" Round	Culvert L= 50.0'	Ke= 0.5?				
	-		Inlet / Outlet Invert= 108.00' / 105.00' S= 0.0600 '/' Cc= 0.900						
			n= 0.013 Corrugated PE, smooth interior, Flow Area=						
			1.22718463030851?						
#2	Device 1	111.50'	5.0" Vert. Ori	fice/Grate C= 0.6	600 Limited to weir	flow at low heads			
		112.50'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads						

Primary OutFlow Max=1.06 cfs @ 12.29 hrs HW=112.82' (Free Discharge)

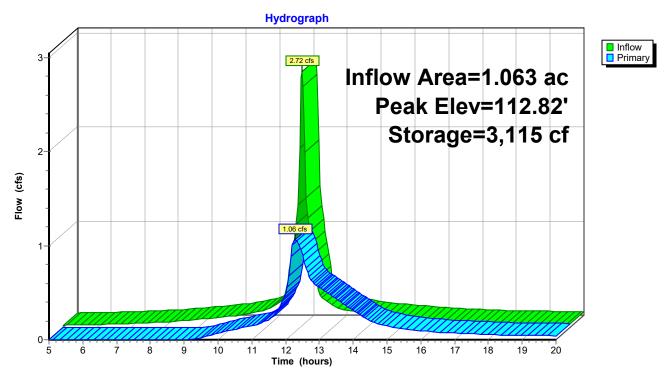
-1=Culvert (Passes 1.06 cfs of 12.10 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.69 cfs @ 5.1 fps)

-3=Orifice/Grate (Orifice Controls 0.37 cfs @ 1.9 fps)

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Pond 1P: DET. POND



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Summary for Subcatchment 1S: Sub Area 1

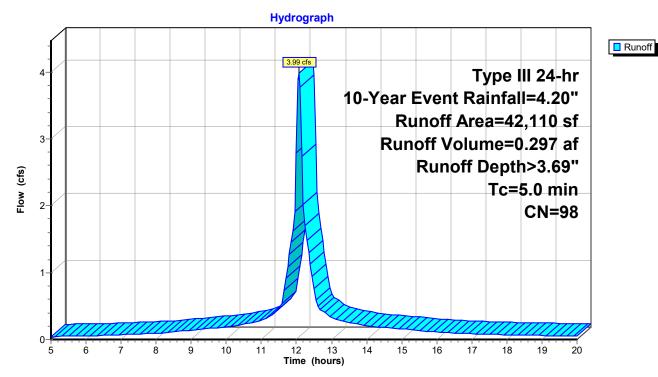
Runoff = 3.99 cfs @ 12.07 hrs, Volume= 0.297 af, Depth> 3.69"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Event Rainfall=4.20"

A	rea (sf)	CN E	escription						
	42,110	98 F	98 Paved parking, HSG C						
	42,110	1	00.00% Im	pervious A	Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
5.0		•			Direct Entry, ROOF				

Subcatchment 1S: Sub Area 1



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Summary for Subcatchment 2S: Sub Area 2

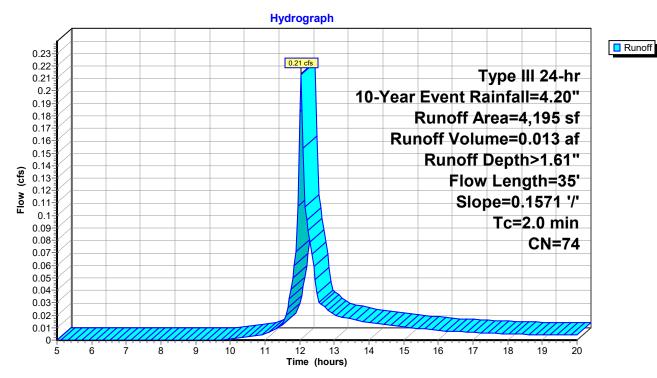
Runoff = 0.21 cfs @ 12.04 hrs, Volume= 0.013 af, Depth> 1.61"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Event Rainfall=4.20"

A	rea (sf)	CN I	Description							
	4,195	74	74 >75% Grass cover, Good, HSG C							
4,195 100.00% Pervious Area										
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
2.0	35	0.1571	0.3		Sheet Flow, AB Grass: Short n= 0.150 P2= 2.80"					

Subcatchment 2S: Sub Area 2



Summary for Subcatchment 3S: Sub Area 3

Runoff = 1.04 cfs @ 12.03 hrs, Volume= 0.063 af, Depth> 2.06"

