APPLICATION FOR SITE PLAN REVIEW

Gardiner Transfer Company, LLC
Transfer Station
12 Troiano Way
Gardiner, Maine

Submitted to:

City of Gardiner
6 Church Street
Gardiner, Maine 04345

Prepared by:

St.Germain
846 Main Street
Westbrook, Maine 04092

March 2023

St.Germain File No.: 1172-0002

Kyle Jacobson, PE
Project Manager

Patrick J. Coughlin
Senior Manager

March 22, 2023

Kristopher McNeil
Code Enforcement Officer
City of Gardiner
6 Church Street
Gardiner, Maine 04345

Re: Site Plan Application Planning Board Review
Gardiner Transfer Company, LLC
Troiano Way, Gardiner Maine
St.Germain File No.: 1172-0002

Dear Mr. McNeil,

On behalf of Gardiner Transfer Company, LLC (GTC) we have prepared the enclosed Site Plan Review Application. GTC proposes to construct a solid waste transfer station at 12 Troiano Way in Gardiner, Maine owned by GTC and operated by Troiano Transfer Station, Inc.

Enclosed is a check for the application fee of $250.

If you should have any questions during the review of the materials, please feel free to call me at (207) 591-7000 or e-mail me at kylej@stgermain.com.

Sincerely,
ST.GERMAIN

Kyle Jacobson, PE
Project Manager

cc: TJ Troiano, Gardiner Transfer Company, LLC

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

Site Plan Review Application

Project Name: Gardiner Transfer Expansion Project Cost: $2,310,000

Date of Submission: 03/21/2023 Received by: _____ Fees: 250.00

A complete written description of the proposed project including all other local, state and federal permits required for the project. Please see Attachment 1

Anticipated beginning/completion dates of construction: 5/1/2023 /_____

1. General Information:

Name of Property Owner: Gardiner Transfer Company, LLC

Address: 12 Troiano Way, Gardiner, ME

Phone/Fax No: 207-767-2070

Applicant/Agent Name: TJ Troiano

Address: PO Box 3451, Portland, ME

Phone/Fax No 207-767-2070

Design Professional(s)/Contractor(s): ☐ Surveyor ☐■ Engineer ☐☐ Architect ☐☐ Contractor

Name: St.Germain - Kyle Jacobson, PE

Address: 846 Main Street, Westbrook, ME 04092

Phone/Fax No 207-857-7526

Name: _____

Address: _____

Phone/Fax No _____

Name: _____

Address: _____ _____

Phone/Fax No _____ _____

Signature: _____ Date: 3/20/23

2. Property Information:

Property Location: 12 Troiano Way, Gardiner, ME

Deed Ref: Book 12224 Page 103 . City Tax Map(s) 002-020 Lot(s) 22

Property Size/Frontage: Acres 13.49 Sq. Ft. 587,779 Road 200' Shore 0

Zoning District(s): PIC (Planned industrial Commercial)

3. Development Information:

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;
2. The zoning district and zoning district boundaries if the property is located in more than one zone;
3. The location of required setbacks, buffers and other restrictions:
4. The location of any easements or rights-of-way;
5. The locations of existing structures and other existing improvements on the property including a description of the current use of the property;
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;
7. The location of the nearest source of a fire protection water supply (hydrant, fire pond, etc.)
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.
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
10. The location and type of any identified historic or archeological resource on the 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;
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;
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;
4. The location, dimensions and materials to be used in the construction of drives, parking areas, sidewalks and similar facilities;
5. The proposed flow of vehicular and pedestrian traffic into and through the property;

6. The location and details for any signs proposed to be install or altered;

7. The location and details for any exterior lighting proposed to be installed or altered;

8. Provisions for landscaping and buffering; and

9. Any other information necessary to demonstrate compliance with the review criteria or other standards of the Land Use Ordinance.

c.) Evidence that the applicant has or can obtain all required permits necessary for the proposal.

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;

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;

An erosion and sedimentation control plan; and

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.

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.

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.

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.

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 information required for this application and the $250 Site Plan Review fee are attached.

6.5.1.2 The proposal conforms to all the applicable provisions of this Ordinance.
The information attached with this application form addresses the compliance of the proposed facility with the Land Use Ordinance, specifically those sections discussed below.

6.5.1.3 The proposed activity will not result in water pollution, erosion or sedimentation to water bodies.
Erosion control is addressed as shown on the Plan Set, and stormwater flow has been designed to ensure that the project does not result in water pollution as described in Attachment 8.

6.5.1.4 The proposal will provide for the adequate disposal of all wastewater and solid waste.
There are no proposed changes to the sewer service at the site as the domestic wastewater needs are met by the existing maintenance building. Solid wastes will be managed in accordance with a Solid Waste Transfer Station permit from Maine Department of Environmental Protection.

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.
As part of the Site Location of Development permitting process, the impacts mentioned above were evaluated and addressed.

6.5.1.6 The proposal will not have an adverse impact upon waterbodies and wetlands.
Wetlands exist on the site that will be impacted by this development. A NRPA permit application has been submitted to the Maine DEP which will address these impacts. Please see Plan Set for detailed depiction of wetland survey.

6.5.1.7 The proposal will provide for adequate storm water management.
Please see Attachment 8 for a detailed Stormwater Management Report

6.5.1.8 The proposal will conform to all applicable Shoreland Zoning requirements.
The proposed expansion is not in the Shoreland Zone.

6.5.1.9 The proposal will conform to all applicable Floodplain Management requirements.
The proposed facility is in an area of minimal flood hazard, Zone x, on the Federal Emergency Managment Agency's National Flood Hazard Map.

6.5.1.10 The proposal will have sufficient water available to meet the needs of the development.
The existing site is serviced by the public water supply, and a hydrant lead will be extended from the existing line on the lot down to the MSW building. See Sheets C-102, C-103, and C-104 of the attached Plan Set.

6.5.1.11 The proposal will not adversely affect groundwater quality or quantity.
No groundwater impacts related to the operations of the proposed facility are anticipated. Groundwater protection during construction is addressed in the Stormwater Management Report.

6.5.1.12 The proposal will provide for safe and adequate vehicle and pedestrian circulation in the development.
The layout of the proposed facility has been planned for safe and efficient operation. The only pedestrian activity on site will be truck driver and facility operator related.

A turning radius diagram is shown in Attachment 5.

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.
The proposed facility will not result in a reduction of quality of any municipal service. Municipal department leaders were contacted for comments and input as shown in Attachment 5.

6.5.1.14 The applicant has the adequate financial and technical capacity to meet the provisions of this Ordinance.
Gardiner Transfer Company, LLC will work with qualified contractors to complete the expansion.

A construction cost estimate and a letter from Comerica Bank are provided in Attachment 3 of this application package.

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.
Please see responses below.

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;
The solid waste transfer facility is an allowed use in the PIC (Planned Industrial Commercial) district. The Site is subject to a Maine DEP Site Location of Development permit for the industrial park and the proposed facility is within the impervious area allowance permitted for the lot.

6.5.2.2 The proposal will not have an adverse impact upon neighboring properties;
The proposed use is consistent with other uses in the commercial park and will not cause offsite impacts. An operations manual discussing vector, litter, and odor control will be maintained as required by the facility's permit from Maine Department of Environmental Protection, see Attachment 9.

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;
25' natural buffers will maintain the existing landscape surrounding the developed area as shown in the Plan Set.

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 proposed facility will minimize filling, excavation, and earth moving to conserve the natural surroundings and vegetation while harmonizing with the existing topography as shown in the plan set.

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 facility is designed in accordance with the Maine DEP Site Location of Development Permit which addresses the natural capabilities of the site. The proposed facility is also subject to a NRPA permit which addresses its impact on forested wetlands in the area.

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;
The proposed facility is designed to reduce interaction between pedestrians (truck drivers and machine operators) accessing the existing maintenance building and the parking/storage of trailers. Please see plan set and turning radius diagram in Attachment 5.

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 facility is not located in an urban or built-up area.

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

Parking areas will be located in proximity of the proposed buildings, and each parking area will accommodate the appropriate type of vehicles associated with the proximal building to minimize pedestrian activity. Please see the attached Plan Set for further specification.

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

The proposed buildings will not be viewable from the public road.

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 proposed buildings will not be viewable from the public road.

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 facility is located within an approved industrial park.

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.

Not applicable for the proposed 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.

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:

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.

1.0 PROJECT DESCRIPTION

1.1 PROJECT DESCRIPTION

Gardiner Transfer Company, LLC (GTC) is seeking a Site Plan Review for a planned solid waste transfer facility at 12 Troiano Way in Gardiner, Maine. The facility will be operated by Troiano Transfer Station, Inc. (TTS). Both GTS and Troiano Transfer Station, Inc. are entities in common ownership with Troiano Waste Services, Inc. and Filmike, LLC.

GTC purchased Worthing's Waste Systems, LLC (Worthing's), a Gardiner-area commercial waste hauler, in 2017, and currently brings a portion of the waste from that area to the same solid waste facilities that Worthing's used (primarily Hatch Hill) and a portion to Troiano Waste Services, Inc.'s South Portland Transfer Station.

The proposed transfer station in Gardiner will receive wastes from former Worthing's clients as well as Troiano Waste Services, Inc. accounts from the area that typically would have been brought to South Portland. The transfer station will improve the efficiency of waste hauling by allowing wastes to be consolidated into larger trucks for transport. While the volume of waste will be driven by market conditions, the estimated quantities of waste will start at 50 tons per day of construction and demolition debris (CDD) and 50 tons per day of municipal solid waste (MSW) and anticipate that volume of up to 200 tons per day of CDD and 200 tons per day of MSW could be transferred at the facility.

Waste materials will only be brought on site by commercial waste haulers. The proposed facility is designed to address the market need for a consolidation point in the Gardiner area. Solid waste brought on site is consolidated and transferred to transfer trailer trucks for off-site transport and disposal at licensed solid waste disposal facilities. GTC is aware that there may be interest from the City to dispose of solid waste and recyclables at the facility. Resident access to the facility would be designed to address traffic and safety considerations and will likely require planning board approval.

Owner	Gardiner Transfer Company, LLC
Operator	Troiano Transfer Station, Inc.
Proposed Wastes to be Accepted	MSW, CDD, bulky waste, wood waste, cardboard, plastic, paper, tires, universal waste, scrap metal, and white goods.
Proposed Features	A 5,625 square foot (sf) MSW transfer building, a truck scale and 240 sf scale house, an outdoor CDD tipping pad, trailer staging area, and internal roadways. A maintenance building including office space is currently on the site and will be integrated into the operations.
Site Access	Private facility for use by TTS and its customers (waste haulers), gated and locked during non-operating hours.
Vehicles & Equipment	One track-mounted excavator, one front-end loader, 20, 25, and 30 yd^3 packer trucks, and 15, 20, 30 and 40 yd^3 roll-off trucks.
Hours of Operation	Monday – Friday – 4 am to 5 pm (truck hours) Monday – Friday – 7 am to 5 pm, Saturday 8 am to 1 pm (summer waste receiving hours) Monday – Friday – 7 am to 5 pm (winter waste receiving hours)
Anticipated # of Employees	Five (5) site staff during operating hours Two (2) mechanics at existing maintenance facility Ten (10) truck drivers (on site intermittently)

Representative Photographs (South Portland Troiano Waste Services, Inc. facility)

Wood and wood chips are temporarily stored on asphalt with concrete block walls containing 3 sides. Note, litter fence.

Construction and demolition debris is temporarily stored on asphalt with concrete block walls containing 3 sides.

Representative Photographs (South Portland Troiano Waste Services, Inc. facility)

Collection trucks discharge waste within the MSW transfer building.

MSW is consolidated into larger transport trucks and sent out for disposal.

This building is configured with all doors on one side; the proposed building is slightly different. In both cases, MSW is tipped onto the floor and then transferred to a waiting trailer on a lower level.

1.2 PROJECT SCHEDULE

Immediately following approval by the City of Gardiner, GTC will work with a qualified contractor to plan the construction. Work will begin, as weather allows, in the Spring of 2023 with the goal of making the facility operable at the earliest opportunity. A breakdown of the expected phasing is as follows:

Planning Board Approval: May 2023
Contractor Coordination: June 2023
Site Clearing and Erosion Control: July -August 2023
Construction Start: September-October 2023 (depending on weather, roads, etc.)
Proposed date of start of operation: May 2024
Anticipated lifetime of facility use: 30+ years

In addition to the Site Plan permit and City of Gardiner approvals for construction, plumbing, and electrical permits, this project requires Maine Department of Environmental Protection Site Location of Development Amendment and Natural Resources Protection Act Permit, and a Solid Waste Transfer Station permit. The schedule above is dependent on these approvals and the availability of the numerous contractors needed to complete the work.

1.3 GENERAL PERFORMANCE STANDARDS AND ENVIRONMENTAL PERFORMANCE STANDARDS

The proposed transfer station is in compliance with the performance standards from Sections 8 and 9 of Gardiner's Land Use Ordinance. Explanations of how the proposed project will comply are summarized in the table.

Standard	Response
Section 8 General Performance Standards	
8.1 General Lot Requirements	Meets the standard; the proposed project is on a single, conforming lot.
8.2 Access to Lots	Meets the standard; the lot has frontage on Troiano Way
8.3 Rear-lot Access and Frontage	Not applicable; no rear lot proposed
8.4 Accessory Structure and Swimming Pools	Not applicable; no accessory structures are proposed
8.5 Temporary Structures	Not applicable; no temporary structures are proposed
8.6 Essential Services and Utilities	Meets the standard; utility services proposed are in compliance with the ordinance. The proposal will not result in a reduction the quality of any municipal service due to an inability to serve the needs of development. Notification letters, including requests for feedback and comments, were sent to municipal department leaders as shown in Attachment 6. Also attached are the initial request for review correspondence with following City Departments: Fire Department Police Department Department of Public Works Gardiner Wastewater Gardiner Water District Codes Enforcement
8.7 Exterior Lighting	Meets the standard; a Site Lighting Layout Plan demonstrating compliance with the ordinance is in the Plan Set

Standard	Response
	The existing lighting on the site consists of wall pack lights on the building and a light pole at the existing extents of the parking lot. New security and safety lighting are proposed via light poles and wall pack lights on the new MSW building.
8.8 Noise	Meets the standard; Noise levels at the proposed facility property boundary are not expected to be excessive, will be in keeping with the industrial use of the area and will meet Maine DEP and City noise standards. Other equipment is limited to routine engine sounds from registered and inspected motor vehicles (exempted from noise standards).
8.9 Exterior Material Storage	Meets the standard. Storage of wastes on the site has been planned to minimize visibility of wastes. MSW will be transferred inside the designated building. C&D and waste wood will be handled in the designated area in the site, within concrete block bins. The 25' foot natural vegetated buffer along the western and southern property lines and a litter fence on the western side of the waste handling area further screen the operation. Safety hazards to children are not expected to be present at the site. Access to the site is controlled and the facility is remote from residential dwellings. No new storage of fuels, explosive liquids or solids, gases or chemicals are proposed. The existing maintenance shop is heated with propane and some other material is temporarily stored on site, such as, new and used engine oil, hydraulic oil, etc.

Standard	Response
8.10 Performance Guarantee	Performance guarantees shall be provided as required.
8.11 Buffer Area and Screening Standards	Meets the standard; a 25 ' buffer of natural vegetation will be maintained along the sides and rear property lines. Along the front property line, a 25' buffer of natural vegetation will provide a partial screen.
8.12 Non-Residential Development Design Standards	Not applicable; the standard does not apply to developments in the Planned Industrial Commercial District.
Section 9 Environmental Performance Standards	
9.1 Air Quality	Meets the standard. Because only mobile equipment such as front-end loaders, excavators and trucks will utilize the facility, an air emissions license per 38 MRSA Section 581 et seq. will not be required. Single-phase power for the site will supply power to site equipment. The MSW building will not be heated. Fugitive dust, potentially generated by facility operations, will be controlled by use of a sweeper and/or water spray(as necessary). There will be no burning at the facility. Process emissions of regulated air pollutants, if any, will be less than 10 pounds/hour or 100 pounds/day. No significant odors will be generated by the construction of this project. During the operation of the transfer station, odors will be managed in several ways, mainly by moving MSW through the facility as quickly as possible. All MSW will be moved within the MSW building which is

Standard	Response
	proposed to have overhead doors and will be closed at night and during the day as much as possible. Truck trailers are loaded within the MSW building and hauled offsite. If a truck trailer is loaded with MSW later in the day when it is not possible to get to the disposal site, the trailer will be parked inside the MSW building. No outdoor parking of MSW loaded trailers will be allowed. Nuisance odors from facility operations are not anticipated as no putrescible wastes will be handled outdoors on site. If odors are identified, the site has an Odor Management Plan in place to rectify any issues. The plan can be found in the Operations Manual, attachment 9.
9.2 Water Quality	Meets the standard; the proposed facility will not generate wastewaters that will impact surface or ground water. All waste handling will take place on impervious surfaces, and the stormwater design ensures both the quality and quantity of runoff are controlled.
9.3 Groundwater Protection	Meets the standard; groundwater is protected as described above.
9.4 Water Bodies	Meets the standard; protection of wetlands onsite have been addressed by the stormwater design.
9.5 Solid Waste	Meets the standard; the proposed facility will be subject to a Maine Department of Environmental Protection permit for a Solid Waste Transfer Facility License. Following approval and construction, the wastes generated onsite and managed onsite will be handled in accordance with the facility permit.

Standard	Response
	A. MSW. Municipal Solid Waste (MSW) from the construction of the project is not anticipated to be generated in large quantities but any waste will be removed from site by the applicant and brought to a DEP licensed solid waste facility. MSW will be managed in dedicated trash roll-off containers. B. Construction/Demolition Debris. Construction and demolition debris from the construction of the facility will be removed from site by GTC to a licensed solid waste facility. C. Wood Waste. Wood waste and land clearing debris will either be ground onsite and used as erosion control mix or removed from site and taken to the DEP licensed solid waste transfer station in Wells. No onsite burning of wood waste will be allowed. D. Special & Hazardous Wastes. No significant quantities of special wastes and no hazardous wastes are expected. E. Waste Oil. Waste oil is collected at the existing maintenance garage onsite and disposed of via licensed contractors. No waste oil is burned onsite.
9.6 Potable Water Supply	Meets the standard; the existing Maintenance Building is served by city water. A private hydrant is proposed to be installed near the MSW building for fire control. No additional sinks, bathrooms or potable water access will be provided.
9.7 Public and Private Sewer Provisions	Not applicable; no additional water connections are proposed. The existing

Standard	Response
	Maintenance Building is served by city water and sewer connections.
9.8 Phosphorus Control	Not applicable; the Site is not wholly or in part located within the direct watershed of a Great Pond. A phosphorus control plan is not required. However, the site proposes a gravel wetland which have been shown to remove over 50% of total phosphorus from stormwater.
9.9 Erosion Control	Meets the standard; Erosion control is addressed on Sheets C-103, C-104 and C-501 of the Plan Set.
9.10 Stormwater Control	Meets the standard: the proposed development will meet the requirements of the City of Gardiner and DEP Chapter 500 for both stormwater quality and quantity. Stormwater quality is met through the construction of a gravel wetland in addition to the previously constructed wet pond on-site. Stormwater runoff quantity requirements are also met with the gravel wetland which has the capacity to retain water similar to a detention basin. The Stormwater Management Report is included in Attachment 8.
9.11 Historic Archeological, Wildlife Habitat, Scenic Areas, and Rare and Natural Areas	These considerations have been addressed in the Site Location of Development for the industrial park. Recent correspondence is included from the Maine Historic Preservation Commission, in Attachment 1.

St.Germain

November 3, 2022

Kirk Mohney
Maine Historic Preservation Commission
65 State House Station
Augusta, Maine 04333-0065
Transmitted via email to kirk.mohney@maine.gov

Re: National Historic Preservation Act, Section 106 Consultation
Gardiner Transfer Station
12 Troiano Way, Gardiner, Maine
St.Germain File No.: 1172-0002

Dear Mr. Mohney:

On behalf of Gardiner Transfer Company, LLC, St.Germain is requesting a project review to support a Tier 3 Natural Resources Protection Act (NRPA) permit application. The permit is being submitted to the Maine Department of Environmental Protection (Maine DEP) for the proposed development in the Libby Hill Business Park, Gardiner, Maine.

The site is in Phase 2 of the Libby Hill Business Park, which was previously cleared as a part of the Site Law License Order #L19861039-F-A/L-19861-L6-G-N dated March 11, 2008.

Gardiner Transfer Company, LLC is proposing to construct a Solid Waste transfer station at their existing facility. Refer to attachments.

If you have any questions, please contact us at 207-591-7000 or kylej@stgermain.com.

Sincerely,
ST.GERMAIN

Kyle Jacobson, PE
Project Manager

Attachments
Site Location Map

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.

Kirk F. Mohney, 11/9/22
State Historic Preservation Officer
Maine Historic Preservation Commission
Date

OPR BK 12224 PGS 103 - 106 02/12/2016 08:58:15 AM
INSTR # 2016002860 # OF PAGES 4
ATTEST: BEVERLY BUSTIN-HATHEWAY
REGISTER OF DEEDS KENNEBEC COUNTY, ME

TRANSFER TAX PAID

MUNICIPAL QUITCLAIM DEED

CITY OF GARDINER, a body corporate and politic located in Kennebec County, Maine, for consideration paid, releases to **GARDINER TRANSFER COMPANY, LLC**, a Maine limited liability company with a principal place of business in South Portland, Cumberland County, Maine, with a mailing address of c/o Troiano Waste Services, LLC, P.O. Box 3541, Portland, ME 04104, certain lots or parcels of land in **Gardiner**, Kennebec County, Maine, described as follows:

PARCEL ONE: A certain parcel of land located southerly of First Right Road within the Libby Hill Business Park described as Lot number 22 containing 13.49 acres as shown on drawings numbered Sheet 1 and Sheet 2 of plans entitled "Libby Hill Business Park Phase 2" prepared by Milone and MacBroom, Inc. and Maine Coast Surveying Inc. of Newcastle, Maine dated March 6, 2007, approved by the Gardiner Planning Board April 10, 2007 and signed by the Gardiner Planning Board May 23, 2007. Said Subdivision Plans are recorded at the Kennebec County Registry of Deeds on July 11, 2007, Book 2007, Plan 137-138.

PARCEL TWO: A certain parcel of land located westerly of Technology Drive within the Libby Hill Business Park described as Lot number 23 containing 2.78 acres as shown on said Subdivision Plans.

SUBJECT TO the terms, restrictions and conditions contained in the Site Location of Development approval L-19861-39-A-N/L - 19861–T3–B–N by the Maine Department of Environmental Protection for the Libby Hill Business Park dated May 19, 1999, as revised, which shall be binding upon the Grantee, its heirs and assigns and shall be included by reference in all future conveyances.

ALSO SUBJECT TO the terms and conditions of the Maine Department of Environmental Protection Findings of Fact and Order, dated May 19, 1999, and recorded in said Registry in Book 5960, Page 31, as modified by the Order dated October 1, 1999, and recorded in said Registry in Book 6075, Page 203, and revised by the Order dated February 15, 2008 and recorded in said Registry in Book 9654, Page 210.

ALSO SUBJECT TO the terms and conditions of the Maine Department of Environmental Protection Findings of Fact and Order, dated March 11, 2008 and recorded in said Registry in Book 9680, Page 276, as affected by the Condition Compliance dated November 4, 2008 and recorded in said Registry in Book 9913, Page 14, and as modified by the Minor Revision Findings of Fact and Order dated February 2, 2009 and recorded in said Registry in Book 9989, Page 46.

{EP - 02072469 - v1 }

(4) Lambert Coffin

ALSO SUBJECT TO the terms and conditions set forth in a Maine Department of Environmental Protection permit dated May 17, 1999, and recorded in said Registry in Book 5960, Page 26.

ALSO SUBJECT TO the terms, condition, rights and easements set forth in the deed from the City of Gardiner to the Gardiner Water District, dated January 3, 2001, and recorded in said Registry in Book 6378, Page 22.

ALSO SUBJECT TO the provisions of the Declaration of Covenants and Restrictions of the Libby Hill Business Park dated April 11, 2008 and recorded in said Registry in Book 9733, Page 247 and the Declaration of Covenants and Restrictions of the Libby Hill Business Park dated October 27, 2014 and recorded in said Registry in Book 11837, Page 2.

ALSO SUBJECT TO the terms, conditions and easements appearing on said Subdivision Plans.

ALSO SUBJECT TO the following which shall run with and bind the above-described parcels ("Premises) and Grantee's successors and assigns shall be subject to the same:

Within twenty-four (24) months from the date of this deed ("Completion Deadline"), Grantee shall cause to be completed upon the Premises (a) certain site improvements including the construction of a driveway and parking lot with curbing and sidewalks, lot clearing, site grading, installation of water and sewer lines, electrical distribution system, and other improvements of a similar nature (the "Site Improvements") and (b) a certain building with a minimum valuation for municipal tax purposes, upon completion, of Two Hundred Thousand Dollars ($200,000.00) and being 3,000 square feet (the "Build-out A"). Construction of Build-out A shall be pursuant to duly issued City of Gardiner permits in compliance with all zoning requirements, building codes, approved site plans and Libby Hill Business Park covenants. Upon completion of the Site Improvements and Build-out A, Grantor, upon Grantee's request, shall execute a release, in recordable form, evidencing termination of this covenant.

In the event Build-out A is not complete by the Completion Deadline, or such later date as agreed upon by the Parties pursuant to the terms and conditions recited herein, Grantee agrees to make a payment in lieu of taxes for Build-out A as if Build-out A had been completed. Such payment shall be calculated by multiplying the current mil rate of 21.60 per $1,000.00 of the said $200,000 minimum valuation of Build-out A; provided, however, the maximum annual amount due for such payment shall be $6,000.00. Such payment shall only be required until Grantee completes Build-out A as set forth herein.