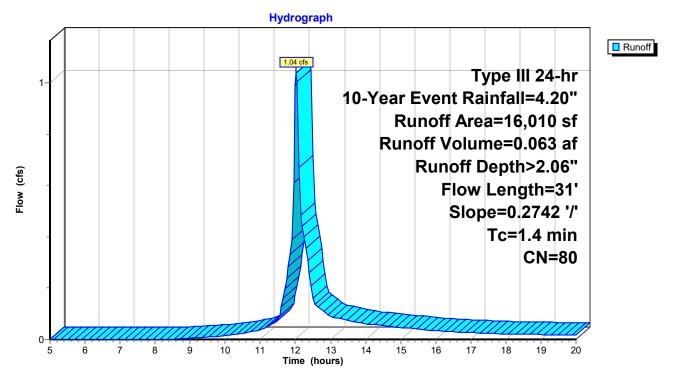
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Event Rainfall=4.20"

A	rea (sf)	CN I	Description					
	4,165	98 I	Paved park	ing, HSG C	C			
	11,845	74	>75% Grass cover, Good, HSG C					
	16,010	۷ 08	Veighted A	verage				
	11,845	-	73.99% Per	vious Area	a			
	4,165	:	26.01% Imp	pervious Ar	rea			
Tc	Length	Slope	Velocity	Capacity	Description			
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)				
1.4	31	0.2742	0.4		Sheet Flow, AB			

Grass: Short n= 0.150 P2= 2.80"

Subcatchment 3S: Sub Area 3



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Summary for Subcatchment 4S: Sub Area 4

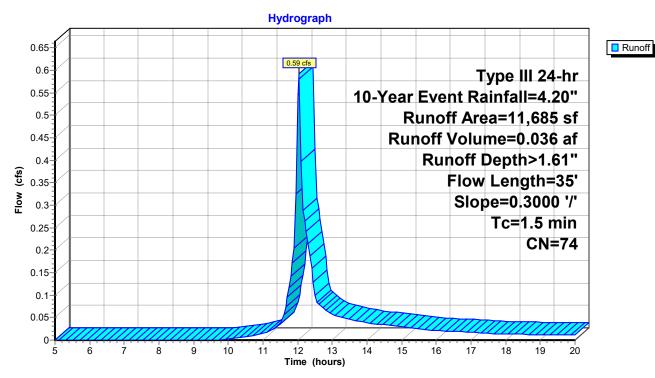
Runoff = 0.59 cfs @ 12.03 hrs, Volume= 0.036 af, Depth> 1.61"

Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10-Year Event Rainfall=4.20"

_	Α	rea (sf)	CN	Description							
		11,685	74	74 >75% Grass cover, Good, HSG C							
11,685 100.00% Pervious Area				100.00% P	ervious Are	а					
	Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description					
	1.5	35	0.3000	0.4		Sheet Flow, AB Grass: Short n= 0.150	P2= 2.80"				

Subcatchment 4S: Sub Area 4



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Summary for Reach SP: Study Point

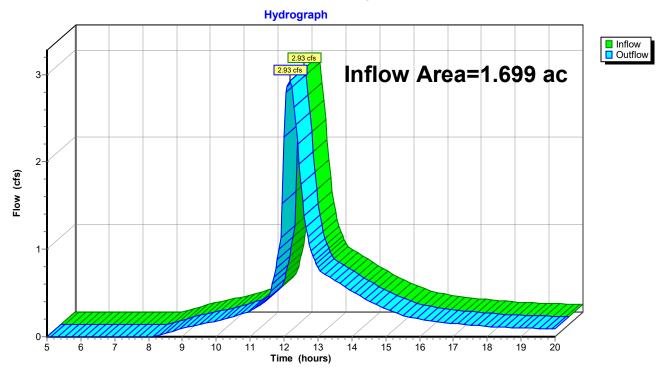
Inflow Area = 1.699 ac, 62.53% Impervious, Inflow Depth > 2.74" for 10-Year Event event

Inflow = 2.93 cfs @ 12.18 hrs, Volume= 0.388 af

Outflow = 2.93 cfs @ 12.18 hrs, Volume= 0.388 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point



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Summary for Pond 1P: DET. POND

Inflow Area = 1.063 ac, 90.94% Impervious, Inflow Depth > 3.50" for 10-Year Event event

Inflow 4.19 cfs @ 12.07 hrs, Volume= 0.310 af

2.21 cfs @ 12.20 hrs, Volume= 2.21 cfs @ 12.20 hrs, Volume= Outflow 0.289 af, Atten= 47%, Lag= 8.1 min

Primary 0.289 af

Routed to Reach SP: Study Point

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 113.20' @ 12.20 hrs Surf.Area= 2,435 sf Storage= 4,009 cf