The following additional terms and conditions described in Article 4 of the Purchase and Sale Agreement dated December 17, 2014 by and between Grantor and Grantee:

A. Until the construction of Build-out A is complete, Grantor or its duly authorized agents, employees or independent contractors, shall, after notice to Grantee, be entitled to enter upon the Premises, and any portion thereof, for the purpose of inspecting and testing the same for progress of the construction to determine that the same is in conformity with the terms and requirements hereof. It is expressly understood and agreed that Grantor is under no duty to supervise or to inspect the work of construction and that any such inspection is for the sole purpose of preserving Grantor's rights hereunder. Failure to inspect the work or any part thereof shall not constitute a waiver of any of Grantor's rights hereunder. Inspection not followed by notice of default shall not constitute a waiver of any default then existing, nor shall it constitute a representation that there has been or will be compliance with the terms and requirements hereof or that the construction is free from defective materials or workmanship.

B. Upon agreement of the parties, the Completion Deadline may reasonably be extended to allow for unanticipated permitting delays or project construction delays, provided that Grantee is making reasonable progress toward obtaining the permits concerned or completing the Site Improvements and Build-out A.

Meaning and intending to convey a part of the premises conveyed to the City of Gardiner by deed from the Gardiner Board of Trade dated October 26, 2006 and recorded in said Registry in Book 9125, Page 310.

IN WITNESS WHEREOF, the City of Gardiner has caused this instrument to be signed and sealed by Scott Morelli, City Manager, duly authorized, this 10 day of February, 2016.

City of Gardiner

Witness

By
Scott Morelli, City Manager

STATE OF MAINE

CUMBERLAND County

FEB. 10, 2016

Personally appeared the above-named Scott Morelli, City Manager of the City of Gardiner, and acknowledged before me the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said body corporate and politic.

Notary Public/Attorney at Law

ELIZABETH BOEPPLE

Print or type name as signed

3.0 FINANCIAL CAPACITY

Construction cost estimates and a bank letter of credit worthiness are provided in this section.

Construction Cost Estimate
Lot 22
10 Troiano Way
Gardiner, Maine

Estimate By: Kyle Jacobson, PE

Reviewed By: Pat Coughlin

ITEM NO.	ITEM DESCRIPTION	UNIT	AVERAGE UNIT PRICE	TOTAL QUANTITY	TOTAL COST
1	Clearing & Grubbing	Acre	$ 6,200.00	5.5	$ 34,100.00
2	Common Excavation	Cubic Yard	$ 20.00	5,950	$ 119,000.00
3	MEDOT 703.06 Type D Gravel	Cubic Yard	$ 26.00	11,200	$ 291,200.00
4	MEDOT 703.06 Type A Crushed Gravel	Cubic Yard	$ 31.00	3,400	$ 105,400.00
5	MEDOT 703.22 Underdrain Gravel	Cubic Yard	$ 30.00	480	$ 14,400.00
6	Geotextile Fabric	Square Yard	$ 3.00	67	$ 200.00
7	Hot Bituminous Pavement, Machine Method	Ton	$ 160.00	760	$ 121,600.00
8	Reinforced Concrete	Cubic Yard	$ 350.00	400	$ 140,000.00
9	Concrete Bin Blocks	Each	$ 165.00	100	$ 16,500.00
10	Retaining Wall	Square Foot	$ 45.00	1,680	$ 75,600.00
11	Steel Plate	Square Foot	$ 200.00	400	$ 80,000.00
12	6" Riprap	Cubic Yard	$ 55.00	35	$ 1,925.00
13	6" Ductile Iron Fire Service	Linear Foot	$ 130.00	630	$ 81,900.00
14	6" Gate Valves	Each	$ 1,400.00	1	$ 1,400.00
15	Outlet Control Structure, 5-Foot Diameter	Each	$ 4,500.00	1	$ 4,500.00
16	12" HDPE Pipe	Linear Foot	$ 75.00	50	$ 3,750.00
17	6" SCH40 PVC Pipe & Caps	Linear Foot	$ 20.00	250	$ 5,000.00
18	PVC Geomembrane (30 mil)	Square Yard	$ 8.00	1,100	$ 8,800.00
19	Block Heaters	Each	$ 500.00	30	$ 15,000.00
20	Guardrail	Linear Foot	$ 45.00	230	$ 10,350.00
21	Sawcut Pavement	Linear Foot	$ 4.00	500	$ 2,000.00
22	Litter Fence	Linear Foot	$ 300.00	255	$ 76,500.00
23	Underground Electric	Linear Foot	$ 65.00	1,500	$ 97,500.00
24	Exterior Light, Pole, & Base	Each	$ 2,800.00	5	$ 14,000.00
25	Exterior Wall Pack	Each	$ 1,750.00	7	$ 12,250.00
26	Seed	Square Foot	$ 0.10	43,000	$ 4,300.00
27	Erosion & Sedimentaion Controls	Lump Sum	$ 7,500.00	1	$ 7,500.00
28	Landscaping	Lump Sum	$ 3,500.00	1	$ 3,500.00
29	RS-24 Stormrax Trash Rack	Each	$ 1,000.00	1	$ 1,000.00
30	Scale House	Lump Sum	$ 10,000.00	1	$ 10,000.00
31	MSW Building	Lump Sum	$ 400,000.00	1	$ 400,000.00
32	Foundation (not including flat work)	Cubic Yard	$ 350.00	250	$ 87,500.00
33	Scales	Lump Sum	$ 125,000.00	2	$ 250,000.00
				Subtotal	**$ 2,096,675.00**
				10% Contingency	**$ 210,000.00**
				Project Total:	**$ 2,310,000.00**

Notes & Assumptions:

1. Some Average Unit Prices obtained from the New Hampshire Department of Transportation Weighted Average Unit Prices For Projects Between 1/1/21 and 12/31/2021, and conversations with manufacturers representatives.
2. No stumpage fees are assumed with clearing.
2. Assume stripped topsoil volume will cover areas post-construction.
3. Assume no potable water or municipal sewer connections.
4. This estimate shall not to be used for bidding purposes.

Environmental Services Department
411 West Lafayette St
7th Floor; MC 3236
Detroit, MI 48226-3241
(313) 222-5900
(313) 222-9564 (fax)

Jeffrey C. Andersen
Vice President

July 19, 2022

Gardiner Transfer Company LLC / Troiano Transfer Station Inc
Attn: TJ Troiano
10 Filmike Way
South Portland, ME 04106

Dear TJ:

It has come to my attention that you need a letter referencing the credit relationship between Comerica Bank's Environmental Services Department and Gardiner Transfer Company / Troiano Transfer Station or "Company".

In June 2021, the Company and Comerica entered into a credit relationship with committed availability in the mid-seven figures as of the date of this letter.

To date, all accounts have been handled in a satisfactory manner to the best of our knowledge. Please feel free to share this letter with your contact. Should you like to discuss this matter further, feel free to call me at (313)222-5900.

Sincerely,

Jeff Andersen
Vice President

4.0 NOTIFICATION

GTC has completed the notifications required by Gardiner's ordinances as documented in this section:

- Mailings to abutters: Abutter map, list, and proof of mailing are in this section
- Newspaper Notices: Tearsheet in this section
- Posted sign at the site
- Neighborhood meeting: was held on November 28, 2022, at City Hall

Abutters to Gardiner Transfer Inc.

Parcel Number	Property Address	Owner Name	Address	City	State	Zip Code
002020021	TROIANO WY	AUBURN ASPHALT LLC	PO BOX 91	SUNDERLAND	MA	01375
002020023	TECHNOLOGY DR	GARDINER TRANSFER COMPANY LLC	C/O TROIANO WASTE SERVICES INC PO BOX 3541	PORTLAND	ME	04104
002020024	89 TECHNOLOGY DR	OAK GROVE CEMETARY ASSOCIATION	PO BOX 597	GARDINER	ME	04345
002020025	TECHNOLOGY DR	GARDINER CITY OF	6 CHURCH ST	GARDINER	ME	04345
002020028	55 INDUSTRIAL DR	STRR1 LLC	537 HIGH STREET	WEST GARDINER	ME	04345
	I-295	Maine Department of Transportation	PO Box 358	SCARBROUGH	ME	04074

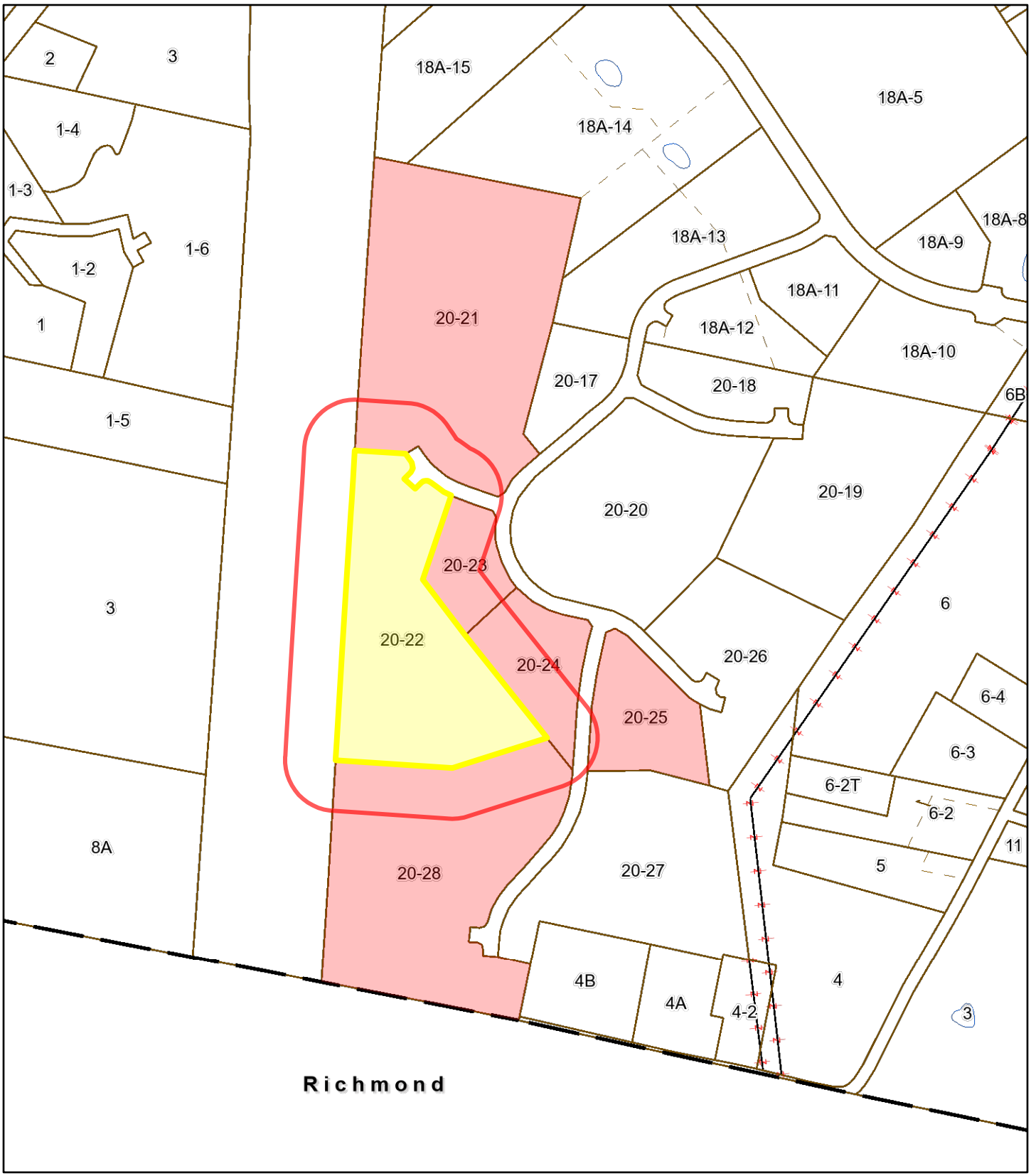
Gardiner, ME

1 inch = 540 Feet

0 540 1081 1621

March 6, 2023

CAI Technologies
Precision Mapping. Geospatial Solutions.
www.cai-tech.com



Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

5.0 TRAFFIC AND SITE CIRCULATION

The size, number and types of vehicles that will be using the facility after full operation begins is provided below. GTS has also prepared the following trip estimates and is providing them as supplemental information.

Vehicle Type	No. of Vehicles	Estimated Trips/Day	Total Trip Ends*/Day
Passenger Cars – Employees	17	1	17 in and out = 34
Tractor Trailers	3	3	9 in & out = 18
GTS- Packer Trucks (20, 25 and 30 CY)	7	1	7 in & out = 14
GTS-Roll-off Trucks	3	2	6 in & out = 12
Non-GTS Trucks	8	1	8 in & out = 16
Total	27		**94**

*- Trip Ends – A round trip into and out of a destination equal 2 trip ends.

MSW truck trip scheduling is typically off-peak hours with employees arriving onsite as early as 4 am and completing their routes in the early afternoon.

A turning radius worksheet is provided in the plan set as sheet O-101.

Kyle Jacobson

From: Kyle Jacobson
Sent: Monday, November 14, 2022 2:50 PM
To: rick.sieberg@gardinermaine.com
Cc: kmcneill@gardinermaine.com; Ellen Rathbone
Subject: Gardiner Transfer Station - Fire Department Review Request
Attachments: 1172-0002 Transfer Station Site plan excerpts.pdf

Good afternoon Chief Sieberg,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board.

The project is a solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park. The project consists of a municipal solid waste (MSW) building, scale house, gravel wetland, construction and demolition debris area, and parking areas as shown in the attached plan pages. We are proposing a new fire hydrant near the MSW building.

If you could, please review the attached plan set for the proposed project and provide comments.

Please reach out if you have any questions.

Thanks,

Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer
St.Germain
Westbrook, ME
Office: 207-591-7000
Direct: 207-857-7526
StGermain.com
LinkedIn • Facebook • Instagram

Kyle Jacobson

From: Kyle Jacobson
Sent: Monday, November 14, 2022 2:42 PM
To: JToman@gardinermaine.com
Cc: kmcneill@gardinermaine.com; Ellen Rathbone
Subject: Gardiner Transfer Station - Police Department review request
Attachments: 1172-0002 Transfer Station Site plan excerpts.pdf

Good afternoon Chief Toman,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board.

The project is a solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park.
The project consists of a solid waste transfer building, scale house, gravel wetland, CDD area, and parking areas as shown in the attached plan pages.
Additional security lighting is proposed in portions of the parking areas.

If you could, please review the attached plan pages for the proposed project and provide comments.

Please reach out if you have any questions.

Thanks,
Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer
St.Germain
Westbrook, ME
Office: 207-591-7000
Direct: 207-857-7526
StGermain.com
LinkedIn • Facebook • Instagram

6 Church Street, Gardiner, Maine 04345 207-582-3211 Fax 207-582-1079 E-mail Police@gardinermaine.com

GARDINER POLICE DEPARTMENT

POLICE * COMMUNICATIONS

Chief James M. Toman

November 17, 2022

Gardiner Code Enforcement
Members of the Gardiner Planning Board
6 Church Street
Gardiner, Maine 04345

Dear CEO McNeill & Gardiner Planning Board Members:

I have recently received a site plan submitted by Kyle Jacobson, PE of St.Germain as it pertains to the proposed construction of a solid waste transfer facility located at 12 Troiano Way in the Libby Hill Business Park.

After reviewing the documents, I believe that both vehicles and pedestrians have the opportunity to safely and adequately move about the area per 6.5.1.12. Further, per 6.5.1.13, I do not believe that this development will have a negative impact on the services that the Gardiner Police Department provides.

If you have any further questions or concerns, please let me know.

Sincerely,

Chief James M. Toman
Gardiner Police Department
City of Gardiner

JMT:dd

Kyle Jacobson

From: Kyle Jacobson
Sent: Monday, November 14, 2022 11:20 AM
To: Andrew Carlton
Cc: kmcneill@gardinermaine.com; Ellen Rathbone
Subject: Gardiner Transfer Station - Public Works review request
Attachments: 1172-0002 Transfer Station Site plan excerpts.pdf

Good morning Mr. Carlton,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board. The DEP permits are currently under review.

The project is a commercial solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park. The project consists of a solid waste transfer building, scale house, gravel wetland, CDD area, and parking areas as shown in the attached plans.
There will be no additional entrances to the site from the ROW.

Please review the attached plans for the proposed project and provide comments. Let me know if you have any questions.

Thanks,

Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer
St.Germain
Westbrook, ME
Office: 207-591-7000
Direct: 207-857-7526
StGermain.com
LinkedIn • Facebook • Instagram

Kyle Jacobson

From: Kyle Jacobson
Sent: Monday, November 14, 2022 3:19 PM
To: Doug Clark
Cc: kmcneill@gardinermaine.com; Ellen Rathbone
Subject: Gardiner Transfer Station - Wastewater Dept Review Request
Attachments: 1172-0002 Transfer Station Site plan excerpts.pdf

Hello Mr. Clark,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board.

The project is a solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park. The project consists of a municipal solid waste (MSW) building, scale house, gravel wetland, construction and demolition debris area, and parking areas as shown in the attached plan pages. There is an existing connection to the public sewer system in the existing maintenance building, there are no plans to install more facilities that drain to the sewer. There are proposed to be up to five more employees on site and up to 10 (current and new) who will be driving the collection trucks, not onsite during the day.
I expect wastewater volumes to increase but significantly, as many of the employees are not on-site during the day.

The MSW building will not have floor drains in it and will not have a restroom.

If you could, please review the attached plan set for the proposed project and provide comments.

Please reach out if you have any questions.

Thanks,

Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer
St.Germain
Westbrook, ME
Office: 207-591-7000
Direct: 207-857-7526
StGermain.com
LinkedIn • Facebook • Instagram

Kyle Jacobson

From: Kyle Jacobson
Sent: Monday, November 14, 2022 3:25 PM
To: 'paul.gray@roadrunner.com'
Cc: kmcneill@gardinermaine.com; Ellen Rathbone
Subject: Gardiner Transfer Station - Water District Review
Attachments: 1172-0002 Transfer Station Site plan excerpts.pdf

Hello Mr. Gray,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board.

The project is a solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park. The project consists of a municipal solid waste (MSW) building, scale house, gravel wetland, construction and demolition debris area, and parking areas as shown in the attached plan pages.

There is an existing connection to the public water system in the existing maintenance building, and we are proposing a hydrant extension extending to near the MWS building. Water usage is not expected to significantly increase with this project, up to 5 additional staff will be onsite during the day, and several more will be out driving trucks.

The hydrant on site is for fire service only, it would only be operated by the fire department.

The MSW building will not have floor drains in it and will not have a restroom.

If you could, please review the attached plan set for the proposed project and provide comments.

Please reach out if you have any questions.

Thanks,

Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer
St.Germain
Westbrook, ME
Office: 207-591-7000
Direct: 207-857-7526
StGermain.com
LinkedIn • Facebook • Instagram

Kyle Jacobson

From: Paul Gray <paul.gray@roadrunner.com>
Sent: Tuesday, November 15, 2022 10:36 AM
To: Kyle Jacobson
Cc: 'kmcneill@gardinermaine.com'; Ellen Rathbone; 'zlovelygwd@yahoo.com'
Subject: RE: Gardiner Transfer Station - Water District Review

Kyle,
Plans look good, I am assuming that the hydrant will be private, paid by Troiano and not the city. Could we get a copy of the final plans which show the exact location of the hydrant? Feel free to contact me if you need anything further.
Paul

From: "Kyle Jacobson"
To: "paul.gray@roadrunner.com"
Cc: "kmcneill@gardinermaine.com", "Ellen Rathbone"
Sent: Monday November 14 2022 3:25:16PM
Subject: Gardiner Transfer Station - Water District Review

Hello Mr. Gray,

St.Germain is working on a project that is being submitted for Site Plan Review with the Gardiner Planning Board.

The project is a solid waste transfer facility at 12 Troiano Way in the Libby Hill Industrial Park. The project consists of a municipal solid waste (MSW) building, scale house, gravel wetland, construction and demolition debris area, and parking areas as shown in the attached plan pages.

There is an existing connection to the public water system in the existing maintenance building, and we are proposing a hydrant extension extending to near the MWS building. Water usage is not expected to significantly increase with this project, up to 5 additional staff will be onsite during the day, and several more will be out driving trucks.

The hydrant on site is for fire service only, it would only be operated by the fire department.

The MSW building will not have floor drains in it and will not have a restroom.

If you could, please review the attached plan set for the proposed project and provide comments.

Please reach out if you have any questions.

Thanks,

Kyle

Kyle Jacobson, PE (ME, MA, WI), Civil Engineer

St.Germain

Westbrook, ME

Office: 207-591-7000

Direct: 207-857-7526

StGermain.com

LinkedIn • Facebook • Instagram

PERMITTING DRAWINGS

FOR

LOT 22
LIBBY HILL BUSINESS PARK
GARDINER, MAINE

JULY 2022

PROFESSIONAL CONTACTS:

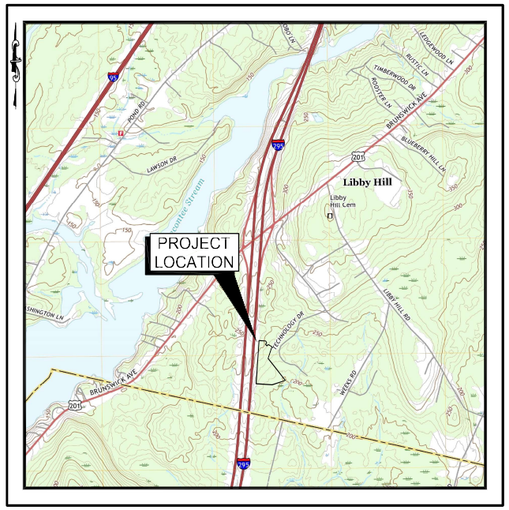
APPLICANT :
GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, ME 04104
(207) 767-2070
CONTACT: TJ TROIANO

ENGINEERING & DESIGN:
ST.GERMAIN
846 MAIN STREET
WESTBROOK, ME 04092
(207) 591-7000
CONTACT: KYLE JACOBSON, PE#16656
CONTACT: ELLEN RATHBONE

SURVEYOR:
BOUNDARY ENGINEERING SURVEY TECHNOLOGY
25 TUBROS LANE
BUXTON, ME 04093
(207) 929-2378
CONTACT: RICHARD HAMILTON, PLS#2336

WETLAND SCIENTIST:
STANTEC
30 PARK DRIVE
TOPSHAM, ME 04086
(207) 406-5496
CONTACT: TOM TETREAU, NHCWS#283, PWS

DRAWING LIST:



SITE LOCATION MAP
SCALE: 1" = 2,000'±
SOURCE: USGS, GARDINER, MAINE, QUADRANGLE, DATED 2018

St.Germain
846 Main St., Westbrook, Maine 04092
207-591-7000 • StGermain.com

STATE OF MAINE
KYLE SETH JACOBSON
No. 16656
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION DESCRIPTION

DESIGNED BY: KSJ
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/20/2022
FILE NAME: 1172-0002 COV02.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

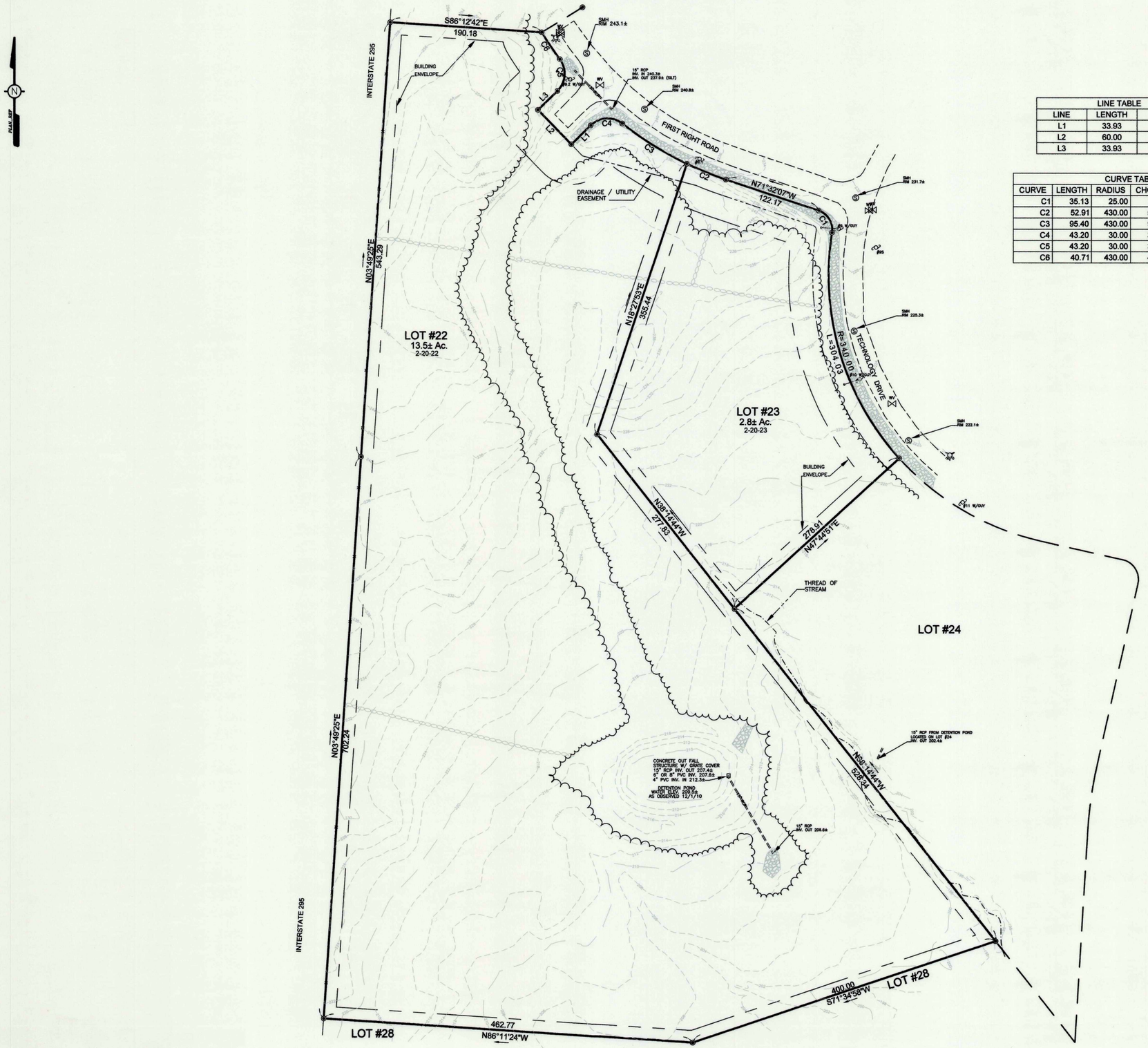
SHEET TITLE:

COVER SHEET

SHEET NO:

C-001

M:\Cad Drawings – Dwgs\Active Dwgs\1172 Troiano\1172-0002 TWS Gardiner\DWG\1172-0002 COV02.dwg 7/20/2022 11:42:13 AM



LINE TABLE		
LINE	LENGTH	BEARING
L1	33.93	S45°43'17"W
L2	60.00	N44°16'43"W
L3	33.93	N45°43'17"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD	CHORD BEARING
C1	35.13	25.00	32.31	N31°16'28"W
C2	52.91	430.00	52.88	S68°00'37"E
C3	95.40	430.00	95.20	S58°07'46"E
C4	43.20	30.00	39.56	S86°58'25"W
C5	43.20	30.00	39.56	N04°28'06"E
C6	40.71	430.00	40.69	S34°04'20"E

LEGEND

- FOUND REBAR W/ ALUMINUM CAP STAMPED MAINE COAST SURVEYING PLS #1191
- UTILITY POLE (NUMBERED AS INDICATED)
- SEWER MANHOLE
- WATER VALVE
- HYDRANT
- STONE WALL
- WOVEN WIRE FENCE
- ABUTTER OR RIGHT-OF-WAY LINE
- BOUNDARY LINE
- EDGE OF PAVEMENT
- TREE LINE
- RIP-RAP
- 45-6-78 TAX MAP-BLOCK-LOT

NOTES

1. DATUM:
HORIZONTAL- BASED UPON PLAN REFERENCED IN NOTE #2. MAINE STATE PLANE WEST (NAD83)
VERTICAL- BASED UPON TBM A FROM RECORD DRAWING- MANHOLE #69 RIM ELEVATION 264.80.

2. PROPERTY LINES AS SHOWN ARE BASED UPON PLAN ENTITLED " LIBBY HILL BUSINESS PARK PHASE 2. WEEKS ROAD AND ENTERPRISE AVENUE, GARDINER MAINE. PREPARED BY MAINE COAST SURVEYING. RECORDED IN PLAN BOOK 2007, PAGE 137 & 138 AT THE KENNEBEC COUNTY REGISTRY OF DEEDS.

2. OWNERSHIP OF THE PROPERTY SHOWN AS INDICATED BY THE CITY OF GARDINER TAX ASSESSOR'S OFFICE IS THE CITY OF GARDINER AS RECORDED IN DEED BOOK 9125, PAGE 310 KCRD.

3. THE PROPERTY SHOWN IS IDENTIFIED ON THE CITY OF GARDINER TAX ASSESSOR'S MAP 2 PARCELS 20-22 & 20-23.

4. THE PROPERTY SHOWN IS LOCATED WITHIN THE PLANNED INDUSTRIAL / COMMERCIAL ZONE AS DEFINED BY THE CITY OF GARDINER'S ZONING ORDINANCE.

5. BULK AND SPACE REQUIREMENTS FOR THE PLANNED INDUSTRIAL / COMMERCIAL ZONE ARE AS FOLLOWS:
MINIMUM LOT SIZE W/ SEWER 40,000 SF
W/O SEWER 80,000
MINIMUM ROAD FRONTAGE 200'
MAXIMUM HEIGHT 150'
SETBACKS:
FRONT 50'
SIDE 15'
REAR 15'

6. WETLANDS WERE OBSERVED DURING THE COURSE OF PERFORMING THE FIELD SURVEY PER REQUEST OF THE CLIENT WERE NOT LOCATED.

STATE OF MAINE
RICHARD W. HAMILTON
NO. 2336
PROFESSIONAL LAND SURVEYOR

EXISTING CONDITIONS
LOTS 22 & 23
IN
LIBBY HILL BUSINESS PARK
KENNEBEC COUNTY
MAINE

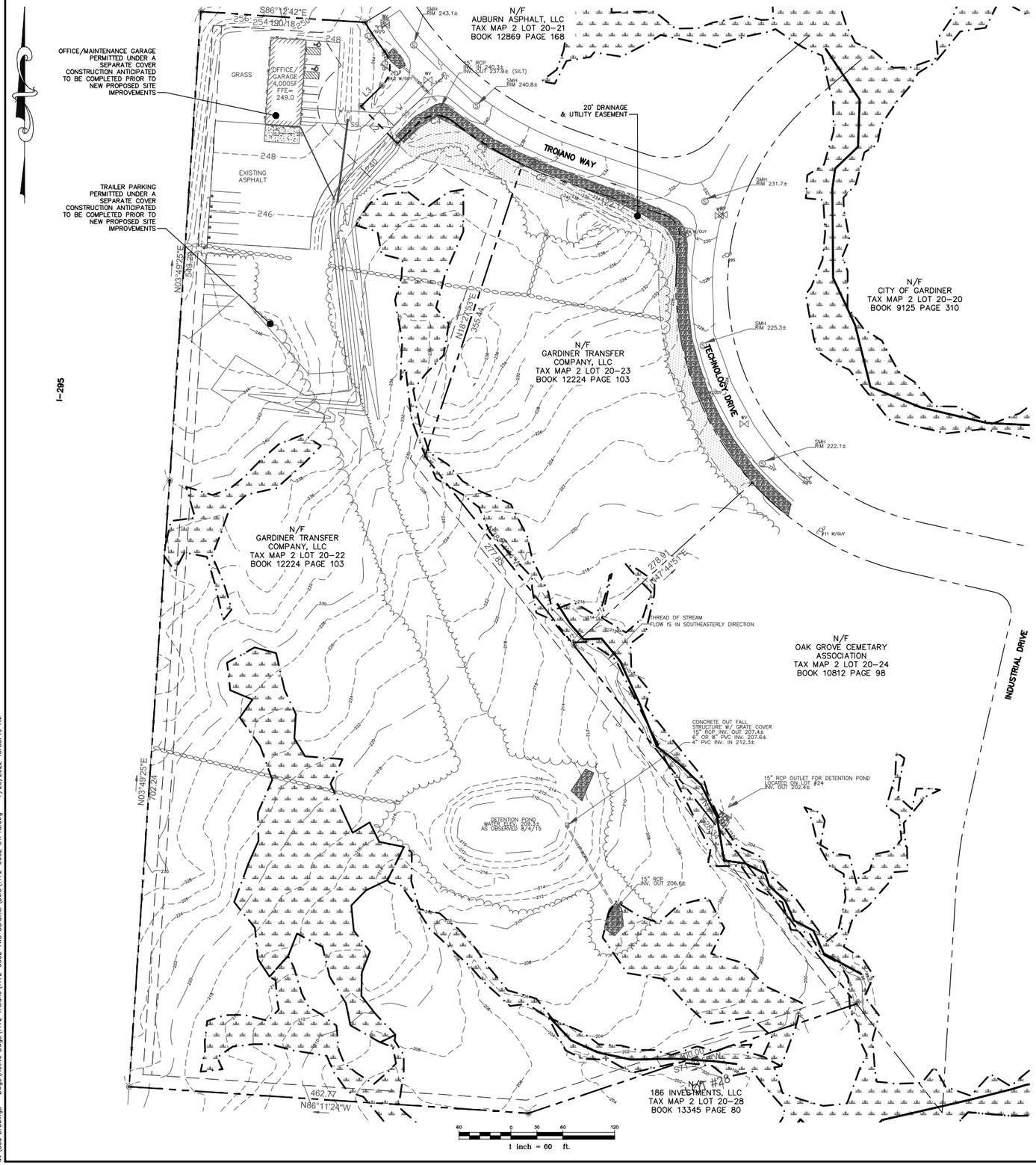
SCALE: 1"=100' JANUARY 11, 2011

PREPARED FOR:
ST. GERMAIN COLLINS
846 MAIN ST. SUITE 3
WESTBROOK, MAINE 04092

BOUNDARY ENGINEERING SURVEY TECHNOLOGY
25 TUBBS LANE
BUXTON, MAINE 04093
TELEPHONE: 929-BEST
FAX 929-2379

JOB NUMBER: 010-040 DRAWING FILE: 001-040

0 60' 120' 240'



NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR FOR TAX MAP 2 LOT 20-22 IN GARDINER, MAINE. THE TOTAL AREA OF THE SUBJECT PARCEL IS 13.49± ACRES.
2. THE OWNER OF RECORD IS GARDINER TRANSFER COMPANY, LLC, C/O TROIANO WASTE SERVICES, INC, PO BOX 3541, PORTLAND, MAINE 04104 RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 12224 PAGE 103.
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6. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THIS PLAN IS APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE VERIFIED AS TO THEIR LOCATION, SIZE, AND TYPE BY THE PROPER UTILITY COMPANIES PRIOR TO CONSTRUCTION.
7. CONTRACTOR TO CONTACT DIG SAFE A MINIMUM 72 HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO CONSTRUCTION.

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- EXISTING/PROPOSED CONTOURS (710 / 710)
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
- EXISTING/PROPOSED TREELINE
- STONEWALL
- NRCS WEB SOIL SURVEY BOUNDARY
- SIGNS
- BOLLARDS
- UTILITY POLE
- EXISTING RIPRAP

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STATE OF MAINE
KYLE SETH JACOBSON
No. 16656
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION DESCRIPTION

DESIGNED BY: KSJ
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/20/2022
FILE NAME: 1172-0002 STP10.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

EXISTING CONDITIONS PLAN

SHEET NO:

C-101

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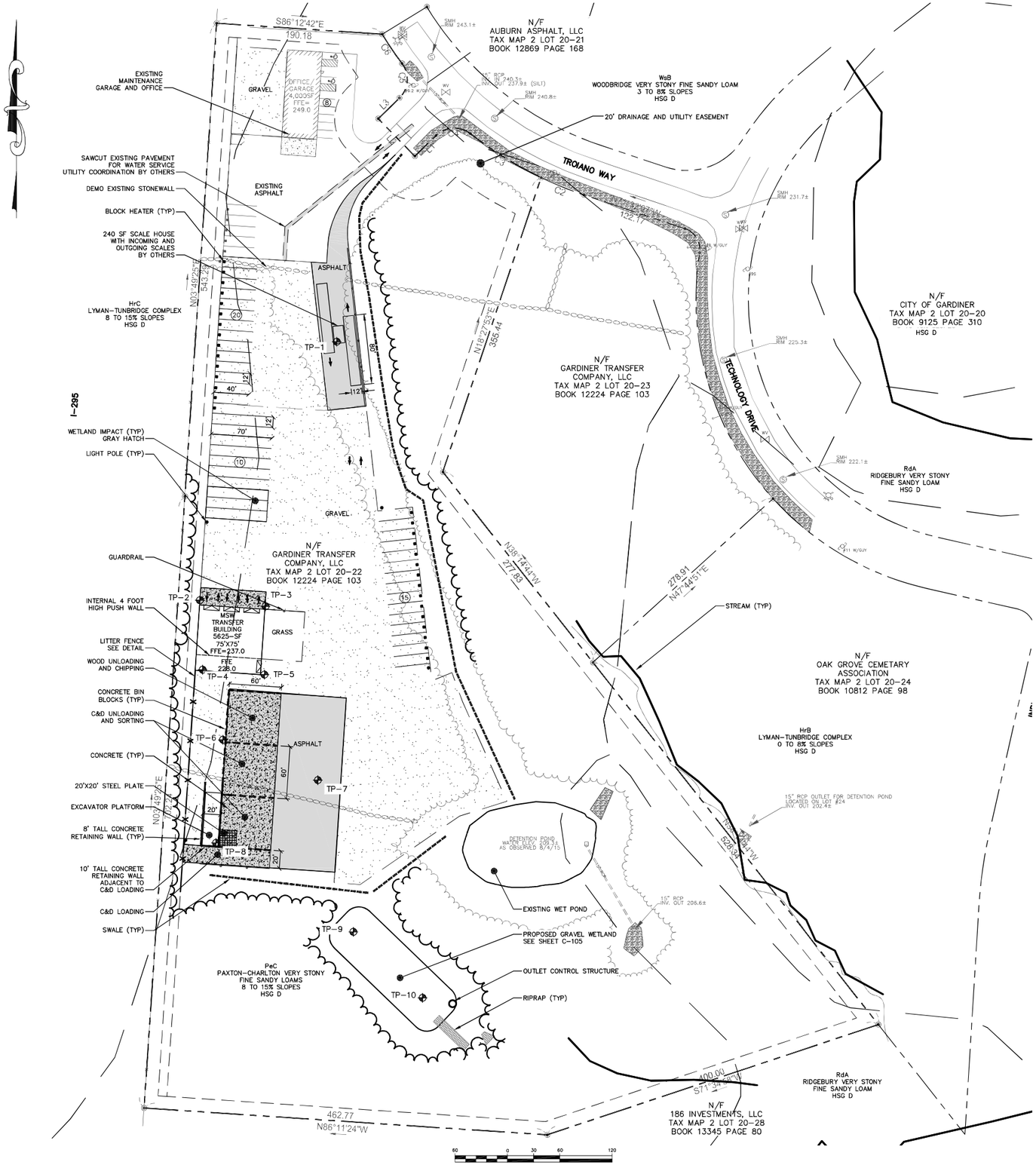

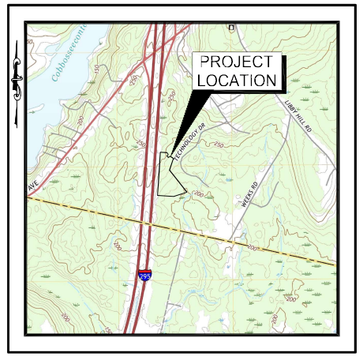

SITE LOCATION MAP

SCALE: 1" = 2,000'±

SOURCE: USGS, GARDINER, MAINE, QUADRANGLE, DATED 2018

NOTES:

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6. THE PROPERTY IS LOCATED WITHIN THE CITY OF GARDINER PLANNED INDUSTRIAL/COMMERCIAL (PIC) DISTRICT ZONE.
7. WASTE PROCESSING FACILITY USE AND AUTOMOBILE REPAIR USE ARE ALLOWED USES VIA PERMIT WITH REVIEW IN THE PIC DISTRICT ZONE.
8. BULK AND DIMENSIONAL REQUIREMENTS FOR THE PIC DISTRICT ZONE ARE AS FOLLOWS:

	REQUIRED	PROPOSED
MIN. LOT SIZE WITH SEWER	40,000 SF	NA
MIN. LOT SIZE W/O SEWER	80,000 SF	588,060 SF
MIN. ROAD FRONTAGE	200 FT	248 FT
MIN. SHORE FRONTAGE	125 FT	NA
MAX BLDG HEIGHT	150 FT	50 FT
MAX. LOT COVERAGE	80%	46%
ROAD (FRONT) SETBACK*	50/75 FT	50 FT
SIDE SETBACK	15 FT	15 FT
REAR SETBACK	15 FT	15 FT

*SETBACKS FROM STREETS OR ROADS SHALL BE THE GREATER OF TWO DISTANCES X/Y WHERE X IS MEASURED FROM THE RIGHT-OF-WAY LINE AND Y IS MEASURED FROM THE CENTER LINE.

9. PARKING REQUIREMENTS FOR THE INDUSTRIAL AND MANUFACTURING FACILITIES ARE 1.5 SPACES PER 1,000 SF GROSS FLOOR AREA (GFA). THE PROPOSED DEVELOPMENT (9,625 SF COMBINED GFA) REQUIRES 15 PARKING SPACES, THE FOLLOWING PARKING SPACES ARE PROPOSED:

PARKING PROPOSED
- 13 STANDARD SPACES (9' X 18')
- 2 ADA ACCESSIBLE SPACES
- 15 TOTAL PROPOSED STANDARD SPACES
- 35 TRUCK PARKING SPACES (12' X 40')
- 10 TRACTOR TRAILER SPACES (12' X 70')

10. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THIS PLAN IS APPROXIMATE. ALL UNDERGROUND UTILITIES SHALL BE VERIFIED AS TO THEIR LOCATION, SIZE, AND TYPE BY THE PROPER UTILITY COMPANIES PRIOR TO CONSTRUCTION.
11. CONTRACTOR TO CONTACT DIG SAFE A MINIMUM 72 HOURS, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO CONSTRUCTION.
12. THE PROJECT PROPOSES 38,127 SF OF WETLAND IMPACTS.
13. THE SOLID WASTE HANDLING AREA TOTALS APPROXIMATELY 39,893 SF.

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
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- STONEWALL
- SIGNS
- BOLLARDS
- UTILITY POLE
- EXISTING RIPRAP
- SOIL TEST PIT

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FILE NAME: 1172-0002 STP10.dwg

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LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

SITE PLAN

SHEET NO:

C-102

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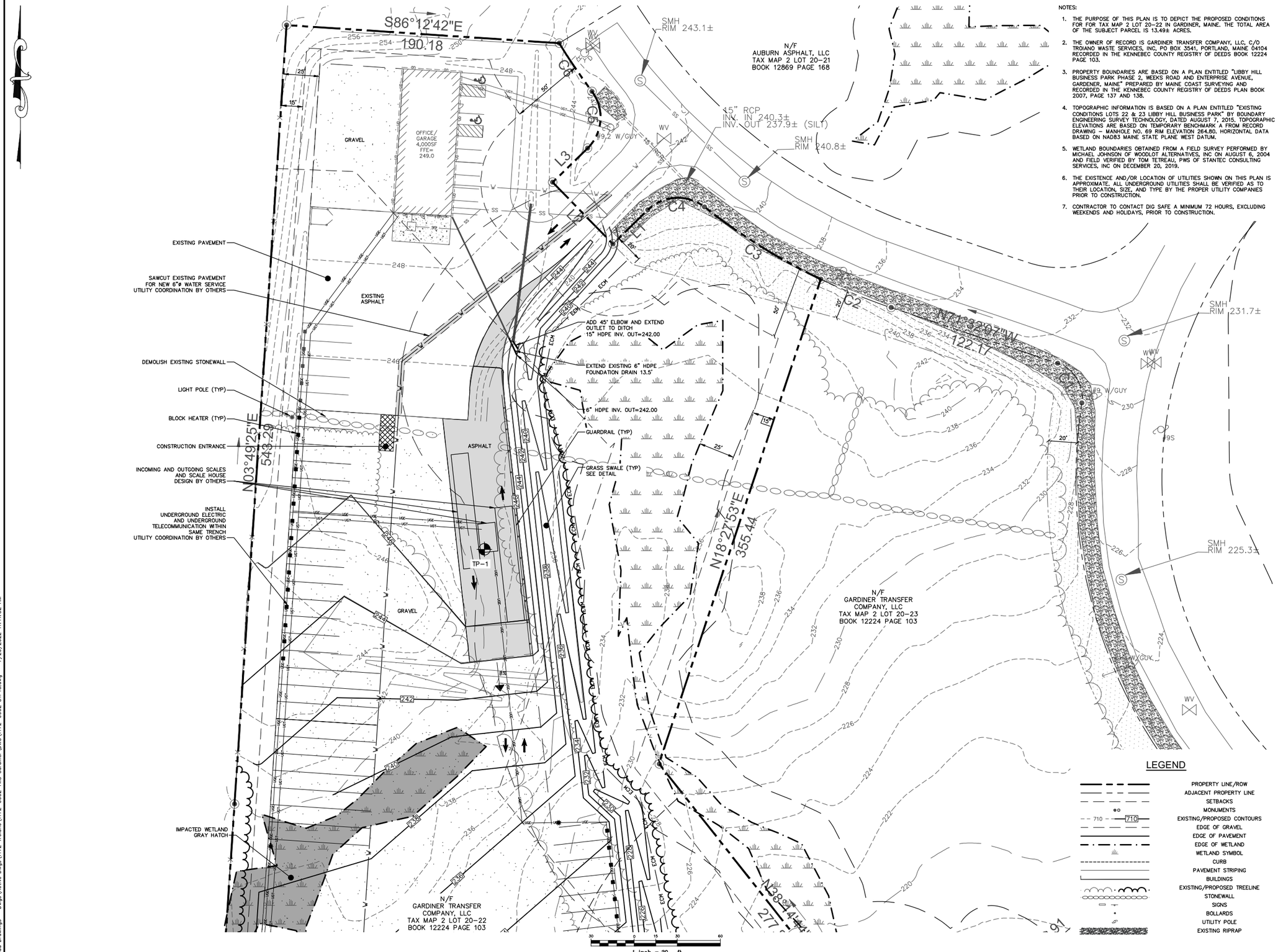

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LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

GRADING, DRAINAGE, UTILITIES, & EROSION CONTROL PLAN

SHEET NO:

C-103

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- NRCS WEB SOIL SURVEY BOUNDARY
- SIGNS
- BOLLARDS
- UTILITY POLE
- EXISTING RIPRAP

1 inch = 30 ft.

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LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

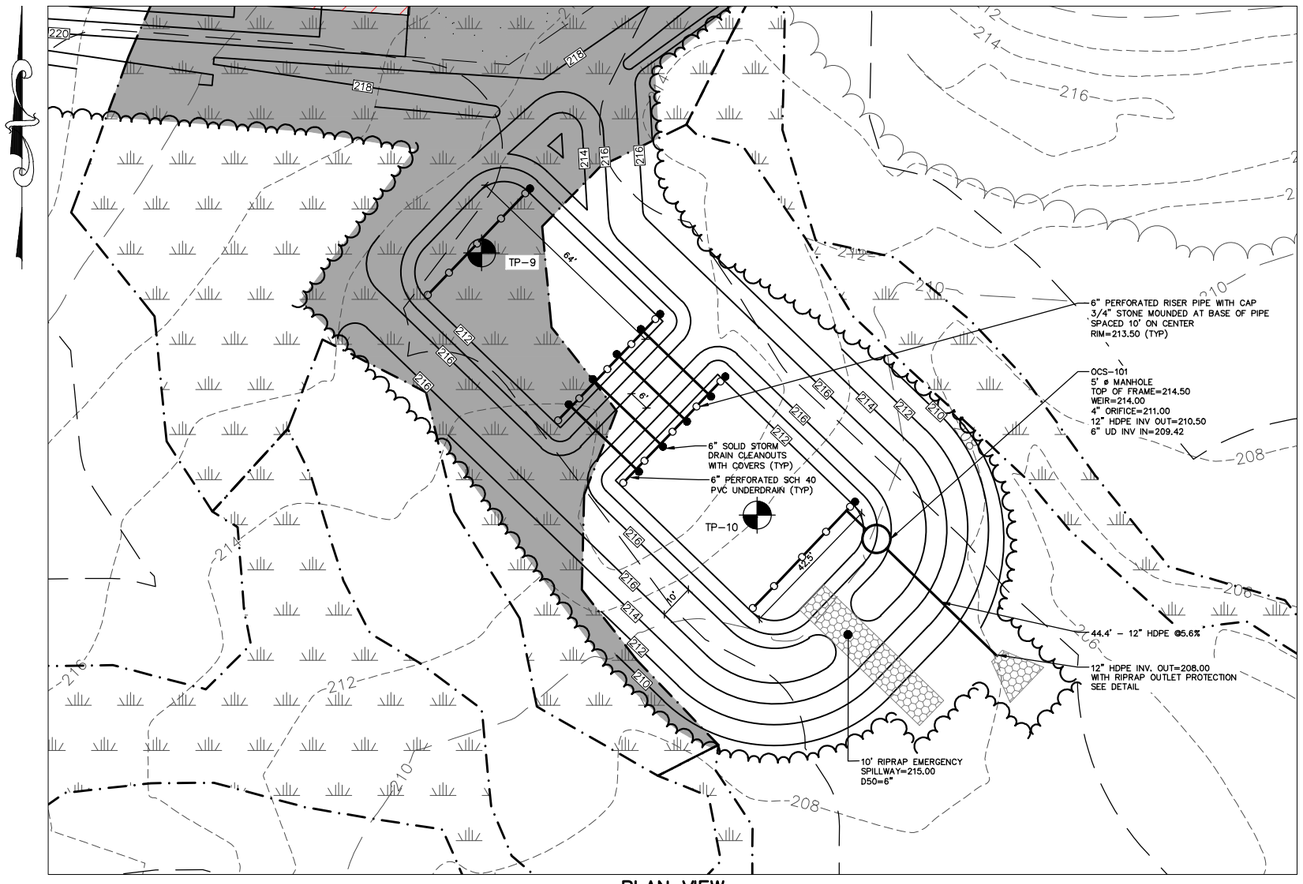
GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

GRADING, DRAINAGE, UTILITIES, & EROSION CONTROL PLAN

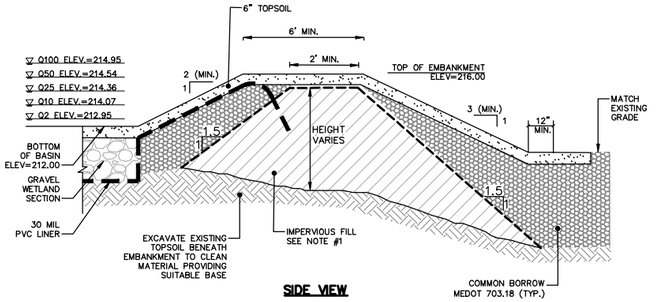
SHEET NO:

C-104



PLAN VIEW

1 inch = 20 ft.