Plug-Flow detention time= 74.8 min calculated for 0.288 af (93% of inflow)

Center-of-Mass det. time= 49.6 min (787.9 - 738.3)

Volume	Inve	rt Avail.Sto	rage Storage	Description					
#1	111.0	0' 7,84	40 cf Custom	Stage Data (Conic	c) Listed below (Re	calc)			
Elevation	on :	Surf.Area	Inc.Store	Cum.Store	Wet.Area				
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	(sq-ft)				
111.0	00	1,250	0	0	1,250				
112.0	00	1,755	1,495	1,495	1,773				
113.0	00	2,315	2,029	3,524	2,356				
114.0	00	2,930	2,616	6,140	2,997				
114.5	50	3,890	1,699	7,840	3,962				
Device	Routing	Invert	Outlet Device	s					
#1	Primary	108.00'	15.0" Round	Culvert L= 50.0'	Ke= 0.5?				
	-		Inlet / Outlet Invert= 108.00' / 105.00' S= 0.0600 '/' Cc= 0.900						
			n= 0.013 Corrugated PE, smooth interior, Flow Area=						
			1.22718463030851?						
#2	Device 1	111.50'	5.0" Vert. Ori	fice/Grate C= 0.6	600 Limited to weir	flow at low heads			
		112.50'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads						

Primary OutFlow Max=2.20 cfs @ 12.20 hrs HW=113.20' (Free Discharge)

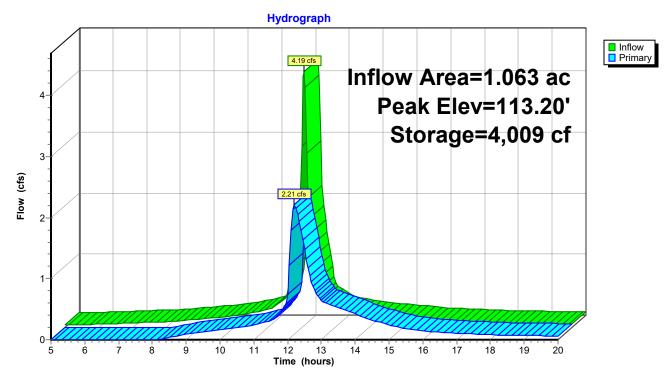
-1=Culvert (Passes 2.20 cfs of 12.64 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.80 cfs @ 5.9 fps)

-3=Orifice/Grate (Orifice Controls 1.40 cfs @ 2.9 fps)

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Pond 1P: DET. POND



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Summary for Subcatchment 1S: Sub Area 1

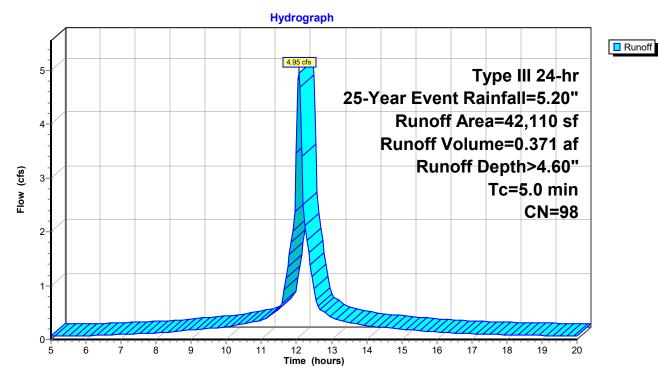
Runoff = 4.95 cfs @ 12.07 hrs, Volume= 0.371 af, Depth> 4.60"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Event Rainfall=5.20"

A	rea (sf)	CN E	escription						
	42,110	98 F	98 Paved parking, HSG C						
	42,110	1	00.00% Im	pervious A	Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description				
5.0		•			Direct Entry, ROOF				

Subcatchment 1S: Sub Area 1



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Summary for Subcatchment 2S: Sub Area 2

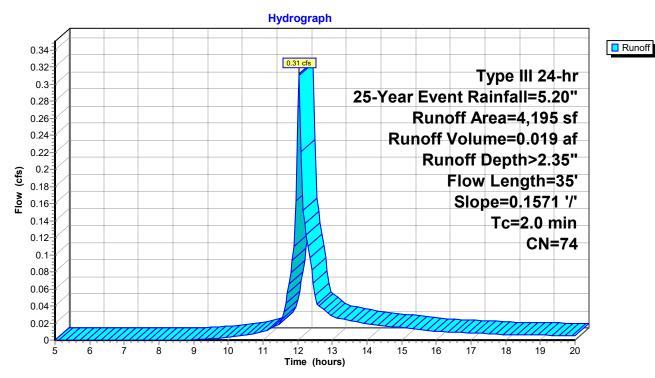
Runoff = 0.31 cfs @ 12.04 hrs, Volume= 0.019 af, Depth> 2.35"