SIDE VIEW

NOTES:

1. IMPERVIOUS MATERIAL FOR USE IN BASIN EMBANKMENT AREAS AND WHERE SHOWN ON THE PLANS SHALL BE COMPOSED OF CLAYS, SILTY CLAYS, OR CLAYEY SILTS. THE SOIL SHALL BE FREE OF RUBBISH, ICE, VEGETATIVE MATTER, LOAM, OR OTHER DEBRIS AND HAVE THE FOLLOWING GRADATION AS DEFINED BY A STANDARD SEIVE TEST (ASTM D422):

MIN. PERCENT PASSING (BY WT).	SEIVE SIZE
100	3.5"
80–100	3/4"
40–90	No. 4
30–85	No. 40
25–75	No. 200

2. COMMON BORROW FOR USE IN FILL AREAS ASSOCIATED WITH BASIN EMBANKMENTS SHALL BE COMPOSED OF SATISFACTORY ON-SITE MATERIAL OR BORROW SOIL MATERIALS WHEN SUFFICIENT SATISFACTORY SOIL MATERIALS ARE NOT AVAILABLE FROM EXCAVATIONS. SATISFACTORY ON-SITE MATERIAL SHALL HAVE SOIL CLASSIFICATION GROUPS OF GW, GP, GM, SW, SP, AND SM ACCORDING TO ASTM D 2487, OR A COMBINATION OF THESE GROUPS AND SHALL BE FREE OF ROCK OR GRAVEL LARGER THAN 3 INCHES (75 MM) IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, VEGETATION, AND OTHER DELETERIOUS MATTER.

3. PIPE INSTALLED THROUGH EMBANKMENT SHALL INCLUDE WATER TIGHT JOINTS AND ANTI-SEEP COLLARS.

EMBANKMENT SECTION

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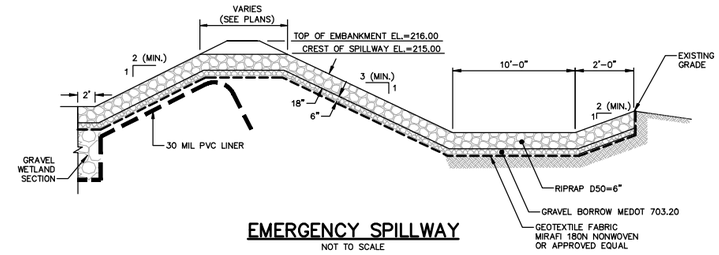

EMERGENCY SPILLWAY

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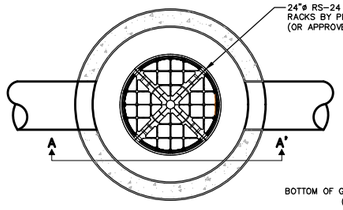

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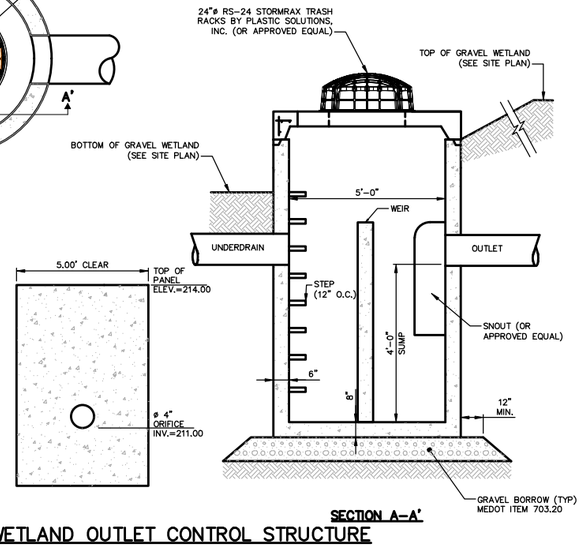


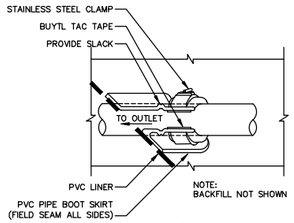
SECTION A-A'

NOTES:

1. CONCRETE DRAINAGE STRUCTURE SHALL BE 5' INSIDE DIAMETER MANHOLE MANUFACTURED BY PRECAST CONCRETE PRODUCTS OF MAINE, OR APPROVED EQUAL. CONTRACTOR TO SUBMIT DRAWINGS PRIOR TO THE ORDER OF STRUCTURE.
2. DESIGN SHALL CONFORM TO ASTM C-478 FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS."
3. IF DEPTH INSIDE STRUCTURE EXCEEDS 4'-6", STRUCTURE STEPS SHALL BE STEEL-REINFORCED WITH A PLASTIC COATING CONFORMING TO ASTM D4101, COPOLYMER POLYPROPYLENE.
4. SECTION JOINTS SHALL BE BUTYL RUBBER PER ASTM C-443 AND FEDERAL SPECIFICATION SS-S-210A.
5. WATERTIGHT SEAL AT PIPE CONNECTIONS SHALL BE MADE WITH RUBBER MANHOLE BOOT.
6. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM C891.

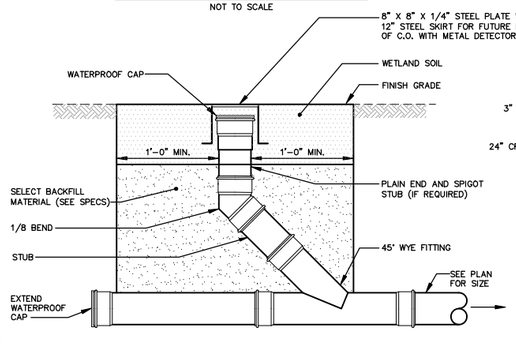
GRAVEL WETLAND OUTLET CONTROL STRUCTURE

NOT TO SCALE



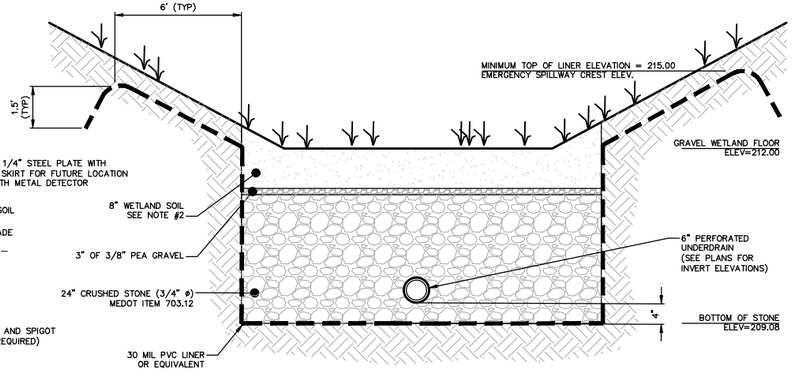
GEOMEMBRANE LINER PIPE PENETRATION DETAIL

NOT TO SCALE



GRAVEL WETLAND CLEANOUT

NOT TO SCALE



SECTION

NOTES

1. SEED MIX SHALL BE NEW ENGLAND WETLAND PLANTS "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES".
2. WETLAND SOIL CAN BE MANUFACTURED USING COMPOST, SAND, AND FINE SOILS BLENDED WITH MORE THAN 15% ORGANIC MATTER. IT SHOULD CONTAIN MORE THAN 15% SILT PASSING THE #200 SIEVE, BUT WITH A CLAY SIZE PORTION THAT IS LESS THAN 2%.

GRAVEL WETLAND

NOT TO SCALE

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CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

GRAVEL WETLAND PLAN

SHEET NO:

C-105

M:\Cad Drawings - Dwgs\Active Dwgs\1172 Troiano\1172-0002 TWS Gardiner\DWG\1172-0002 STP10.dwg 7/20/2022 11:15:34 AM

EROSION AND SEDIMENTATION CONTROL NOTES

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF SEDIMENT BARRIER, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, CATCH BASIN INLET BARRIERS, CATCH BASIN SEDIMENT COLLECTION BAGS, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, RIP RAPPED SLOPES, AND PERMANENT VEGETATION.

A. GENERAL

1. IT IS ANTICIPATED THAT CONSTRUCTION WILL BEGIN IN THE SPRING OF 2023 FOLLOWING RECEIPT OF NECESSARY PERMITS.
2. THE PROJECT SHALL CONFORM TO THE DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS PERFORMANCE FOR EXCAVATIONS FOR CLAY, TOPSOIL OR SILT IN ACCORDANCE WITH STATE EROSION CONTROL LAW 38 MRSA 420-C.
3. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES (BMP) PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MAY 2003, OR AS CURRENTLY REVISED.
4. ANY CONTRACTOR EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING DURING CONSTRUCTION FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:

A. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS 90% COVERAGE OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH MULCH. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE BMP APPLICATION RATES AND LIMITATIONS.

D. FOR AREAS STABILIZED WITH RIP RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP RAP. STONE MUST BE SIZED APPROPRIATELY.

E. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

F. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

B. EROSION AND SEDIMENTATION CONTROL MEASURES

1. REMOVAL OF SOD, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.
2. GRUBBINGS AND ANY UNUSABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.
3. ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADING. TOPSOIL WILL BE STOCKPILED IN A MANNER SUCH THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE WILL RESULT. IF A STOCKPILE IS NECESSARY, THE SIDE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDED WITH AROOSTOOK RYE, ANNUAL OR PERENNIAL RYE GRASS (DEPENDING ON DATE SEEDED) WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES.
4. TEMPORARY DIVERSION BERMS AND DRAINAGE SWALES SHALL BE CONSTRUCTED AS NECESSARY.
5. TEMPORARY STABILIZATION SHALL BE CONDUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS, PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY. TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODABLE COVER. AREAS WITHIN 75 FEET OF WETLANDS SHALL BE TEMPORARILY STABILIZED WITHIN 48 HOURS OR PRIOR TO RAIN EVENT.
6. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.
7. TEMPORARY SEEDING SPECIFICATIONS. WHERE THE SEED BED HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 4 INCHES BEFORE APPLYING SEED. UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES; APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.

   RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:

   AROOSTOOK RYE; RECOMMENDED SEEDING DATES: 8/15 – 10/1
   APPLICATION RATE: 112 LBS./ACRE

   ANNUAL RYE GRASS; RECOMMENDED SEEDING DATES: 4/1 – 7/1
   APPLICATION RATE: 40 LBS./ACRE

   PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 – 9/15
   APPLICATION RATE: 40 LBS./ACRE
8. IF THE AREA WILL REMAIN UNWORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO STABILIZATION USING VEGETATION THROUGH PLANTING, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH OR RIP RAP. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS. AMEND AREAS OF DISTURBED SUBSOIL WITH TOP SOIL OR OTHER ORGANIC AMENDMENTS. PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY EROSION CONTROL BLANKETS, AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC. EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL ESTABLISHED. AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT.
9. PERMANENT SEEDING SPECIFICATION. IF A LANDSCAPE PLAN HAS BEEN PREPARED FOR THE PROJECT, SOIL PREPARATION AND SEEDING SPECIFICATIONS OF THAT PLAN SHALL SUPERSEDE THESE GENERAL PERMANENT SEEDING SPECIFICATIONS. IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND AUGUST 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOOK RYE OR MULCHED AT RATES PREVIOUSLY SPECIFIED. SEE WINTER CONDITIONS NOTES FOR SEEDING STABILIZATION AFTER NOVEMBER 1.

A. APPLY TOPSOIL TO A MINIMUM DEPTH OF 6 INCHES. MIX TOPSOIL WITH THE SUBSOIL TO A MINIMUM DEPTH OF 6 INCHES.

B. UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES. APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRE, AND ANCHOR AS NECESSARY.

C. THE SEED MIXTURE FOR LAWN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:

   10 % CREEPING RED FESCUE
   30 % KENTUCKY BLUEGRASS
   60 % PERENNIAL RYE GRASS

D. THE SEED MIXTURE FOR WET AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:

   50 % REED CANARY GRASS
   25 % RED TOP
   15 % CREEPING RED FESCUE
   10 % PERENNIAL RYE GRASS

10. MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH.
11. DITCH LININGS, STONE CHECK DAMS, AND RIP RAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.
12. RIP RAP REQUIRED AT CULVERTS AND STORM DRAIN INLETS AND OUTLETS SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. STONES SHALL WEIGH FROM 10 LBS. TO 200 LBS. AND 50% OF THE STONES BY VOLUME SHALL EXCEED A UNIT WEIGHT OF APPROXIMATELY 50 LBS.
13. EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 3:1, IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (E.G. WETLANDS AND WATER BODIES). EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
14. TEMPORARY CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

C. HOUSEKEEPING

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORM WATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.
4. DEBRIS AND OTHER MATERIAL. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER, MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING. TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, MUST BE FILTERED THROUGH A DIRT BAG, HAYBALE CORRAL OR OTHER SILTATION BASIN PRIOR TO DISCHARGE.

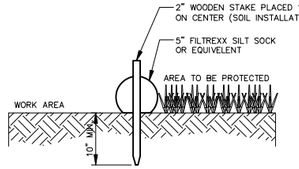
D. INSPECTION AND MAINTENANCE

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORMWATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AS WELL AS BEFORE AND AFTER STORM EVENTS, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORM WATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL CONPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (RAINFALL). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.
2. AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPS THAT NEED TO BE MAINTAINED, LOCATION(S) OF BMPS THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION, AND LOCATION(S) WHERE ADDITIONAL BMPS ARE NEEDED THAT DID NOT EXIST AT THE TIME OF THE INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED; INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

E. WINTER CONSTRUCTION EROSION AND SEDIMENTATION CONTROL NOTES

THE WINTER CONSTRUCTION PERIOD TYPICALLY BEGINS IN EARLY NOVEMBER AND ENDS IN MID APRIL. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER, OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS TO OCCUR DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AN AREA SHALL BE CONSIDERED STABILIZED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN THE ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED, AND MULCHED. A COVER OF EROSION CONTROL MIX IS THE PREFERRED TEMPORARY MULCH DURING WINTER CONDITIONS.

1. NATURAL RESOURCE PROTECTION: ANY AREAS WITHIN 75 FEET FROM ANY REGULATED NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH AN EROSION CONTROL COVER. DURING WINTER CONSTRUCTION, A DOUBLE ROW OF SEDIMENT BARRIERS (FOR EXAMPLE, SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) WILL BE PLACED BETWEEN ANY REGULATED NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE REGULATED NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.
2. SEDIMENT BARRIERS: DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.
3. MULCHING: ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 3 TONS PER ACRE (TWICE THE NORMAL ACCEPTED RATE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCHES THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA WILL BE PROPERTY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.
4. SOIL STOCKPILING: STOCKPILES OF SOIL OR SUBSOIL WILL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR-INCH LAYER OF EROSION CONTROL MIX. THIS WILL BE DONE WITHIN 24 HOURS OF STACKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE WILL NOT BE PLACED WITHIN 100 FEET FROM ANY REGULATED NATURAL RESOURCE.
5. SEEDING: BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISH GRADED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOOMED AND FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF DORMANT SEEDING IS USED, ALL DISTURBED AREAS SHALL RECEIVE 4 INCHES OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS PER 1,000 S.F. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75%) IN THE SPRING SHALL BE REVEGETATED.
6. OVER-WINTER STABILIZATION OF DITCHES AND CHANNELS: ALL STONE-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED BY NOVEMBER 1. ALL GRASS-LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A GRASS-LINED DITCH OR CHANNEL IS STABILIZED BY SEPTEMBER 1, THEN EITHER A SOD LINING SHALL BE INSTALLED PRIOR TO OCTOBER 1 OR THE DITCH MUST BE LINED WITH STONE RIPRAP BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE PRIOR TO NOVEMBER 1.
7. OVER-WINTER STABILIZATION OF DISTURBED SLOPES: ALL STONE-COVERED SLOPES MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDED AND MULCHED BY SEPTEMBER 1. ALL AREAS HAVING A GRADE STEEPER THAN 8% SHALL BE CONSIDERED A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN THE SLOPE SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS BY OCTOBER 1, SOD BY OCTOBER 1, EROSION CONTROL MIX BY NOVEMBER 1, OR STONE RIPRAP BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.
8. OVER-WINTER STABILIZATION OF DISTURBED SOILS: BY SEPTEMBER 15, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN THE AREA SHALL EITHER BE STABILIZED WITH TEMPORARY VEGETATION BY OCTOBER 1, SOD BY OCTOBER 1, OR MULCH BY NOVEMBER 15. SEE APPLICABLE SECTIONS UNDER EROSION AND SEDIMENTATION CONTROL NOTES FOR PROPER INSTALLATION METHODS.
9. MAINTENANCE: MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL, IN THE SPRING, INSPECT AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

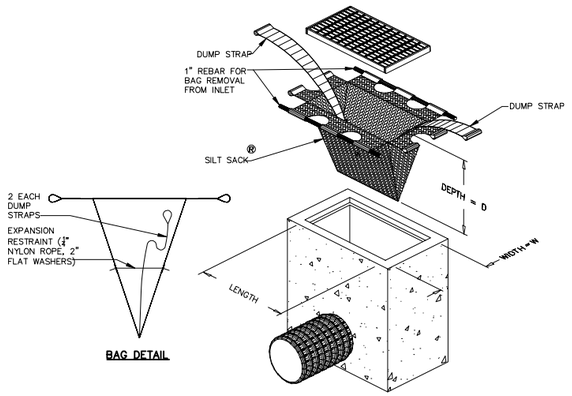


NOTE:
OVERLAP AT CONNECTIONS MINIMUM OF 12" AND STAKE TOGETHER.

SECTION VIEW

SEDIMENT BARRIER (SILT SOCK)

NOT TO SCALE

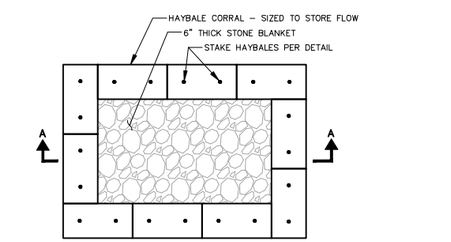


BAG DETAIL

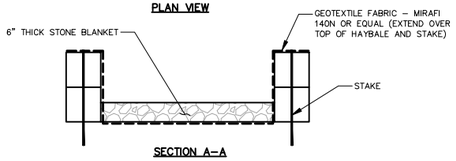
MAINTENANCE SCHEDULE:
1. EACH SILTSACK SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT.
2. IF THERE HAVE BEEN NO MAJOR EVENTS, SILTSACKS SHALL BE INSPECTED EVERY 2-3 WEEKS.
3. THE YELLOW RESTRAINT CORD SHOULD BE VISIBLE AT ALL TIMES. IF THE CORD IS COVERED WITH SEDIMENT, THE SILTSACK SHOULD BE EMPTIED.

SILTSACK DETAIL

NOT TO SCALE



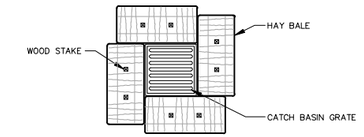
PLAN VIEW



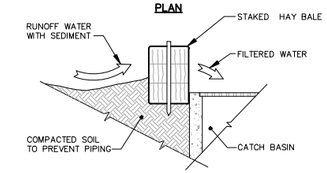
SECTION A-A

TEMPORARY HAYBALE CORRAL SEDIMENT BASIN

NOT TO SCALE



PLAN

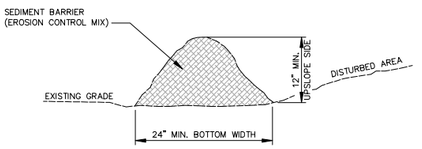


SECTION

NOTE:
INSTALL BARRIER AT CATCH BASIN IF GRATE IS SET FLUSH WITH WORKING GRADE.

CATCH BASIN HAY BALE BARRIER

NOT TO SCALE

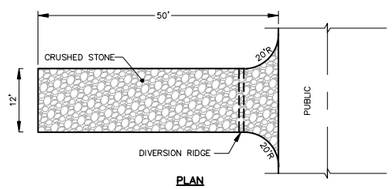


IN ORDER FOR EROSION CONTROL MIX TO BE USED IN LIEU OF SILT FENCE IT MUST MEET THE FOLLOWING STANDARDS:

1. THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 50 AND 100%, DRY WEIGHT BASIS.
2. PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70%, MAXIMUM OF 85%, PASSING A 0.75" SCREEN.
3. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
4. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
5. SOLUBLE SALTS CONTENT SHALL BE <4.0 mmhos/cm.
6. THE pH SHOULD FALL BETWEEN 5.0 AND 8.0.
7. THE EROSION CONTROL MIX SHALL CONTAIN A WELL GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.
8. PLACE BARRIER ALONG A RELATIVELY FLAT CONTOUR. CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES WHERE FINES CAN WASH UNDER THE BARRIER THROUGH GRASS BLADES AND BRANCHES.
9. PLACEMENT OF BARRIER SHOULD BE:
   – AT TOE OF THE SLOPE,
   – ON FROZEN GROUND, BEDROCK OR ROOTED FORESTED AREAS.
   – AT THE EDGE OF GRAVEL AND AREAS UNDER CONSTRUCTION.
10. BARRIER SHALL NOT BE USED ADJACENT TO WETLANDS
11. REMOVE SEDIMENT DEPOSITS WHEN THEY REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER.
12. WHEN BARRIER IS DECOMPOSED, CLOGGED WITH SEDIMENT, ERODED OR INEFFECTIVE, IT MUST BE REPLACED OR REPAIRED. THE BARRIER SHOULD BE RESHAPED AS NECESSARY.

SEDIMENT BARRIER (EROSION CONTROL MIX)

NOT TO SCALE



PLAN

NOTES:
1. USE CRUSHED STONE OR ACCEPTABLE ON-SITE MATERIAL. (STONE AGGREGATE SIZE – 2" TO 3").
2. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA TO BE COVERED WITH AGGREGATE. ACCEPTABLE MATERIALS ARE TREVIRA SPUNBOND 1135 MIRAFI 600X, OR EQUIVALENT.
3. LENGTH – AS SHOWN.
4. THICKNESS – NOT LESS THAN SIX (6) INCHES.
5. PROVIDE APPROPRIATE TRANSISTION BETWEEN STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY. INGRESS OR EGRESS.
6. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC REPAIR AND TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
7. WHEN COMPLETE, CONTRACTOR TO REMOVE STONE AND GRADE SUBBASE TO MATCH EXISTING OR PROPOSED GRADES. COVER WITH MINIMUM 6-INCH LAYER OF LOAM, APPLY WETLAND SEED MIX WHEN IN FLOODPLAIN (ELEVATION 40 AND BELOW) AND CONSERVATION MIX ABOVE. COVER WITH BIODEGRADABLE DOUBLE NET STRAW MAT.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

St.Germain
846 Main St., Westbrook, Maine 04092
207-591-7000 • StGermain.com

STATE OF MAINE
KYLE SETH JACOBSON
No. 16656
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION DESCRIPTION

DESIGNED BY: KSJ
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/20/2022
FILE NAME: 1172-0002 DET01.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

EROSION & SEDIMENTATION CONTROL NOTES & DETAILS

SHEET NO:

C-501

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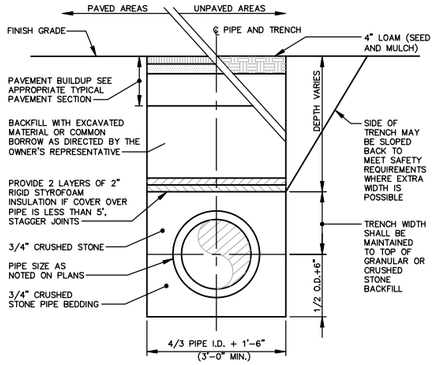
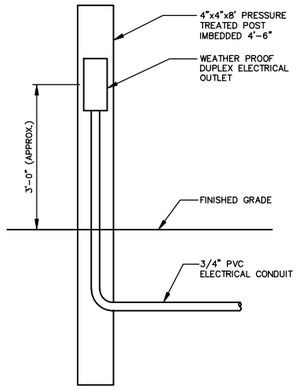
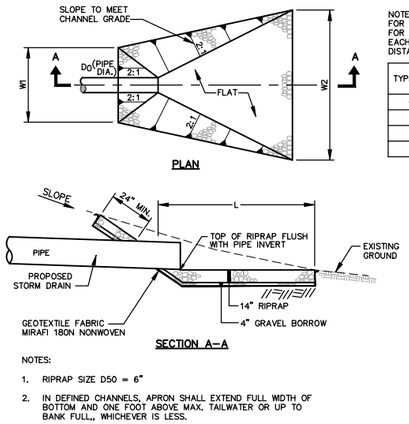


TYPICAL TRENCH SECTION
NOT TO SCALE



BLOCK HEATER OUTLET
NOT TO SCALE

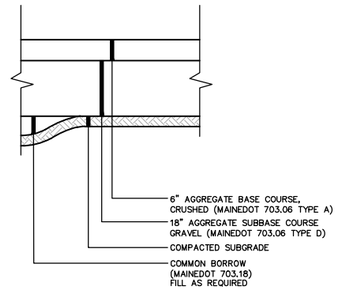


NOTE:
FOR SINGLE PIPES, W1= 3Do
FOR TWIN PIPES, W1= 2Do FOR EACH PIPE + THE CLEAR DISTANCE BETWEEN PIPES.

TYPE ID.	APRON DIM. (FEET)		D50 RIPRAP SIZE (IN)	DEPTH (IN)
	W2	L		
6"	7	6	6	10
12"	12	10	6	12
15"	14	12	6	12
18"	16	14	6	12

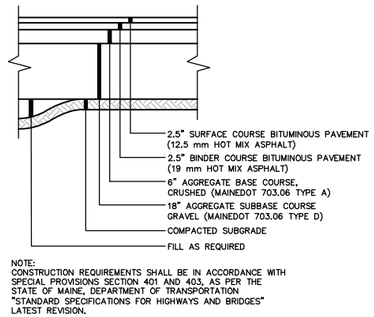
NOTES:
1. RIPRAP SIZE D50 = 6"
2. IN DEFINED CHANNELS, APRON SHALL EXTEND FULL WIDTH OF BOTTOM AND ONE FOOT ABOVE MAX. TAILWATER OR UP TO BANK FULL,, WHICHEVER IS LESS.

RIPRAP INLET/OUTLET PROTECTION
NOT TO SCALE



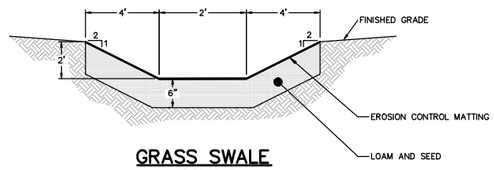
NOTES:
1. THE NON-ORGANIC ON-SITE SOILS MAY BE SUITABLE FOR REUSE AS COMMON BORROW IN GRAVEL STORAGE PAD AREA, PROVIDED THEY ARE AT A COMPACTABLE MOISTURE CONTENT AT THE TIME OF PLACEMENT.
2. ALL MATERIALS SHALL CONFORM TO MAINEDOT SPECIFICATIONS, LATEST REVISION. COMPACTION OF ALL MATERIALS TO BE IN ACCORDANCE WITH MAINEDOT SPECIFICATIONS.

GRAVEL BUILDUP
NOT TO SCALE

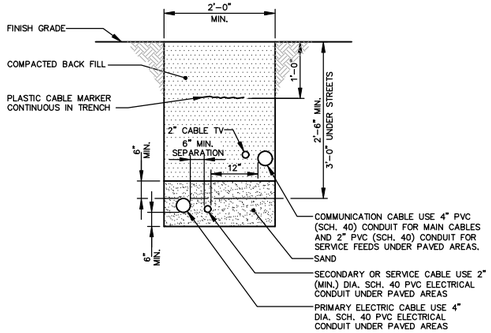


NOTE:
CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SPECIAL PROVISIONS SECTION 401 AND 403, AS PER THE STATE OF MAINE, DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES" LATEST REVISION.

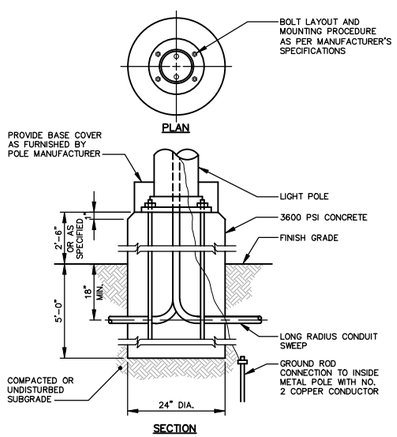
PAVEMENT BUILDUP – HEAVY DUTY
NOT TO SCALE



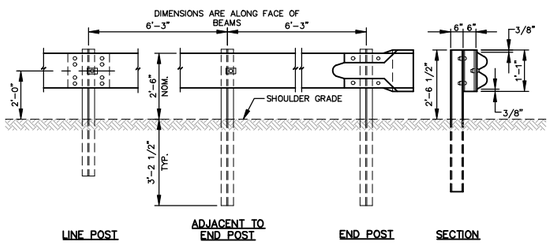
GRASS SWALE
NOT TO SCALE



UNDERGROUND ELECTRICAL & TELEPHONE CONDUIT
NOT TO SCALE



LIGHT POLE BASE
NOT TO SCALE



NOTES:
1. INTERMEDIATE POST SPACING SHALL BE 6'-3" UNLESS OTHERWISE SHOWN.
2. POST AND OFFSET BRACKETS SHALL BE 4"x 6" I-BEAM 8.5 OR 9.0 LBS. PER FOOT. LENGTH OF 5'-9" ATTACHED WITH 5/8" DIA. BOLTS WITH HEX NUTS.
3. ALL HOLES IN BEAM TO BE SHOP-PUNCHED PRIOR TO GALVANIZING.
4. RAIL PANELS AND END SECTIONS TO BE 12 GAUGE STEEL.
5. BACK-UP PLATE TO BE PLACED BEHIND RAIL ELEMENTS AT INTERMEDIATE STEEL POSTS (NON-SPLICE POSTS).
6. ALL PARTS SHALL CONFORM TO CURRENT MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
7. WHEN GUARDRAIL IS CONSTRUCTED AT UP TO FOUR FEET FROM THE EDGE OF PAVEMENT, THE GUARDRAIL WILL BE SET FROM THE GRADE AT THE FACE OF RAIL.
8. END SECTIONS TO BE IN ACCORDANCE WITH CURRENT MAINE DEPARTMENT OF TRANSPORTATION STANDARDS.
9. GUARDRAIL SET ON A RADIUS OF 150 FEET OR LESS TO BE CIRCULAR.

BEAM GUARDRAIL
NOT TO SCALE

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STATE OF MAINE
KYLE SETH JACOBSON
No. 16656
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REVISION DESCRIPTION

DESIGNED BY: KSJ
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/20/2022
FILE NAME: 1172-0002 DET01.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

DETAILS

SHEET NO:

C-502

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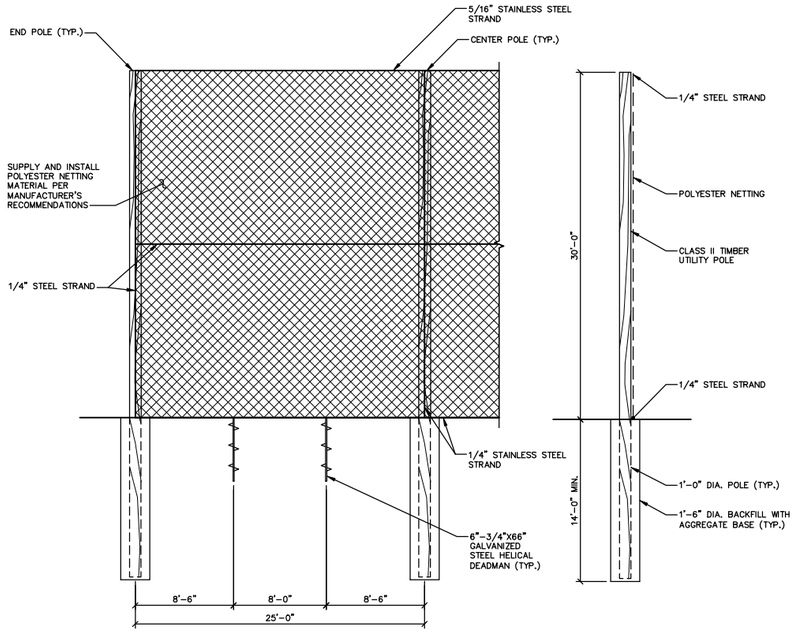


ELEVATION

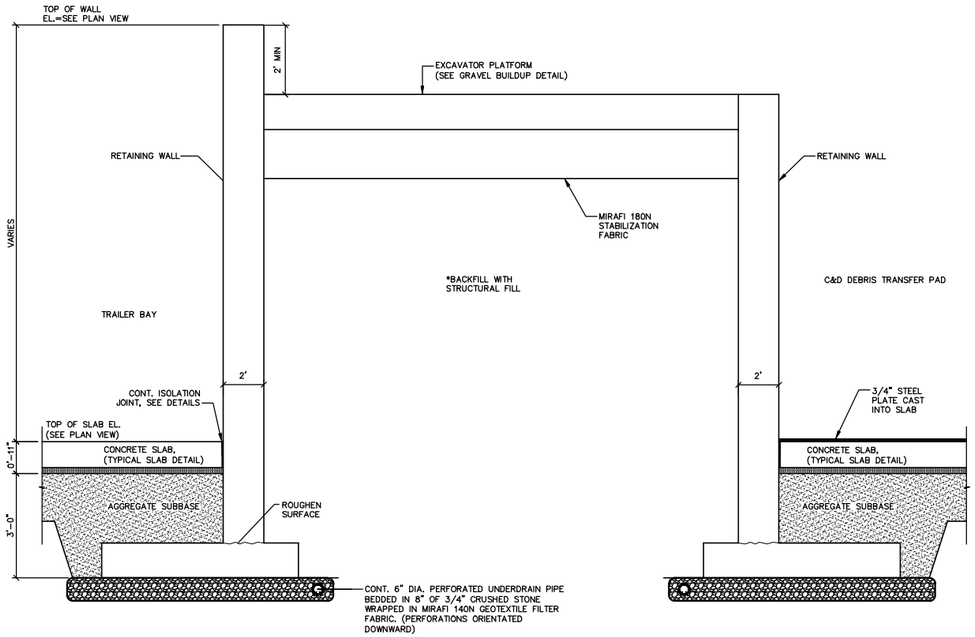
SECTION

LITTER FENCE

NOT TO SCALE

CONSTRUCTION NOTES

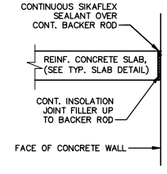
1. POLES:
   - A. POLES SHALL BE MINIMUM 44' CLASS II TIMBER UTILITY POLES
   - B. GUY LINES SHALL BE INSTALLED FOR ANY POLE WHERE THERE IS A CHANGE IN DIRECTION.
   - C. POLES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 14 FEET AND BACKFILLED WITH AGGREGATE BASE.
   - D. THE CONTRACTOR SHALL LAYOUT AND STAKE THE LOCATION OF ALL POLES AND GUY WIRE ANCHORS. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL APPROVE THE STAKED LOCATIONS PRIOR TO INSTALLATION OF THE POLES AND GUY LINES.
2. NETTING:
   - A. NETTING SHALL BE 1 INCH MESH, POLYESTER ROPE BORDERED BARRIER NET.
   - B. NETTING SHALL BE HIGH TENACITY POLYESTER WITH A MINIMUM MESH BREAKING STRENGTH OF 100 LBS. PER ASTM D-3787.
   - C. NETTING SHALL BE LONG STITCH KNOT-LESS CONSTRUCTION.
   - D. NETTING SHALL BE UV IMPREGNATED FIBER AND NOT DIPPED DYED OR BONDED.
   - E. ATTACHMENT TWINE SHALL BE NO. 42 DIAMOND BRAIDBACK POLYESTER WITH A MINIMUM 325 LB. TENSILE STREGTH UV TREATED BLACK.
   - F. PERIMETER BORDER ROPE AND HORIZONTAL ROPE SHALL BE 3/8 INCH DIAMETER BLACK POLYPROPYLENE COVER OVER PARALLEL CORE WITH A MINIMUM 2,500 LB. TENSILE STREGTH.
   - G. THE ATTACHMENT TWINE SHALL CONTINUALLY ENCOMPASS THE NETTING COMPONET TO THE ROPE (SPRIAL WOUND) AND BE TIED OFF THE PERIMETER ROPE USING A CLOVE AND ONE HALF HITCH KNOT ± 12 INCHES ON CENTER.
   - H. NETTING SHALL BE ATTACHED TO ALL LINES (I.E. TOP, WIND, BOTTOM) USING SNAP HOOKS WITH A MAXIMUM SPACING OF 24 INCHES HORIZONTALLY AND VERTICALLY.
   - I. NETTING MANUFACTURE SHALL WARRANTY THE NET FOR A MINIMUM 10 YEAR PERIOD.
3. CONSTRUCTION:
   - A. THE CONTRACTOR WILL MEASURE AND PROVIDE ALL DIMENSIONS, ELEVATIONS AND CONDITIONS AT THE JOB SITE PRIOR TO CONSTRUCTION AND THE SUBMISSION OF SHOP DRAWINGS, AND WILL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
   - B. PROVIDE TEMPORARY BRACING AND SHORING, AS REQUIRED, TO ENSURE POLES REMAIN PLUMB DURING CONSTRUCTION.
   - C. PROVIDE ANY NECESSARY HARDWARE TO INSTALL NETTING IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
   - D. ALL HARDWARE SHALL BE HOT DIPPED GALVANIZED.



RETAINING WALL/FOOTING CONCRETE NOTES:
1. CONCRETE F'c=4000psi, 6% ENTRAINED AIR.
2. REINFORCING GRADE 60, NEW DEFORMED BARS.
3. MAXIMUM W/C=0.48.
4. SEE SITE PLAN FOR LAYOUT REQUIRED.
5. PROVIDE WALL DESIGN BY MAINE LICENSED STRUCTURAL ENGINEER.

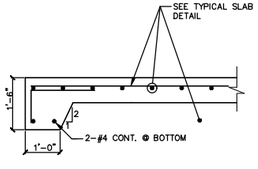
TYPICAL CONCRETE RETAINING WALL SECTION A-A'

NOT TO SCALE



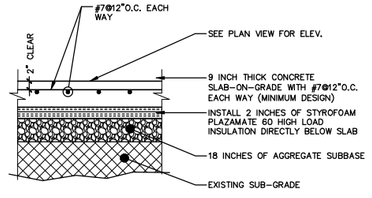
TYPICAL ISOLATION JOINT DETAIL

NOT TO SCALE



TYPICAL SLAB-EDGE DETAIL

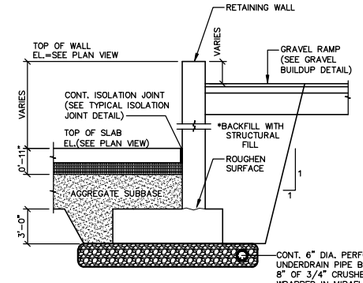
NOT TO SCALE



SLAB NOTES:
1. CONCRETE F'c=4500psi, 1 1/2" AGGREGATE, 4% TO 6% ENTRAINED AIR, LIGHT BROOM FINISH.
2. PROVIDE CHLORIDE PROTECTING SEALANT EQUAL TO SIKAGUARD 701W ON ALL SLABS.
2. REINFORCING STEEL ASTM A615, GRADE 60, NEW DEFORMED BARS.
3. MAXIMUM W/C=0.40.
4. #7 REINFORCING BARS TO BE ONE-PIECE AND CONTINUOUS EACH DIRECTION, SPLICES ARE NOT ALLOWED-NO EXCEPTION.
5. SEE SITE PLAN.
6. MINIMUM SLAB REQUIREMENTS. PROVIDE DESIGN BY MAINE LICENSED STRUCTURAL ENGINEER.

TYPICAL SLAB DETAIL

NOT TO SCALE



RETAINING WALL/FOOTING CONCRETE NOTES:
1. CONCRETE F'c=4000psi, 6% ENTRAINED AIR.
2. REINFORCING GRADE 60, NEW DEFORMED BARS.
3. MAXIMUM W/C=0.48.
4. SEE SITE PLAN FOR LAYOUT REQUIRED.

TYPICAL CONCRETE RETAINING WALL SECTION B-B'

NOT TO SCALE

NOTES:
1. CONTRACTOR TO PROVIDE STRUCTURAL DESIGN OF RETAINING WALLS AND SLABS STAMPED BY A MAINE LICENSED ENGINEER.
2. DESIGN LOADS:
   EXCAVATOR PLATFORM, CONCRETE PADS AND WALLS TO BE DESIGNED TO HANDLE THE FOLLOWING LOADS:
   - 60,000 LB. TRACK-MOUNT EXCAVATOR
   - 50,000 LB. RUBBER TIRE FRONT END LOADER
   - 300,000 LB. MATERIAL ON C & D DEBRIS TRANSFER PAD
   - 100,000 LB. TRACTOR TRAILER ON TRAILER BAY AND C&D DEBRIS TRANSFER PAD
3. PROVIDE STEEL PLATE FULL LENGTH OF NORTH WALL AT C&D DEBRIS TRANSFER PAD AND 20 FEET OF WEST WALL AT C&D DEBRIS TRANSFER PAD.
4. PROVIDE STAIRWAY EQUAL TO FIXED ALUMINUM INDUSTRIAL STAIR BY PRECISION LADDERS, LLC. MINIMUM STAIR WIDTH SHALL BE 22 INCHES AND 45 DEGREE MAXIMUM PITCH.

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LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

DETAILS

SHEET NO:

C-503

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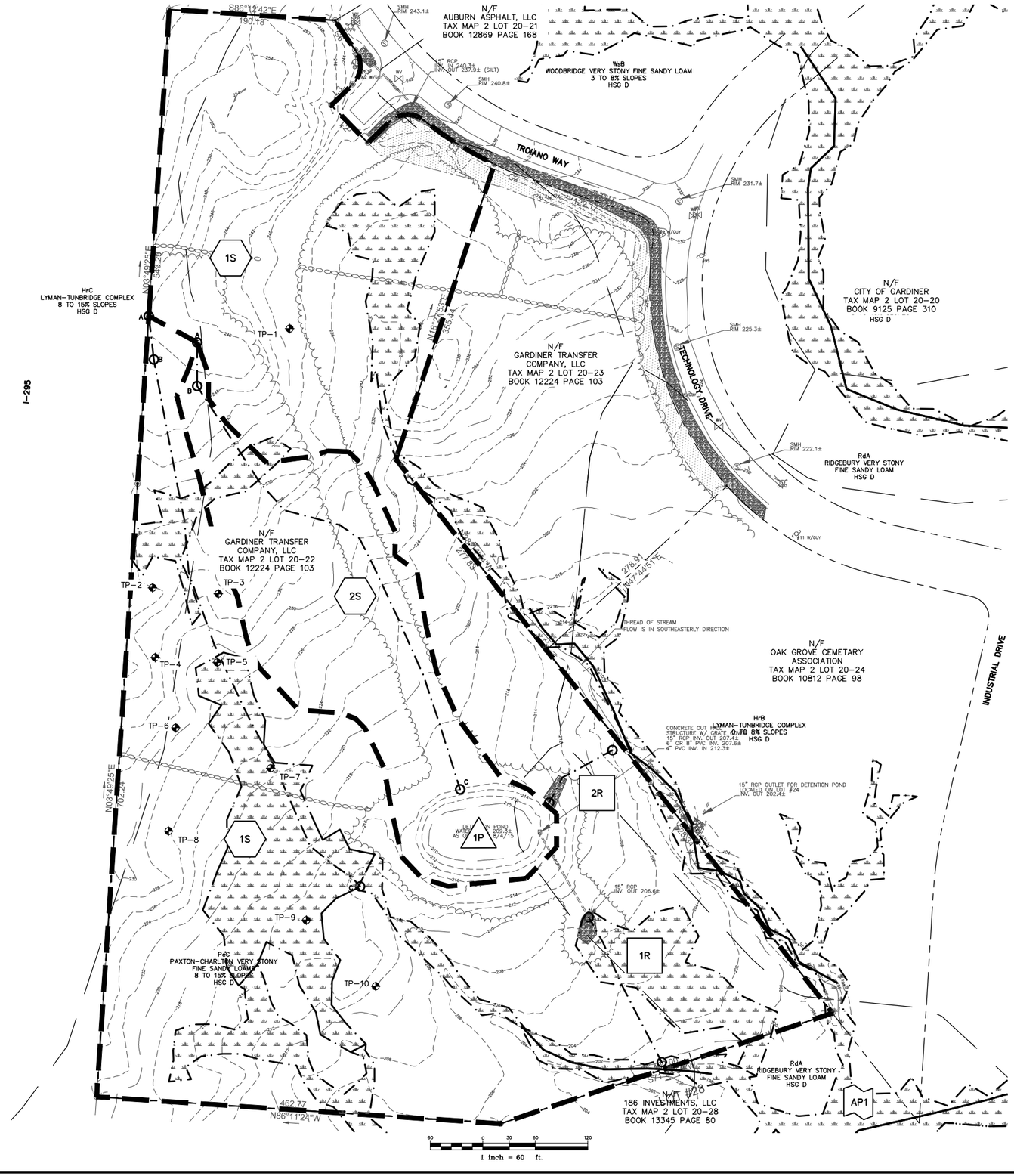

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR TAX MAP 2 LOT 20-22 IN GARDINER, MAINE. THE TOTAL AREA OF THE SUBJECT PARCEL IS 13.49± ACRES.
2. THE OWNER OF RECORD FOR TAX MAP 2 LOT 22 IN GARDINER, MAINE IS GARDINER TRANSFER COMPANY, LLC, C/O TROIANO WASTE SERVICES, INC, PO BOX 3541, PORTLAND, MAINE 04104 RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 12224 PAGE 103.
3. PROPERTY BOUNDARIES ARE BASED ON A PLAN ENTITLED "LIBBY HILL BUSINESS PARK PHASE 2, WEEKS ROAD AND ENTERPRISE AVENUE, GARDENER, MAINE" PREPARED BY MAINE COAST SURVEYING AND RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS PLAN BOOK 2007, PAGE 137 AND 138.
4. TOPOGRAPHIC INFORMATION IS BASED ON A PLAN ENTITLED "EXISTING CONDITIONS LOTS 22 & 23 LIBBY HILL BUSINESS PARK" BY BOUNDARY ENGINEERING SURVEY TECHNOLOGY, DATED AUGUST 7, 2015. TOPOGRAPHIC ELEVATIONS ARE BASED ON TEMPORARY BENCHMARK 'A FROM RECORD DRAWING – MANHOLE NO. 69 RIM ELEVATION 264.80. HORIZONTAL DATA BASED ON NAD83 MAINE STATE PLANE WEST DATUM.
5. WETLAND BOUNDARIES OBTAINED FROM A FIELD SURVEY PERFORMED BY MICHAEL JOHNSON OF WOODLOT ALTERNATIVES, INC ON AUGUST 6, 2004 AND FIELD VERIFIED BY TOM TETREAU, PWS OF STANTEC CONSULTING SERVICES, INC ON DECEMBER 20, 2019.
6. SOIL TYPES FOR THE SITE WERE OBTAINED FROM THE USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY MEDIUM INTENSITY SOILS MAPPING. THE WATERSHED IS COMPOSED OF PAXTON-CHARLTON VERY STONY FINE SANDY LOAM (PeC) – HYDROLOGIC SOIL GROUP (HSG) D, LYMAN-TUNBRIDGE COMPLEX (HrB & HrC) – HSG D, WOODBRIDGE VERY STONY FINE SANDY LOAM (WaB) – HSG D, AND RIDGEBURY VERY STONY FINE SANDY LOAM (RdA) – HSG D.
7. PRE-DEVELOPMENT SUBCATCHMENTS:

   1S AREA: 494,880 SF
   CN=77
   Tc: 19.9 MINUTES
   A–B SF L=50' S=0.0400
   B–C SCF L=663' S=0.0483

   2S AREA: 252,274 SF
   CN=77
   Tc: 21.4 MINUTES
   A–B SF L=50' S=0.0200
   B–C SCF L=576' S=0.0512

   1R
   A–B CF L=185' S=0.0324

   2R
   A–B CF L=97.5' S=0.0821

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- 710 CONTOURS
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
- TREELINE/TREES
- STONEWALL
- SIGNS
- BOLLARDS
- UTILITY POLE
- 1S SUBCATCHMENT
- AP1 ANALYSIS POINT
- 1P POND
- A–B TC FLOWPATH
- SUBCATCHMENT BOUNDARY
- NRCS SOIL BOUNDARY

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CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NO:

C-701

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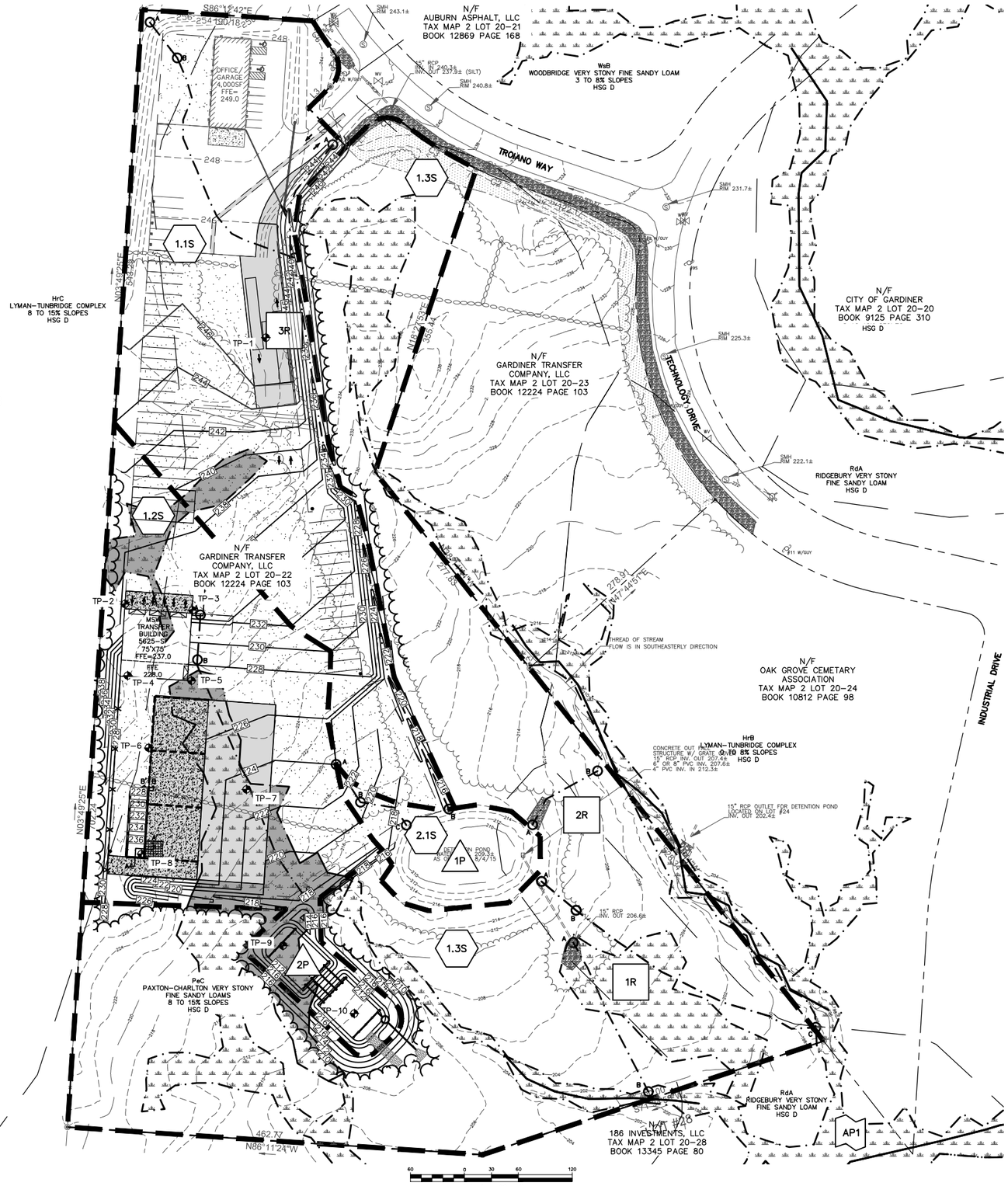