Routed to Pond 1P: DET. POND

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Event Rainfall=5.20"

A	rea (sf)	CN I	Description							
	4,195	74	74 >75% Grass cover, Good, HSG C							
4,195 100.00% Pervious Area										
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description					
2.0	35	0.1571	0.3		Sheet Flow, AB Grass: Short n= 0.150 P2= 2.80"					

Subcatchment 2S: Sub Area 2



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Summary for Subcatchment 3S: Sub Area 3

Runoff = 1.44 cfs @ 12.03 hrs, Volume= 0.088 af, Depth> 2.87"

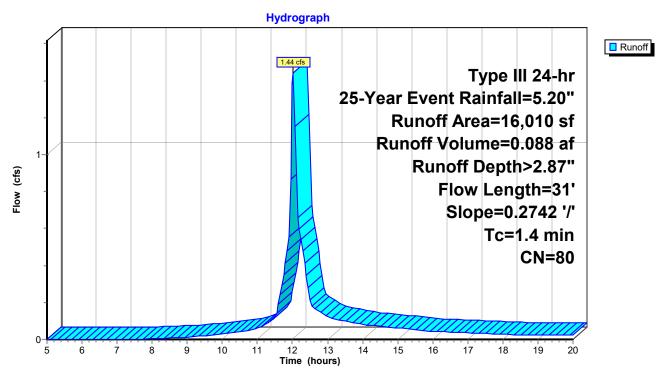
Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Event Rainfall=5.20"

	Area (sf)	CN	Description					
	4,165	98	Paved park	ing, HSG C	C			
	11,845	74	>75% Grass cover, Good, HSG C					
	16,010	80	Weighted A	verage				
	11,845		73.99% Pe	rvious Area	a			
	4,165		26.01% lm	pervious Ar	rea			
٦	c Length		,	Capacity	·			
(mi	n) (feet)	(ft/ft	(ft/sec)	(cfs)				
1	.4 31	0.2742	0.4		Sheet Flow, AB			

Grass: Short n= 0.150 P2= 2.80"

Subcatchment 3S: Sub Area 3



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Summary for Subcatchment 4S: Sub Area 4

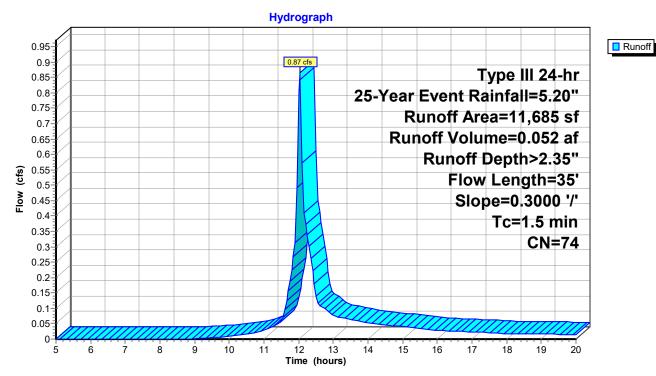
Runoff 0.87 cfs @ 12.03 hrs, Volume= 0.052 af, Depth> 2.35"

Routed to Reach SP: Study Point

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 25-Year Event Rainfall=5.20"

	Area (sf)	CN	Description							
	11,685	74	74 >75% Grass cover, Good, HSG C							
	11,685		100.00% P	ea						
Tc (min)	Length (feet)	Slope (ft/ft)	,	Capacity (cfs)	Description					
1.5	35	0.3000	0.4		Sheet Flow, AB Grass: Short n= 0.150 P2= 2.80"					

Subcatchment 4S: Sub Area 4



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Summary for Reach SP: Study Point

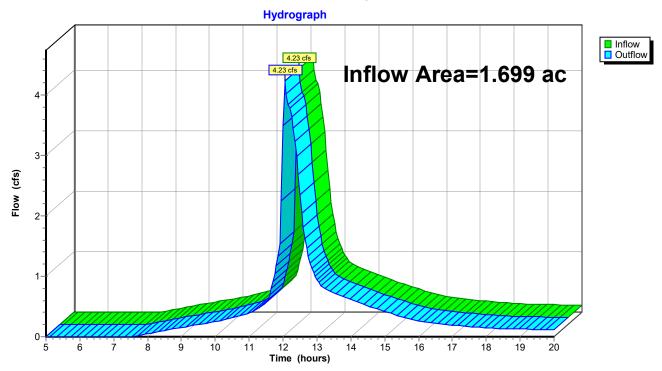
Inflow Area = 1.699 ac, 62.53% Impervious, Inflow Depth > 3.59" for 25-Year Event event