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED CONDITIONS FOR TAX MAP 2 LOT 20-22 IN GARDINER, MAINE. THE TOTAL AREA OF THE SUBJECT PARCEL IS 13.49± ACRES.
2. THE OWNER OF RECORD FOR TAX MAP 2 LOT 22 IN GARDINER, MAINE IS GARDINER TRANSFER COMPANY, LLC, C/O TROIANO WASTE SERVICES, INC, PO BOX 3541, PORTLAND, MAINE 04104 RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 12224 PAGE 103.
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7. POST-DEVELOPMENT SUBCATCHMENTS:

1.1S AREA: 151,367 SF
CN=98
Tc: 6.0 MINUTES
A-B SF L=50' S=0.1700
B-C SCF L=289' S=0.0398

1.2S AREA: 122,621 SF
CN=98
Tc: 6.0 MINUTES
A-B SF L=50' S=0.1600
B-C SCF L=291' S=0.0344

1.3S AREA: 41,380 SF
CN=77
Tc: 7.5 MINUTES
A-B SF L=50' S=0.1200
B-C SCF L=291' S=0.0429

2.1S AREA: 83,556 SF
CN=98
Tc: 6.0 MINUTES
A-B SF L=50' S=0.0600
B-C SCF L=62' S=0.0806

1R
A-B CF L=185' S=0.0324

2R
A-B CF L=97.5' S=0.0821

3R
A-B CF L=790' S=0.0354

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- CONTOURS
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
- TREELINE/TREES
- STONEWALL
- SIGNS
- BOLLARDS
- UTILITY POLE
- SUBCATCHMENT (1S)
- ANALYSIS POINT (AP1)
- POND (1P)
- TC FLOWPATH (A–B)
- SUBCATCHMENT BOUNDARY
- NRCS SOIL BOUNDARY

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POST-DEVELOPMENT DRAINAGE PLAN

SHEET NO:

C-702

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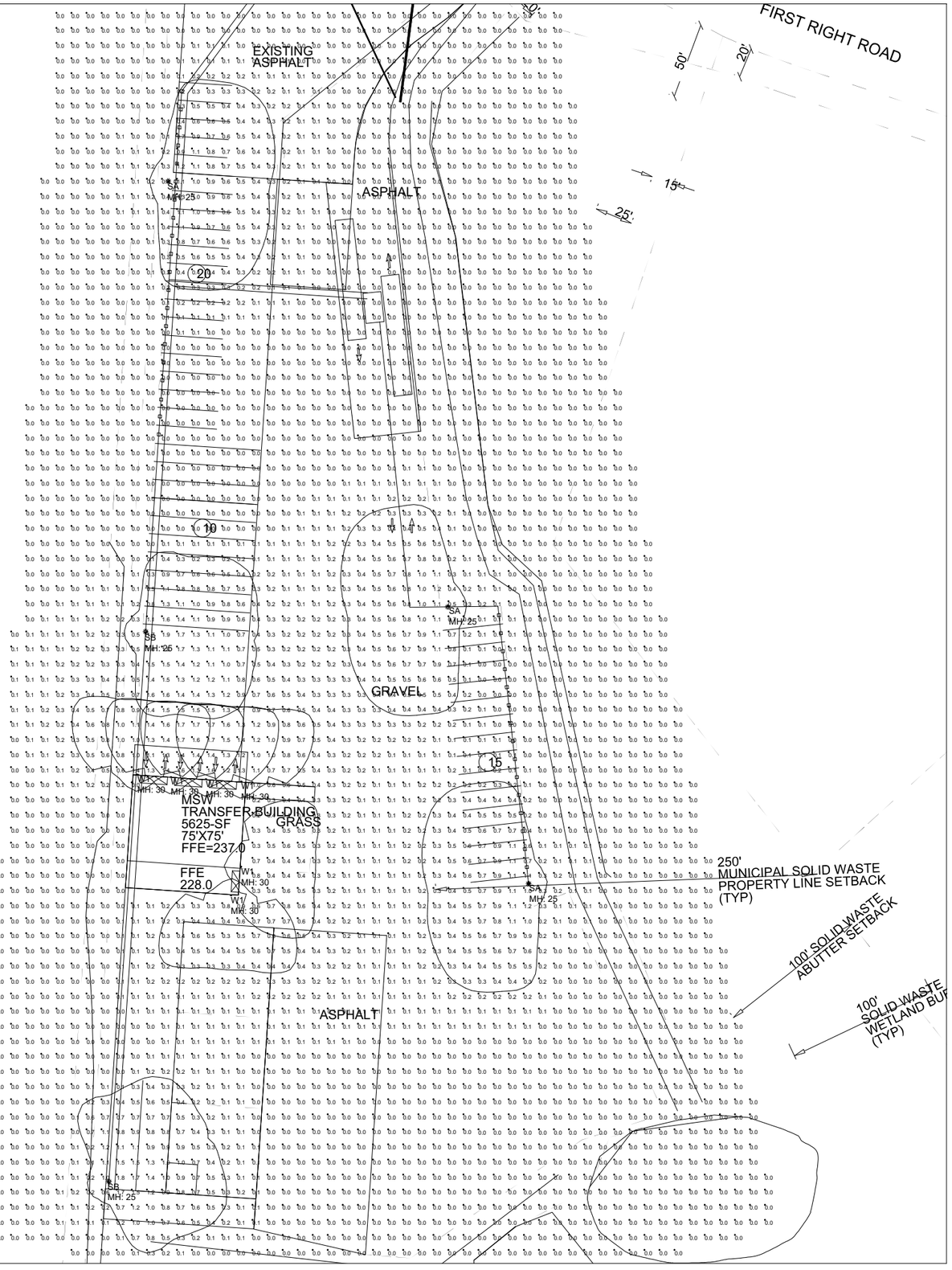


PLAN VIEW

NOTES:
1) EXACT MOUNTING DETAILS TO BE DETERMINED AT JOBSITE BY OTHERS.
2) CALCULATIONS MAY or MAY NOT SHOW THE EFFECT OF SHADOWING CAUSED BY BUILDINGS AND OBJECTS WITHIN THE CALCULATED SPACE OR IN THE SITE AREA.
3) READINGS SHOWN ARE INITIAL HORIZONTAL FOOTCANDLES ON A FLAT SITE WITHOUT REFLECTIONS OR OBSTRUCTIONS UNLESS OTHERWISE INDICATED.
4) THIS CALCULATION IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO SWANEY LIGHTING ASSOCIATES AND STANDARD ASSUMPTIONS OF THE SPACE AND/OR SITE.
5) CONFORMANCE TO CODES AND OTHER LOCAL REQUIREMENTS AS DETERMINED BY THE AHJ ARE THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
6) THIS LAYOUT DRAWING MUST BE COORDINATED WITH THE SITE LOCATION FOR CORRECT FIXTURE ORIENTATION.
7) DOCUMENTS PRINTED OR PLOTTED FROM ELECTRONIC FILES MAY APPEAR AT OTHER THAN THE DESIRED OR ASSUMED GRAPHIC SCALES. IT IS THE RESPONSIBILITY OF THE RECIPIENT TO VERIFY THAT THE PRINTED OR PLOTTED-TO-SCALE DRAWING IS PRINTED TO SCALE.

Calculation Summary					
Label	**Avg**	**Max**	**Min**	**Avg/Min**	**Max/Min**
SITE	0.13	1.9	0.0	N.A.	N.A.

Luminaire Schedule (note fixture cataloge numbers are not complete)					
Type	**Qty**	**Lum. Lumens**	**LLF**	**Lum. Watts**	**Description**
SA	3	7908	0.900	81	VP-S-36L-80-3K7-4W
W1	6	3971	0.900	44	LNC2-18L-3K-070-4
SB	2	8100	0.900	81	VP-S-36L-80-3K7-4

SITE LTG 6-30-21.AGI

GENERATED BY SWANEY LIGHTING, SCARBOROUGH ME - 207-883-7100 - swaneylighting.com

TITLE
LIBBY HILL - TRANSFER STATION
GARDINER, ME
SITE LIGHTING LAYOUT

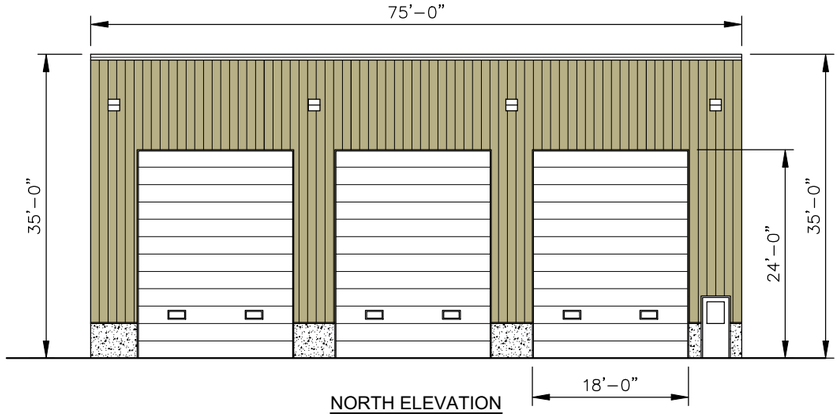
Date:6/30/2021

GENERATED FOR:
ST GERMAIN

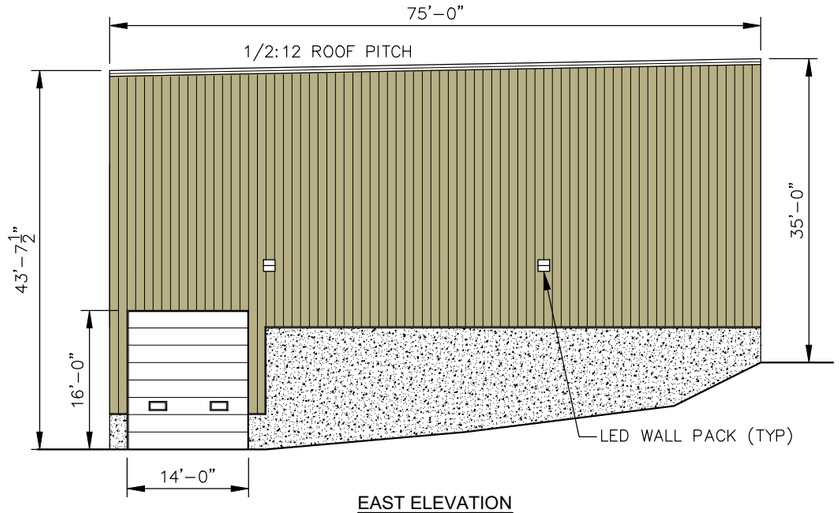
SCALE NOT TO SCALE

Page 1 of 1

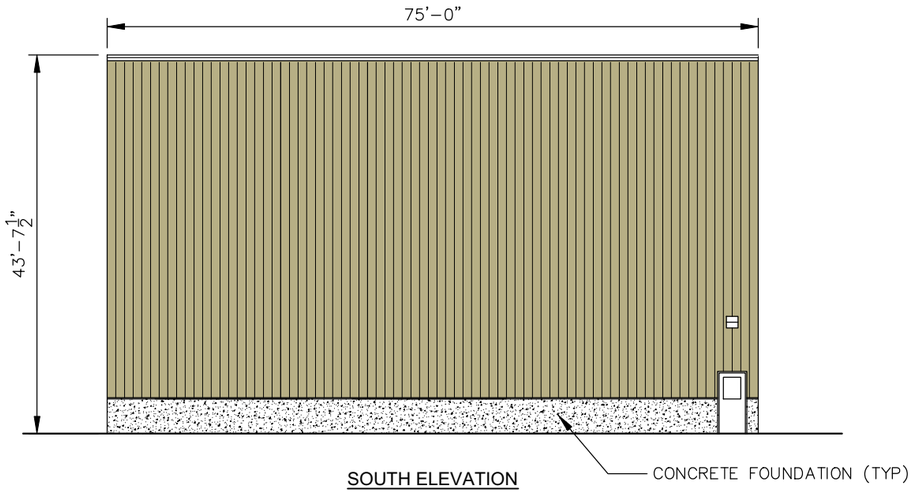
SWANEY LIGHTING ASSOCIATES, INC.



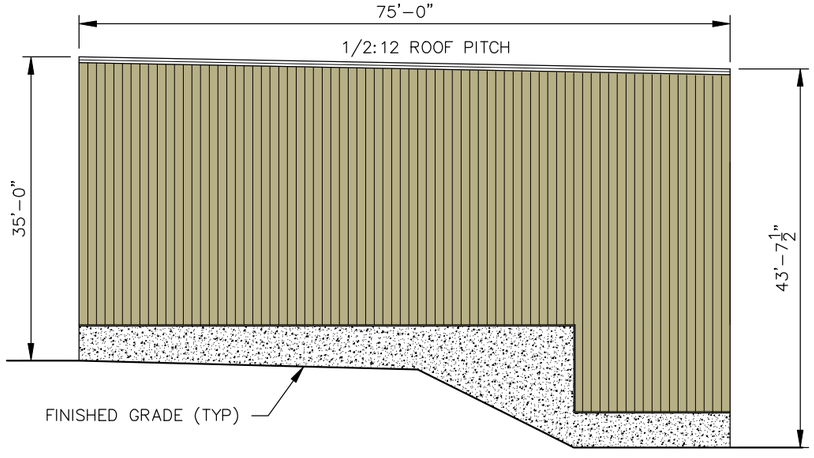
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION

1/8 0 1/16 1/8 1/4

1 inch = 1/8 ft.

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REV.	DATE	REVISION DESCRIPTION

DESIGNED BY: KSJ
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/20/2022
FILE NAME: 1172-0002 ARC01.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
12 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

PROPOSED BUILDING ELEVATIONS

SHEET NO:

A-101

STORMWATER MANAGEMENT REPORT

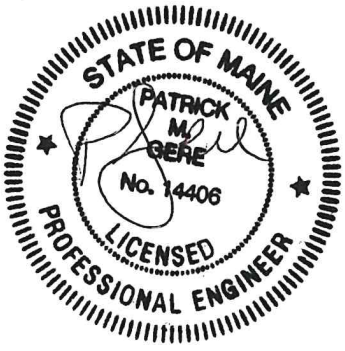
Lot 22
Libby Hill Business Park
Gardiner, Maine 04345

Prepared for:
Gardiner Transfer Company, LLC
PO Box 3541
Portland, Maine 04104

Prepared by:
St.Germain
846 Main Street
Westbrook, Maine 04092

July 2021

St.Germain File No.: 1172-0002



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FIGURES

APPENDICES

1.0 INTRODUCTION

Gardiner Transfer Company, LLC is proposing to construct a new municipal solid waste transfer facility within the Libby Hill Business Park in Gardiner, Maine (site). The site is identified by the City of Gardiner Tax Assessor as Lot 20-22 of Map 2, owned by Gardiner Transfer Company, LLC. The site is located within the Planned Industrial/Commercial (PIC) District and is bounded by commercial parcels to the north, south, and west, and Interstate 295 to the east. A site location map is included as Figure 1.

The project will include the construction of a 5,625 square foot (SF) municipal solid waste transfer building, a construction and demolition debris sorting area, incoming and outgoing scales, a scale house, gravel parking and circulation areas, and associated infrastructure improvements. Stormwater Best Management Practices incorporated into the design include a gravel wetland and grass-lined swales.

The 13.49-acre parcel contains an office and maintenance garage, asphalt parking and circulation areas, and utility infrastructure. There is an existing wet pond located in the southeast portion of the property that was constructed when the industrial park was first developed. Runoff from the site generally flows from north to south/southeast toward wetlands along the southern and eastern perimeter of the parcel.

The entire site is within the Abagadasset River watershed and ultimately discharges into the Kennebec River. The Abagadasset River is not listed in the Maine Department of Environmental Protection's (DEP) Chapter 502 as an urban impaired stream.

2.0 METHOD OF ANALYSIS

The hydrologic analyses for existing and proposed conditions were completed using the computer software package, HydroCAD version 10.00-25, to determine the peak runoff flowrates for the watershed models. HydroCAD is based on NRCS Technical Release 20 and Technical Release 55 (TR-55) and is subject to cumulative rainfall/volume dependent routing calculations. Hydrographs are prepared for each element of the watershed and routed through the dynamic-storage-indication method to produce various time-based results. The model utilized a Type III 24-hour design storm distribution and antecedent moisture condition two.

Runoff rates were evaluated at one Analysis Point in both the existing and proposed conditions for the 2-year, 10-year, and 25-year storms to comply with local and state requirements. Rainfall events were obtained from DEP Chapter 500, Appendix H for Kennebec County. The DEP list the 2-year event as 2.8 inches, the 10-year event as 4.2 inches, and the 25-year event as 5.2 inches. The following is a description of the Analysis Point:

- Analysis Point 1, denoted as Link AP1 in the hydrologic analyses, is the wetlands located along the southern/southeastern boundary of the parcel.

3.0 EXISTING CONDITIONS

In the existing condition, the watershed is comprised of woodland in good condition located over hydrologic soil group (HSG) D soils and a stormwater wet pond BMP. The site is comprised of two subcatchments, both of which ultimately discharge to the south. Runoff from the site was evaluated at one Analysis Point, discussed in Section 2.0. Runoff from Analysis Point 1 discharges to the Abagadasset River.

Soil types for the site were obtained from the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey Medium Intensity Soils Mapping. The watershed is composed of Paxton-Charlton very stony fine sandy loam – hydrologic soil group (HSG) D, Lyman-Tunbridge complex – HSG D, Woodbridge very stony fine sandy loam – HSG D, and Ridgebury very stony fine sandy loam – HSG D. Refer to Appendix A for the complete NRCS Medium Intensity Soil Survey for the site.

Table 1 is a summary of the runoff rates for the existing condition based on modeling with HydroCAD 10.00-25.

Table 1
Pre-Development Summary

Analysis Point	Peak Flow - Cubic Feet per Second (CFS)		
	2-Year	10-Year	25-Year
1	7.95	17.58	25.13

See Appendix B for the HydroCAD analysis of the pre-development condition.

4.0 PROPOSED POST-DEVELOPMENT CONDITIONS

The proposed development includes construction of commercial buildings, parking and circulation areas, a gravel wetland, and associated infrastructure improvements. In the post-development condition, the watershed is comprised of impervious areas and woodland in good condition located over HSG D soils.

The post-development watershed is divided into four subcatchments, which drain to the same Analysis Point as in the existing condition. The stormwater management system has been designed to utilize the existing discharge points to minimize any impact to the existing natural drainage patterns beyond the property line.

Table 2 is a summary of the runoff rates for the post-developed conditions based on modeling with HydroCAD 10.00-25.

Table 2
Post-Development Summary

Analysis Point	Peak Flow (CFS)		
	2-Year	10-Year	25-Year
1	7.13	15.41	21.98

See Appendix C for the HydroCAD analysis for the proposed post-development conditions.

5.0 ANALYSIS

The following table presents a comparison of the pre-development and post-development runoff rates at the Analysis Point. The runoff rates in the post-development conditions are less than in the existing conditions at the Analysis Point.

Table 3 – Runoff Comparison at Analysis Points

Analysis Point	Design Storm	Peak Flow (CFS)		
		Existing	Post	Difference Existing to Post
1	2-Year	7.95	7.13	-0.82
	10-Year	17.58	15.41	-2.17
	25-Year	25.13	21.98	-3.15

6.0 STORMWATER QUALITY

The proposed site improvements include a gravel wetland that will capture and treat runoff. The gravel wetland, in addition to the existing wet pond, will capture and treat approximately 100% of the proposed impervious surface and 100% of the developed area.

Refer to Appendix D for stormwater treatment calculations.

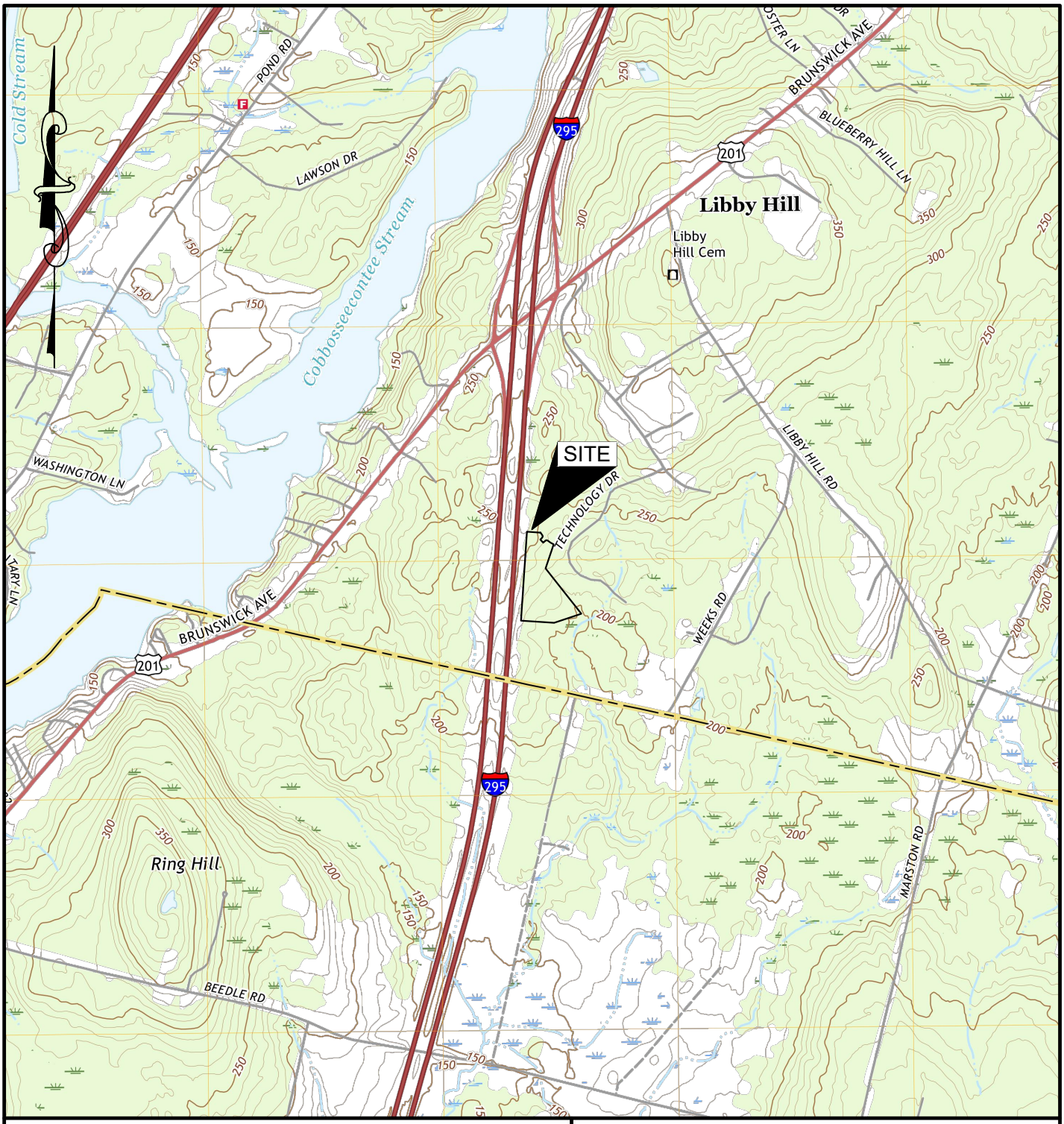
7.0 MAINTENANCE

Maintenance of existing and proposed stormwater facilities will be in conformance with the Operation & Maintenance Plan included in Appendix E.

8.0 SUMMARY

The proposed development will meet the DEP and City of Gardiner requirements for both stormwater quality and quantity. Stormwater quality and quantity requirements are met through the construction of the gravel wetland.

FIGURES



REFERENCE:
USGS SERIES 7.5 TOPOGRAPHIC MAP, GARDINER, ME 2018 QUADRANGLE.

SITE LOCATION MAP

LOT 22
LIBBY HILL BUSINESS PARK
GARDINER, MAINE 04345

GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, ME 04092

2000 0 1000 2000 4000
SCALE IN FEET
1"=2,000'

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FIGURE 1

DATE: 7/6/2021	SCALE: 1"=2,000'	PROJECT NO.: 1172-0002	FILE: 1172-0002 SLM01

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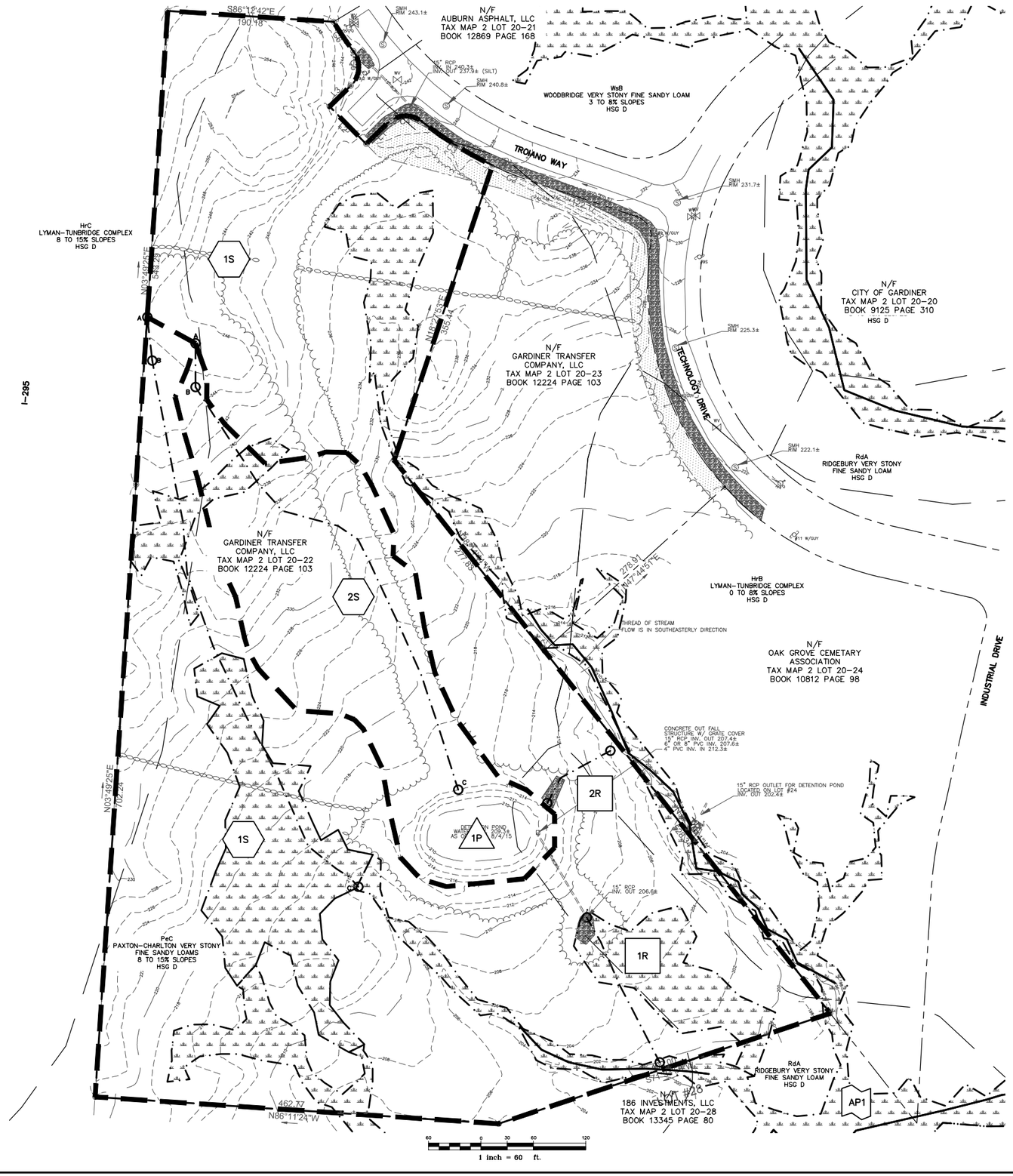

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE EXISTING CONDITIONS FOR TAX MAP 2 LOT 20-22 IN GARDINER, MAINE. THE TOTAL AREA OF THE SUBJECT PARCEL IS 13.49± ACRES.
2. THE OWNER OF RECORD FOR TAX MAP 2 LOT 22 IN GARDINER, MAINE IS GARDINER TRANSFER COMPANY, LLC, C/O TROIANO WASTE SERVICES, INC, PO BOX 3541, PORTLAND, MAINE 04104 RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 12224 PAGE 103.
3. PROPERTY BOUNDARIES ARE BASED ON A PLAN ENTITLED "LIBBY HILL BUSINESS PARK PHASE 2, WEEKS ROAD AND ENTERPRISE AVENUE, GARDENER, MAINE" PREPARED BY MAINE COAST SURVEYING AND RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS PLAN BOOK 2007, PAGE 137 AND 138.
4. TOPOGRAPHIC INFORMATION IS BASED ON A PLAN ENTITLED "EXISTING CONDITIONS LOTS 22 & 23 LIBBY HILL BUSINESS PARK" BY BOUNDARY ENGINEERING SURVEY TECHNOLOGY, DATED AUGUST 7, 2015. TOPOGRAPHIC ELEVATIONS ARE BASED ON TEMPORARY BENCHMARK 'A FROM RECORD DRAWING – MANHOLE NO. 69 RIM ELEVATION 264.80. HORIZONTAL DATA BASED ON NAD83 MAINE STATE PLANE WEST DATUM.
5. WETLAND BOUNDARIES OBTAINED FROM A FIELD SURVEY PERFORMED BY MICHAEL JOHNSON OF WOODLOT ALTERNATIVES, INC ON AUGUST 6, 2004 AND FIELD VERIFIED BY TOM TETREAU, PWS OF STANTEC CONSULTING SERVICES, INC ON DECEMBER 20, 2019.
6. SOIL TYPES FOR THE SITE WERE OBTAINED FROM THE USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY MEDIUM INTENSITY SOILS MAPPING. THE WATERSHED IS COMPOSED OF PAXTON–CHARLTON VERY STONY FINE SANDY LOAM (PeC) – HYDROLOGIC SOIL GROUP (HSG) D, LYMAN–TUNBRIDGE COMPLEX (HrB & HrC) – HSG D, WOODBRIDGE VERY STONY FINE SANDY LOAM (WsB) – HSG D, AND RIDGEBURY VERY STONY FINE SANDY LOAM (RdA) – HSG D.
7. PRE–DEVELOPMENT SUBCATCHMENTS:

1S AREA: 494,880 SF
CN=77
Tc: 19.9 MINUTES
A–B SF L=50' S=0.0400
B–C SCF L=663' S=0.0483

2S AREA: 252,274 SF
CN=77
Tc: 21.4 MINUTES
A–B SF L=50' S=0.0200
B–C SCF L=576' S=0.0512

1R
A–B CF L=185' S=0.0324

2R
A–B CF L=97.5' S=0.0821

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- CONTOURS (710)
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
- TREELINE/TREES
- STONEWALL
- SIGNS
- BOLLARDS
- UTILITY POLE
- SUBCATCHMENT (1S)
- ANALYSIS POINT (AP1)
- POND (1P)
- TC FLOWPATH (A–B)
- SUBCATCHMENT BOUNDARY
- NRCS SOIL BOUNDARY

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DESIGNED BY: PMG
DRAWN BY: PMG
CHECKED BY: PJC
DATE: 7/14/2021
FILE NAME: 1172-0002 STP10.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
10 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

PRE-DEVELOPMENT DRAINAGE PLAN

SHEET NO:

C-701

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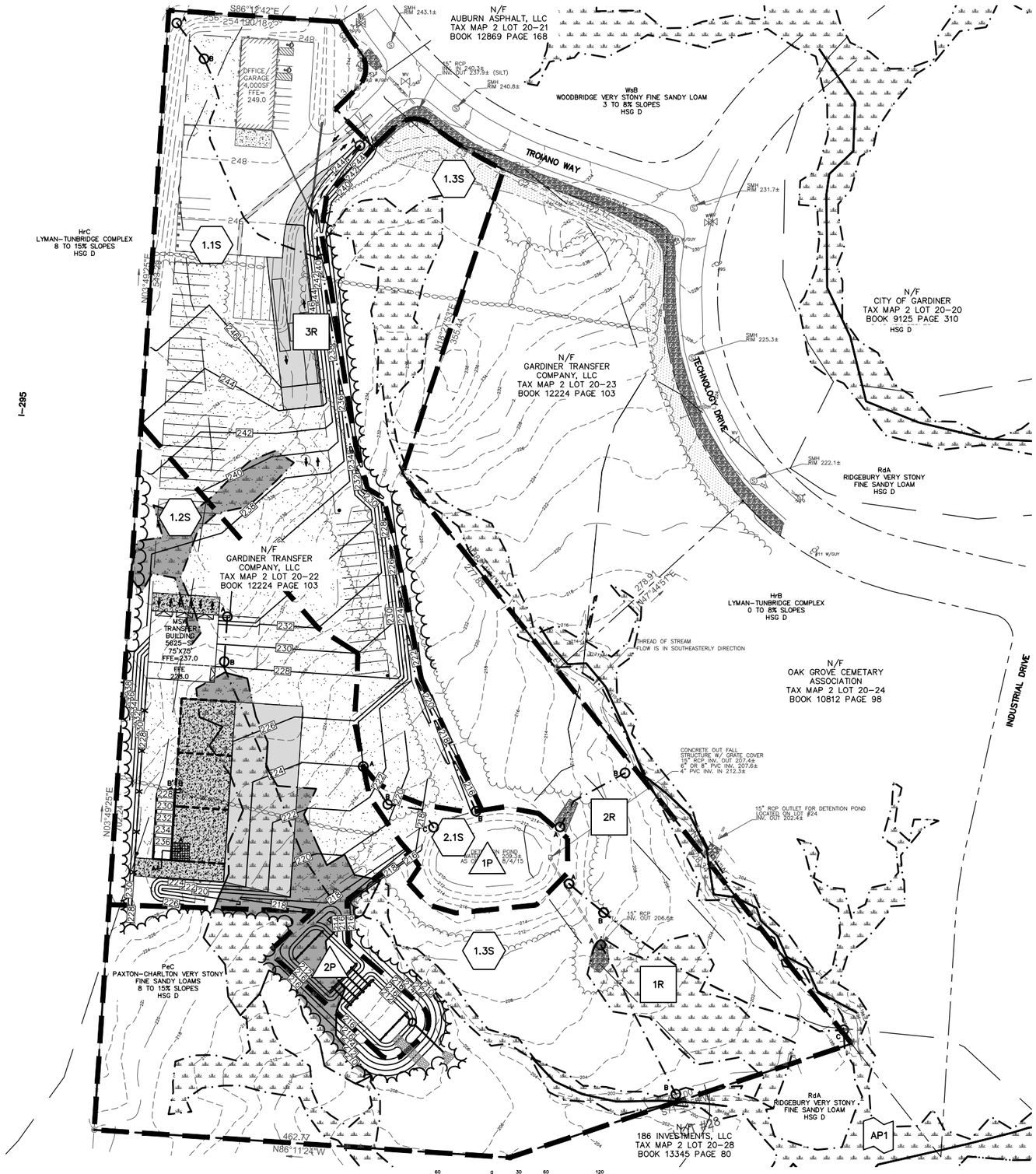

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7. POST-DEVELOPMENT SUBCATCHMENTS:

1.1S AREA: 151,367 SF
CN=98
Tc: 6.0 MINUTES
A–B SF L=50' S=0.1700
B–C SCF L=289' S=0.0398

1.2S AREA: 122,621 SF
CN=98
Tc: 6.0 MINUTES
A–B SF L=50' S=0.1600
B–C SCF L=291' S=0.0344

1.3S AREA: 41,380 SF
CN=77
Tc: 7.5 MINUTES
A–B SF L=50' S=0.1200
B–C SCF L=291' S=0.0429

2.1S AREA: 83,556 SF
CN=98
Tc: 6.0 MINUTES
A–B SF L=50' S=0.0600
B–C SCF L=62' S=0.0806

1R
A–B CF L=185' S=0.0324

2R
A–B CF L=97.5' S=0.0821

3R
A–B CF L=790' S=0.0354

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- CONTOURS
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
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- BUILDINGS
- TREELINE/TREES
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- SUBCATCHMENT
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- TC FLOWPATH
- SUBCATCHMENT BOUNDARY
- NRCS SOIL BOUNDARY

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FILE NAME: 1172-0002 STP10.dwg

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LOT 22
LIBBY HILL BUSINESS PARK
10 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

POST-DEVELOPMENT DRAINAGE PLAN

SHEET NO:

C-702

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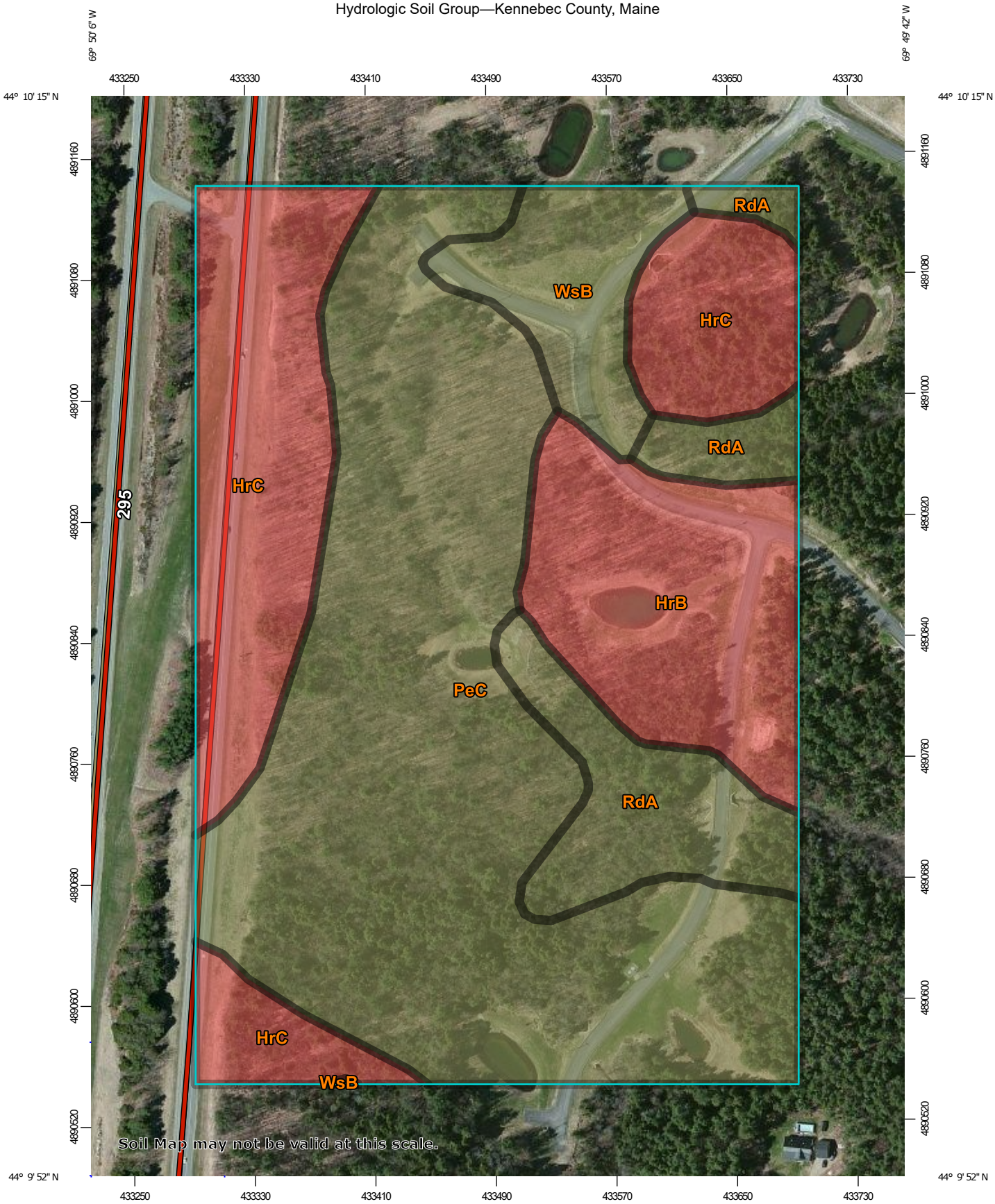
APPENDIX A

NRCS Medium Intensity Soil Survey



Map Scale: 1:3,480 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- 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 19, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 18, 2012—Nov 1, 2016

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HrB	Lyman-Tunbridge complex, 0 to 8 percent slopes, rocky	D	8.0	13.6%
HrC	Lyman-Tunbridge complex, 8 to 15 percent slopes, rocky	D	13.2	22.4%
PeC	Paxton-Charlton very stony fine sandy loams, 8 to 15 percent slopes	C/D	28.1	47.6%
RdA	Ridgebury very stony fine sandy loam	C/D	5.9	10.0%
WsB	Woodbridge very stony fine sandy loam, 3 to 8 percent slopes	C/D	3.8	6.5%
Totals for Area of Interest			**59.0**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

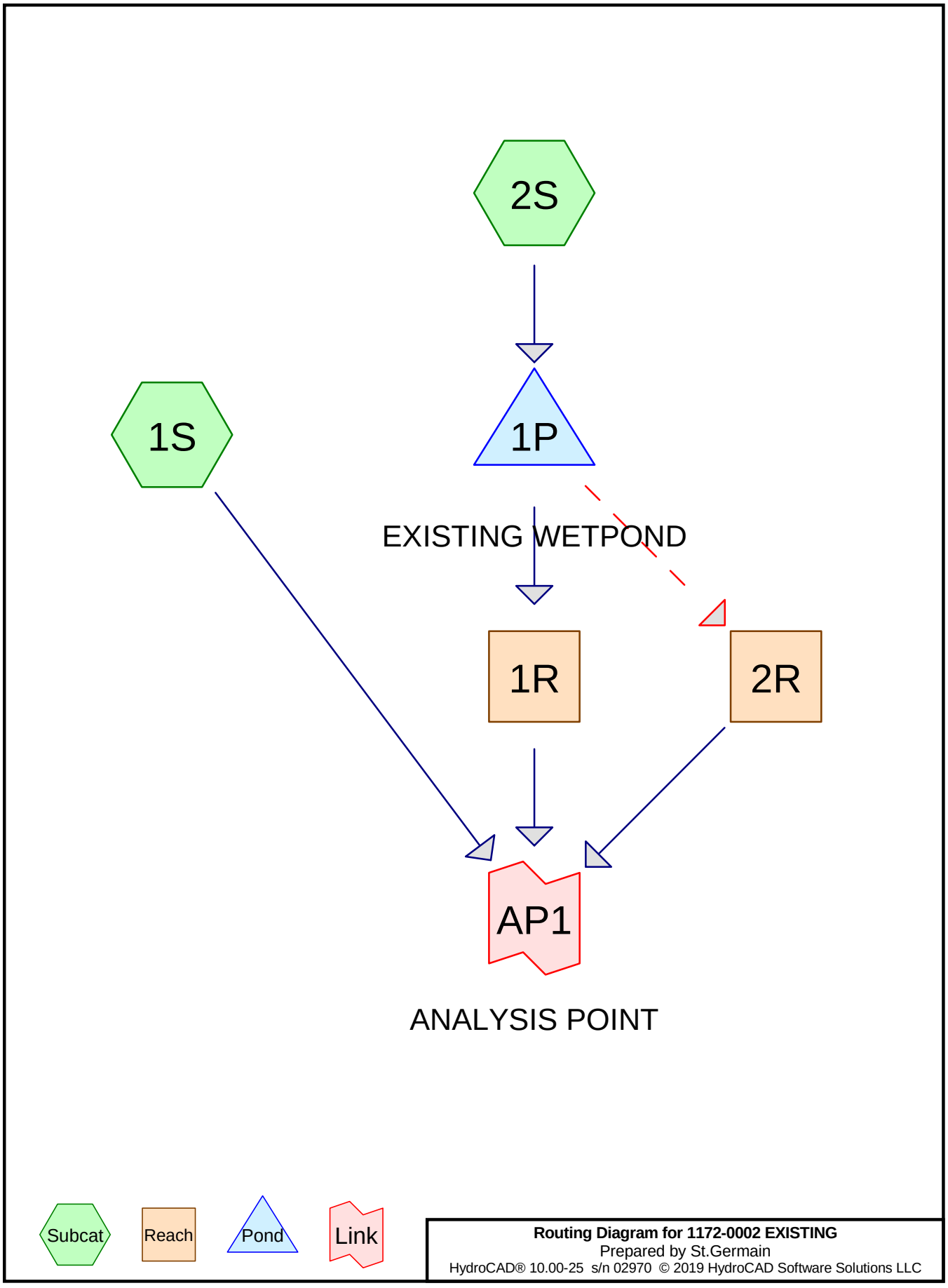
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX B

Pre-Development Conditions



Routing Diagram for 1172-0002 EXISTING
Prepared by St.Germain

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
587,785	77	Woods, Good, HSG D (1S, 2S)
587,785	**77**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	209.50	206.60	112.6	0.0258	0.012	15.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=494,880 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=713' Tc=19.9 min CN=77 Runoff=7.95 cfs 38,553 cf

Subcatchment 2S: Runoff Area=92,905 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=626' Tc=21.4 min CN=77 Runoff=1.45 cfs 7,238 cf

Reach 1R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=0.00 cfs 0 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Pond 1P: EXISTING WETPOND Peak Elev=211.03' Storage=7,238 cf Inflow=1.45 cfs 7,238 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link AP1: ANALYSIS POINT Inflow=7.95 cfs 38,553 cf
Primary=7.95 cfs 38,553 cf

Total Runoff Area = 587,785 sf Runoff Volume = 45,790 cf Average Runoff Depth = 0.93"
100.00% Pervious = 587,785 sf 0.00% Impervious = 0 sf

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=494,880 sf 0.00% Impervious Runoff Depth=1.97"
Flow Length=713' Tc=19.9 min CN=77 Runoff=17.58 cfs 81,225 cf

Subcatchment 2S: Runoff Area=92,905 sf 0.00% Impervious Runoff Depth=1.97"
Flow Length=626' Tc=21.4 min CN=77 Runoff=3.20 cfs 15,249 cf

Reach 1R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=0.00 cfs 0 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Pond 1P: EXISTING WETPOND Peak Elev=211.97' Storage=15,249 cf Inflow=3.20 cfs 15,249 cf
Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.00 cfs 0 cf

Link AP1: ANALYSIS POINT Inflow=17.58 cfs 81,225 cf
Primary=17.58 cfs 81,225 cf

Total Runoff Area = 587,785 sf Runoff Volume = 96,474 cf Average Runoff Depth = 1.97"
100.00% Pervious = 587,785 sf 0.00% Impervious = 0 sf

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Runoff Area=494,880 sf 0.00% Impervious Runoff Depth=2.79"
Flow Length=713' Tc=19.9 min CN=77 Runoff=25.13 cfs 115,108 cf

Subcatchment 2S: Runoff Area=92,905 sf 0.00% Impervious Runoff Depth=2.79"
Flow Length=626' Tc=21.4 min CN=77 Runoff=4.58 cfs 21,609 cf

Reach 1R: Avg. Flow Depth=0.06' Max Vel=0.31 fps Inflow=0.08 cfs 3,086 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=0.08 cfs 3,083 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Pond 1P: EXISTING WETPOND Peak Elev=212.50' Storage=20,262 cf Inflow=4.58 cfs 21,609 cf
Primary=0.08 cfs 3,086 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 3,086 cf

Link AP1: ANALYSIS POINT Inflow=25.13 cfs 118,191 cf
Primary=25.13 cfs 118,191 cf

Total Runoff Area = 587,785 sf Runoff Volume = 136,717 cf Average Runoff Depth = 2.79"
100.00% Pervious = 587,785 sf 0.00% Impervious = 0 sf

Summary for Subcatchment 1S:

Runoff = 17.58 cfs @ 12.28 hrs, Volume= 81,225 cf, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
494,880	77	Woods, Good, HSG D
494,880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.8	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.94"
10.1	663	0.0483	1.10		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.9	713	Total			

Summary for Subcatchment 2S:

Runoff = 3.20 cfs @ 12.30 hrs, Volume= 15,249 cf, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
92,905	77	Woods, Good, HSG D
92,905		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.9	50	0.0200	0.06		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 2.94"
8.5	576	0.0512	1.13		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
21.4	626	Total			

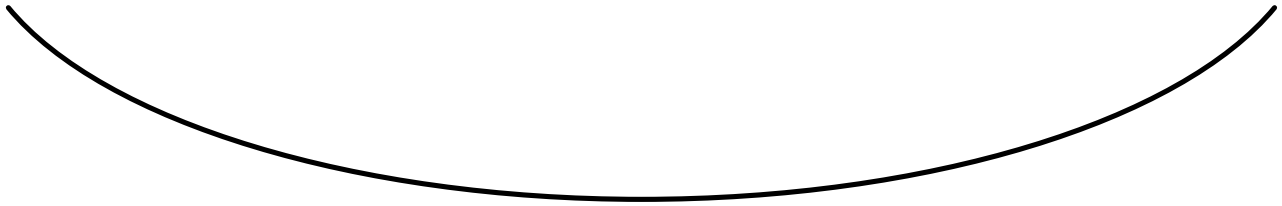
Summary for Reach 1R:

Inflow Area = 92,905 sf, 0.00% Impervious, Inflow Depth = 0.00" for 10-YR event
Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 8.57 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches
Length= 185.0' Slope= 0.0324 '/'
Inlet Invert= 206.00', Outlet Invert= 200.00'



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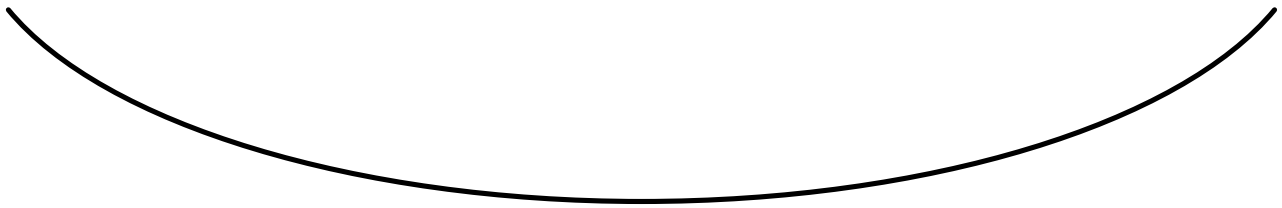
Summary for Reach 2R:

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 13.63 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches
Length= 97.5' Slope= 0.0821 '/'
Inlet Invert= 214.00', Outlet Invert= 206.00'