Inflow = 4.23 cfs @ 12.06 hrs, Volume= 0.508 af

Outflow = 4.23 cfs @ 12.06 hrs, Volume= 0.508 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP: Study Point



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Summary for Pond 1P: DET. POND

Inflow Area = 1.063 ac, 90.94% Impervious, Inflow Depth > 4.40" for 25-Year Event event

Inflow 5.24 cfs @ 12.07 hrs, Volume= 0.389 af

2.81 cfs @ 12.20 hrs, Volume= 2.81 cfs @ 12.20 hrs, Volume= Outflow 0.368 af, Atten= 46%, Lag= 7.8 min

Primary 0.368 af

Routed to Reach SP: Study Point

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Peak Elev= 113.46' @ 12.20 hrs Surf.Area= 2,591 sf Storage= 4,659 cf

Plug-Flow detention time= 66.9 min calculated for 0.368 af (94% of inflow)

Center-of-Mass det. time= 45.0 min (782.1 - 737.1)

Volume	Inve	rt Avail.Sto	rage Storage	Description					
#1	111.0	0' 7,84	40 cf Custom	Stage Data (Conic	c) Listed below (Re	calc)			
Elevation	on :	Surf.Area	Inc.Store	Cum.Store	Wet.Area				
(fee	et)	(sq-ft)	(cubic-feet)	(cubic-feet)	(sq-ft)				
111.0	00	1,250	0	0	1,250				
112.0	00	1,755	1,495	1,495	1,773				
113.0	00	2,315	2,029	3,524	2,356				
114.0	00	2,930	2,616	6,140	2,997				
114.5	50	3,890	1,699	7,840	3,962				
Device	Routing	Invert	Outlet Device	s					
#1	Primary	108.00'	15.0" Round	Culvert L= 50.0'	Ke= 0.5?				
	-		Inlet / Outlet Invert= 108.00' / 105.00' S= 0.0600 '/' Cc= 0.900						
			n= 0.013 Corrugated PE, smooth interior, Flow Area=						
			1.22718463030851?						
#2	Device 1	111.50'	5.0" Vert. Ori	fice/Grate C= 0.6	600 Limited to weir	flow at low heads			
		112.50'	10.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads						

Primary OutFlow Max=2.81 cfs @ 12.20 hrs HW=113.46' (Free Discharge)

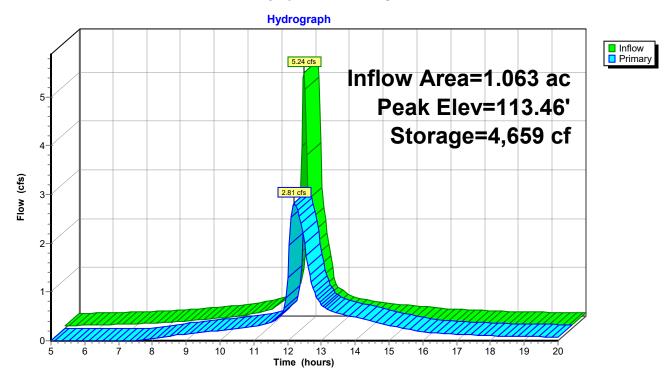
-1=Culvert (Passes 2.81 cfs of 13.00 cfs potential flow)

-2=Orifice/Grate (Orifice Controls 0.87 cfs @ 6.4 fps)

-3=Orifice/Grate (Orifice Controls 1.94 cfs @ 3.6 fps)

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Pond 1P: DET. POND



Public Notice

City of Gardiner Planning Board Meeting Monday, October 10th, 2023 @ 6:00 PM Gardiner City Hall Council Chambers

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Public Hearing - Site Plan Review P&M Realty LLC. herein called the applicant is seeking Planning Board approval to erect a 6.772-sf addition onto the 35.310-sf (footprint) car museum under construction at 24 Griffin Street in Gardiner. The parcel is identified as Lot 64 on Tax Map 28 in the City of Gardiner Tax Maps and is in the Mixed-Use Village (MUV) District as shown on the City's Zoning Map.

A copy of the application is available at the Code Enforcement Office during regular business hours. Oral or written comments concerning the application may be presented prior to the

presented prior to the meeting to the Code Enforcement Office or at the public hearing.