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Summary for Pond 1P: EXISTING WETPOND

Inflow Area = 92,905 sf, 0.00% Impervious, Inflow Depth = 1.97" for 10-YR event
Inflow = 3.20 cfs @ 12.30 hrs, Volume= 15,249 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 211.97' @ 25.21 hrs Surf.Area= 9,243 sf Storage= 15,249 cf

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)

Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	210.00'	64,260 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
210.00	6,293	305.2	0	0	6,293
212.00	9,284	360.3	15,480	15,480	9,286
214.00	12,104	408.8	21,326	36,806	12,352
216.00	15,417	462.7	27,454	64,260	16,191

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**15.0" Round Culvert** L= 112.6' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 209.50' / 206.60' S= 0.0258 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf
#2	Device 1	212.30'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	214.00'	**48.0" x 48.0" Horiz. TOP OF FRAME** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.00'	**20.0' long (Profile 10) Broad-Crested Rectangular Weir** Head (feet) 1.97 2.46 2.95 3.94 4.92 Coef. (English) 3.51 3.48 3.42 3.48 3.57

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=210.00' TW=206.00' (Dynamic Tailwater)
↑—**1=Culvert** (Passes 0.00 cfs of 1.10 cfs potential flow)
↑—**2=Orifice/Grate** (Controls 0.00 cfs)
—**3=TOP OF FRAME** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=210.00' TW=214.00' (Dynamic Tailwater)
↑—**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

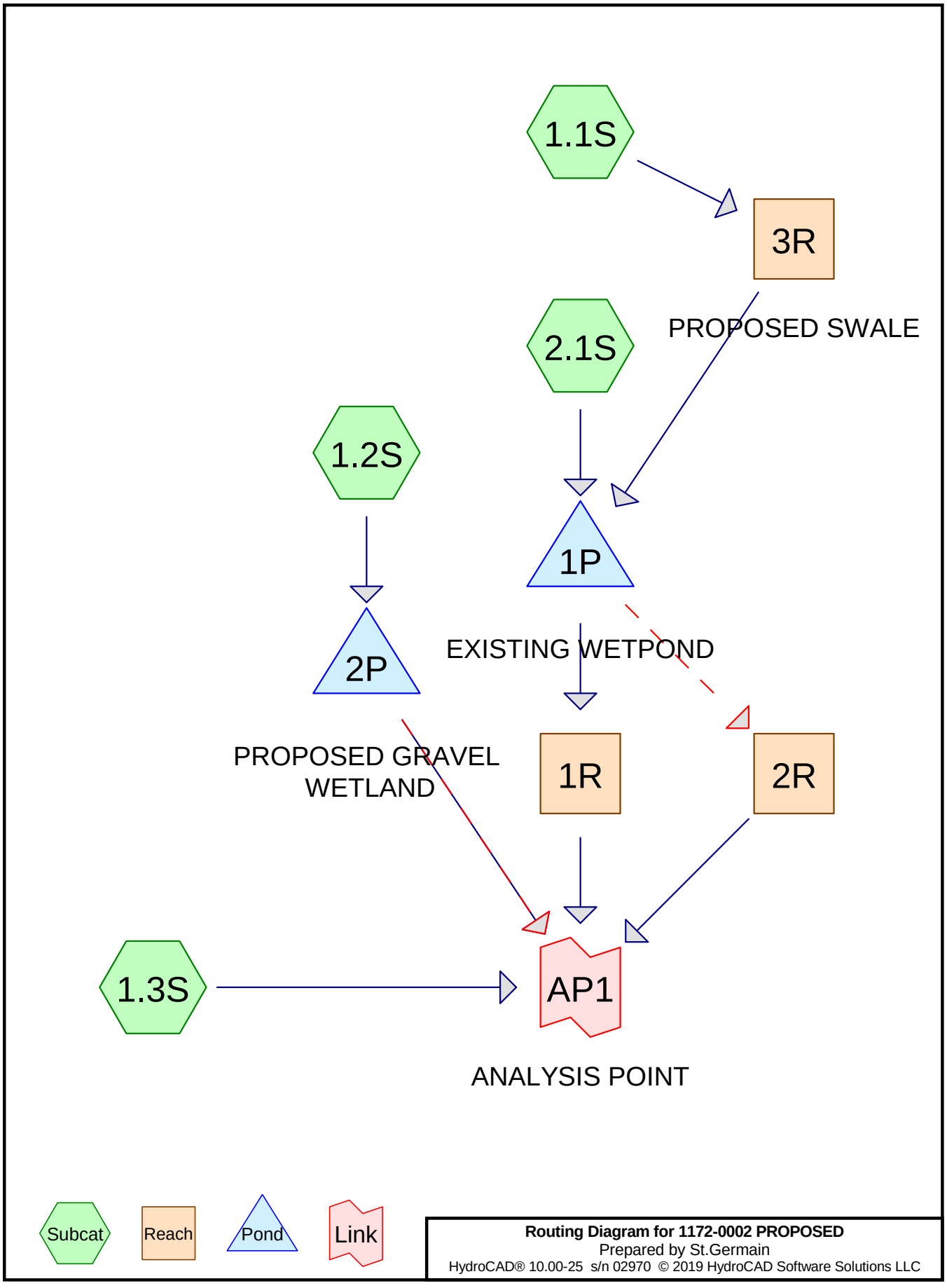
Summary for Link AP1: ANALYSIS POINT

Inflow Area = 587,785 sf, 0.00% Impervious, Inflow Depth = 1.66" for 10-YR event
Inflow = 17.58 cfs @ 12.28 hrs, Volume= 81,225 cf
Primary = 17.58 cfs @ 12.28 hrs, Volume= 81,225 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

APPENDIX C

Proposed Post-Development Conditions



Routing Diagram for 1172-0002 PROPOSED
Prepared by St.Germain

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
36,074	80	>75% Grass cover, Good, HSG D (1.2S)
257,452	98	Paved parking, HSG D (1.1S, 1.2S, 2.1S)
294,259	77	Woods, Good, HSG D (1.3S)
587,785	**86**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	209.50	206.60	112.6	0.0258	0.012	15.0	0.0	0.0
2	2P	210.50	208.00	44.4	0.0563	0.013	12.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: Runoff Area=151,367 sf 100.00% Impervious Runoff Depth=2.57"
Flow Length=339' Tc=6.0 min CN=98 Runoff=9.41 cfs 32,407 cf

Subcatchment 1.2S: Runoff Area=122,621 sf 70.58% Impervious Runoff Depth=2.06"
Flow Length=341' Tc=6.0 min CN=93 Runoff=6.65 cfs 21,084 cf

Subcatchment 1.3S: Runoff Area=294,259 sf 0.00% Impervious Runoff Depth=0.93"
Flow Length=353' Tc=7.5 min CN=77 Runoff=6.69 cfs 22,924 cf

Subcatchment 2.1S: Runoff Area=19,538 sf 100.00% Impervious Runoff Depth=2.57"
Flow Length=112' Tc=6.0 min CN=98 Runoff=1.21 cfs 4,183 cf

Reach 1R: Avg. Flow Depth=0.12' Max Vel=0.48 fps Inflow=0.36 cfs 18,044 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=0.36 cfs 18,041 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Reach 3R: PROPOSED SWALE Avg. Flow Depth=0.89' Max Vel=2.38 fps Inflow=9.41 cfs 32,407 cf
n=0.080 L=790.0' S=0.0354 '/' Capacity=44.62 cfs Outflow=7.93 cfs 32,407 cf

Pond 1P: EXISTING WETPOND Peak Elev=213.18' Storage=27,423 cf Inflow=8.98 cfs 36,590 cf
Primary=0.36 cfs 18,044 cf Secondary=0.00 cfs 0 cf Outflow=0.36 cfs 18,044 cf

Pond 2P: PROPOSED GRAVEL WETLAND Peak Elev=212.95' Storage=10,881 cf Inflow=6.65 cfs 21,084 cf
Primary=0.56 cfs 21,019 cf Secondary=0.00 cfs 0 cf Outflow=0.56 cfs 21,019 cf

Link AP1: ANALYSIS POINT Inflow=7.13 cfs 61,984 cf
Primary=7.13 cfs 61,984 cf

Total Runoff Area = 587,785 sf Runoff Volume = 80,597 cf Average Runoff Depth = 1.65"
56.20% Pervious = 330,333 sf 43.80% Impervious = 257,452 sf

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: Runoff Area=151,367 sf 100.00% Impervious Runoff Depth=3.96"
Flow Length=339' Tc=6.0 min CN=98 Runoff=14.24 cfs 50,010 cf

Subcatchment 1.2S: Runoff Area=122,621 sf 70.58% Impervious Runoff Depth=3.41"
Flow Length=341' Tc=6.0 min CN=93 Runoff=10.72 cfs 34,893 cf

Subcatchment 1.3S: Runoff Area=294,259 sf 0.00% Impervious Runoff Depth=1.97"
Flow Length=353' Tc=7.5 min CN=77 Runoff=14.73 cfs 48,297 cf

Subcatchment 2.1S: Runoff Area=19,538 sf 100.00% Impervious Runoff Depth=3.96"
Flow Length=112' Tc=6.0 min CN=98 Runoff=1.84 cfs 6,455 cf

Reach 1R: Avg. Flow Depth=0.23' Max Vel=0.77 fps Inflow=1.61 cfs 37,887 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=1.59 cfs 37,884 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Reach 3R: PROPOSED SWALE Avg. Flow Depth=1.10' Max Vel=2.67 fps Inflow=14.24 cfs 50,010 cf
n=0.080 L=790.0' S=0.0354 '/' Capacity=44.62 cfs Outflow=12.27 cfs 50,010 cf

Pond 1P: EXISTING WETPOND Peak Elev=214.07' Storage=37,717 cf Inflow=13.88 cfs 56,465 cf
Primary=1.61 cfs 37,887 cf Secondary=0.00 cfs 0 cf Outflow=1.61 cfs 37,887 cf

Pond 2P: PROPOSED GRAVEL Peak Elev=214.07' Storage=18,520 cf Inflow=10.72 cfs 34,893 cf
Primary=0.97 cfs 34,824 cf Secondary=0.00 cfs 0 cf Outflow=0.97 cfs 34,824 cf

Link AP1: ANALYSIS POINT Inflow=15.41 cfs 121,005 cf
Primary=15.41 cfs 121,005 cf

Total Runoff Area = 587,785 sf Runoff Volume = 139,655 cf Average Runoff Depth = 2.85"
56.20% Pervious = 330,333 sf 43.80% Impervious = 257,452 sf

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1.1S: Runoff Area=151,367 sf 100.00% Impervious Runoff Depth=4.96"
Flow Length=339' Tc=6.0 min CN=98 Runoff=17.68 cfs 62,601 cf

Subcatchment 1.2S: Runoff Area=122,621 sf 70.58% Impervious Runoff Depth=4.39"
Flow Length=341' Tc=6.0 min CN=93 Runoff=13.60 cfs 44,904 cf

Subcatchment 1.3S: Runoff Area=294,259 sf 0.00% Impervious Runoff Depth=2.79"
Flow Length=353' Tc=7.5 min CN=77 Runoff=20.99 cfs 68,444 cf

Subcatchment 2.1S: Runoff Area=19,538 sf 100.00% Impervious Runoff Depth=4.96"
Flow Length=112' Tc=6.0 min CN=98 Runoff=2.28 cfs 8,080 cf

Reach 1R: Avg. Flow Depth=0.45' Max Vel=1.20 fps Inflow=7.08 cfs 52,098 cf
n=0.100 L=185.0' S=0.0324 '/' Capacity=8.57 cfs Outflow=6.94 cfs 52,095 cf

Reach 2R: Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0 cf
n=0.100 L=97.5' S=0.0821 '/' Capacity=13.63 cfs Outflow=0.00 cfs 0 cf

Reach 3R: PROPOSED SWALE Avg. Flow Depth=1.22' Max Vel=2.83 fps Inflow=17.68 cfs 62,601 cf
n=0.080 L=790.0' S=0.0354 '/' Capacity=44.62 cfs Outflow=15.39 cfs 62,601 cf

Pond 1P: EXISTING WETPOND Peak Elev=214.25' Storage=39,875 cf Inflow=17.41 cfs 70,682 cf
Primary=7.08 cfs 52,098 cf Secondary=0.00 cfs 0 cf Outflow=7.08 cfs 52,098 cf

Pond 2P: PROPOSED GRAVEL Peak Elev=214.36' Storage=20,715 cf Inflow=13.60 cfs 44,904 cf
Primary=3.83 cfs 44,834 cf Secondary=0.00 cfs 0 cf Outflow=3.83 cfs 44,834 cf

Link AP1: ANALYSIS POINT Inflow=21.98 cfs 165,372 cf
Primary=21.98 cfs 165,372 cf

Total Runoff Area = 587,785 sf Runoff Volume = 184,030 cf Average Runoff Depth = 3.76"
56.20% Pervious = 330,333 sf 43.80% Impervious = 257,452 sf

Summary for Subcatchment 1.1S:

Runoff = 14.24 cfs @ 12.08 hrs, Volume= 50,010 cf, Depth= 3.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
151,367	98	Paved parking, HSG D
151,367		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.2	50	0.1700	0.37		**Sheet Flow,** Range n= 0.130 P2= 2.94"
1.2	289	0.0398	4.05		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.4	339	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.2S:

Runoff = 10.72 cfs @ 12.08 hrs, Volume= 34,893 cf, Depth= 3.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
86,547	98	Paved parking, HSG D
36,074	80	>75% Grass cover, Good, HSG D
122,621	93	Weighted Average
36,074		29.42% Pervious Area
86,547		70.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1600	2.64		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.94"
1.3	291	0.0344	3.77		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	341	Total, Increased to minimum Tc = 6.0 min			

Summary for Subcatchment 1.3S:

Runoff = 14.73 cfs @ 12.11 hrs, Volume= 48,297 cf, Depth= 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
294,259	77	Woods, Good, HSG D
294,259		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.6	50	0.1200	0.33		**Sheet Flow,** Range n= 0.130 P2= 2.94"
4.9	303	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
7.5	353	Total			

Summary for Subcatchment 2.1S:

Runoff = 1.84 cfs @ 12.08 hrs, Volume= 6,455 cf, Depth= 3.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-YR Rainfall=4.20"

Area (sf)	CN	Description
19,538	98	Paved parking, HSG D
19,538		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.5	50	0.0600	1.78		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 2.94"
0.2	62	0.0806	4.57		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	112	Total, Increased to minimum Tc = 6.0 min			

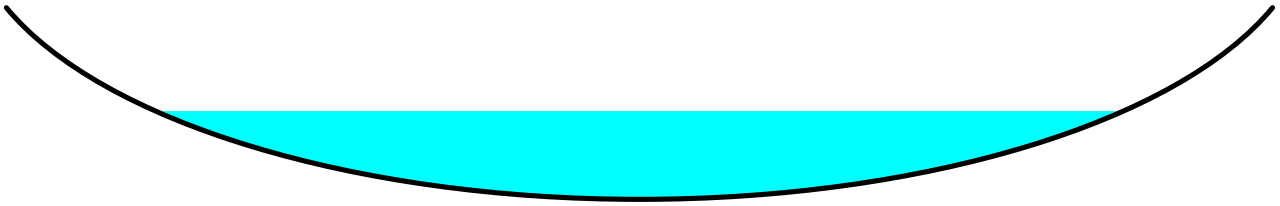
Summary for Reach 1R:

Inflow Area = 170,905 sf,100.00% Impervious, Inflow Depth > 2.66" for 10-YR event
Inflow = 1.61 cfs @ 12.94 hrs, Volume= 37,887 cf
Outflow = 1.59 cfs @ 13.00 hrs, Volume= 37,884 cf, Atten= 1%, Lag= 3.5 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.77 fps, Min. Travel Time= 4.0 min
Avg. Velocity = 0.29 fps, Avg. Travel Time= 10.8 min

Peak Storage= 384 cf @ 13.00 hrs
Average Depth at Peak Storage= 0.23'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 8.57 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches
Length= 185.0' Slope= 0.0324 '/'
Inlet Invert= 206.00', Outlet Invert= 200.00'



‡

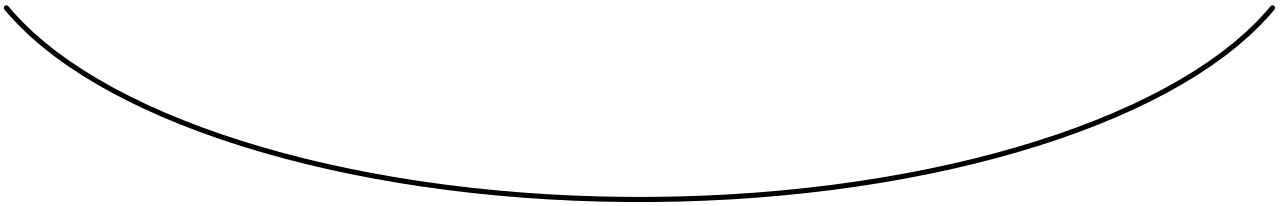
Summary for Reach 2R:

Inflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 0.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 0.50' Flow Area= 6.7 sf, Capacity= 13.63 cfs

20.00' x 0.50' deep Parabolic Channel, n= 0.100 Heavy timber, flow below branches
Length= 97.5' Slope= 0.0821 '/'
Inlet Invert= 214.00', Outlet Invert= 206.00'



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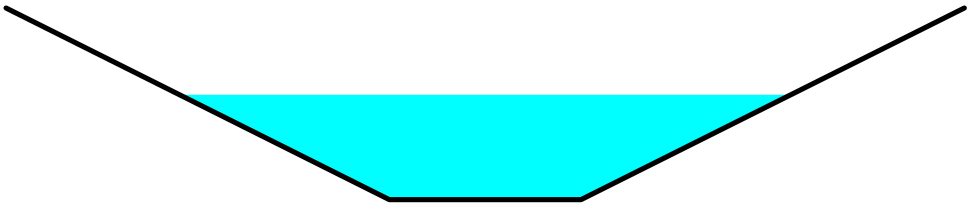
Summary for Reach 3R: PROPOSED SWALE

Inflow Area = 151,367 sf,100.00% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 14.24 cfs @ 12.08 hrs, Volume= 50,010 cf
Outflow = 12.27 cfs @ 12.13 hrs, Volume= 50,010 cf, Atten= 14%, Lag= 2.8 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Max. Velocity= 2.67 fps, Min. Travel Time= 4.9 min
Avg. Velocity = 0.78 fps, Avg. Travel Time= 16.9 min

Peak Storage= 3,634 cf @ 12.13 hrs
Average Depth at Peak Storage= 1.10'
Bank-Full Depth= 2.00' Flow Area= 12.0 sf, Capacity= 44.62 cfs

2.00' x 2.00' deep channel, n= 0.080 Earth, long dense weeds
Side Slope Z-value= 2.0 '/' Top Width= 10.00'
Length= 790.0' Slope= 0.0354 '/'
Inlet Invert= 244.00', Outlet Invert= 216.00'



Summary for Pond 1P: EXISTING WETPOND

Inflow Area = 170,905 sf,100.00% Impervious, Inflow Depth = 3.96" for 10-YR event
Inflow = 13.88 cfs @ 12.12 hrs, Volume= 56,465 cf
Outflow = 1.61 cfs @ 12.94 hrs, Volume= 37,887 cf, Atten= 88%, Lag= 49.1 min
Primary = 1.61 cfs @ 12.94 hrs, Volume= 37,887 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 214.07' @ 12.94 hrs Surf.Area= 12,221 sf Storage= 37,717 cf

Plug-Flow detention time= 614.8 min calculated for 37,887 cf (67% of inflow)
Center-of-Mass det. time= 514.4 min (1,274.3 - 759.9)

Volume	Invert	Avail.Storage	Storage Description
#1	210.00'	64,260 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
210.00	6,293	305.2	0	0	6,293
212.00	9,284	360.3	15,480	15,480	9,286
214.00	12,104	408.8	21,326	36,806	12,352
216.00	15,417	462.7	27,454	64,260	16,191

Device	Routing	Invert	Outlet Devices
#1	Primary	209.50'	**15.0" Round Culvert** L= 112.6' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 209.50' / 206.60' S= 0.0258 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 1.23 sf
#2	Device 1	212.30'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	214.00'	**48.0" x 48.0" Horiz. TOP OF FRAME** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.00'	**20.0' long (Profile 10) Broad-Crested Rectangular Weir** Head (feet) 1.97 2.46 2.95 3.94 4.92 Coef. (English) 3.51 3.48 3.42 3.48 3.57

Primary OutFlow Max=1.61 cfs @ 12.94 hrs HW=214.07' TW=206.23' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.61 cfs of 11.74 cfs potential flow)
  └─**2=Orifice/Grate** (Orifice Controls 0.53 cfs @ 6.11 fps)
  └─**3=TOP OF FRAME** (Weir Controls 1.07 cfs @ 0.89 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=210.00' TW=214.00' (Dynamic Tailwater)
└─**4=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond 2P: PROPOSED GRAVEL WETLAND

Inflow Area = 122,621 sf, 70.58% Impervious, Inflow Depth = 3.41" for 10-YR event
Inflow = 10.72 cfs @ 12.08 hrs, Volume= 34,893 cf
Outflow = 0.97 cfs @ 12.97 hrs, Volume= 34,824 cf, Atten= 91%, Lag= 52.9 min
Primary = 0.97 cfs @ 12.97 hrs, Volume= 34,824 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 214.07' @ 12.97 hrs Surf.Area= 7,461 sf Storage= 18,520 cf

Plug-Flow detention time= 318.6 min calculated for 34,819 cf (100% of inflow)
Center-of-Mass det. time= 317.6 min (1,101.3 - 783.7)

Volume	Invert	Avail.Storage	Storage Description
#1	211.00'	16,897 cf	**BAY 1 (Irregular)** Listed below (Recalc)
#2	211.00'	16,912 cf	**BAY 2 (Irregular)** Listed below (Recalc)
#3	211.00'	1,220 cf	**FOREBAY (Irregular)** Listed below (Recalc)
		35,030 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	2,673	204.3	0.0	0	0	2,673
212.00	2,673	204.3	100.0	2,673	2,673	2,877
214.00	3,541	229.4	100.0	6,194	8,867	3,846
216.00	4,509	254.6	100.0	8,031	16,897	4,931

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	2,676	204.4	0.0	0	0	2,676
212.00	2,676	204.4	100.0	2,676	2,676	2,880
214.00	3,544	229.5	100.0	6,200	8,876	3,850
216.00	4,512	254.6	100.0	8,037	16,912	4,931

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	14	17.8	0.0	0	0	14
212.00	14	17.8	100.0	14	14	32
214.00	303	80.0	100.0	255	269	526
216.00	673	105.1	100.0	952	1,220	939

Device	Routing	Invert	Outlet Devices
#1	Primary	210.50'	**12.0" Round Culvert** L= 44.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 210.50' / 208.00' S= 0.0563 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	211.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	214.00'	**5.0' long x 0.5' breadth Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	214.50'	**24.0" Horiz. OCS Rim** C= 0.600 Limited to weir flow at low heads

#5	Secondary	215.00'	**10.0' long (Profile 10) Emergency Spillway**
			Head (feet) 1.97 2.46 2.95 3.94 4.92
			Coef. (English) 3.51 3.48 3.42 3.48 3.57

Primary OutFlow Max=0.97 cfs @ 12.97 hrs HW=214.07' TW=0.00' (Dynamic Tailwater)
- **1=Culvert** (Passes 0.97 cfs of 6.62 cfs potential flow)
  - **2=Orifice/Grate** (Orifice Controls 0.72 cfs @ 8.20 fps)
  - **3=Weir** (Weir Controls 0.25 cfs @ 0.73 fps)
  - **4=OCS Rim** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=211.00' TW=0.00' (Dynamic Tailwater)
- **5=Emergency Spillway** (Controls 0.00 cfs)

Summary for Link AP1: ANALYSIS POINT

Inflow Area = 587,785 sf, 43.80% Impervious, Inflow Depth > 2.47" for 10-YR event
Inflow = 15.41 cfs @ 12.11 hrs, Volume= 121,005 cf
Primary = 15.41 cfs @ 12.11 hrs, Volume= 121,005 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Summary for Pond 2P: PROPOSED GRAVEL WETLAND

Inflow Area = 122,621 sf, 70.58% Impervious, Inflow Depth = 6.37" for 100-YR event
Inflow = 19.29 cfs @ 12.08 hrs, Volume= 65,085 cf
Outflow = 7.51 cfs @ 12.31 hrs, Volume= 65,013 cf, Atten= 61%, Lag= 13.4 min
Primary = 7.51 cfs @ 12.31 hrs, Volume= 65,013 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 214.95' @ 12.31 hrs Surf.Area= 8,434 sf Storage= 25,504 cf

Plug-Flow detention time= 226.6 min calculated for 65,004 cf (100% of inflow)
Center-of-Mass det. time= 226.2 min (994.3 - 768.1)

Volume	Invert	Avail.Storage	Storage Description
#1	211.00'	16,897 cf	**BAY 1 (Irregular)** Listed below (Recalc)
#2	211.00'	16,912 cf	**BAY 2 (Irregular)** Listed below (Recalc)
#3	211.00'	1,220 cf	**FOREBAY (Irregular)** Listed below (Recalc)
		35,030 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	2,673	204.3	0.0	0	0	2,673
212.00	2,673	204.3	100.0	2,673	2,673	2,877
214.00	3,541	229.4	100.0	6,194	8,867	3,846
216.00	4,509	254.6	100.0	8,031	16,897	4,931

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	2,676	204.4	0.0	0	0	2,676
212.00	2,676	204.4	100.0	2,676	2,676	2,880
214.00	3,544	229.5	100.0	6,200	8,876	3,850
216.00	4,512	254.6	100.0	8,037	16,912	4,931

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
211.00	14	17.8	0.0	0	0	14
212.00	14	17.8	100.0	14	14	32
214.00	303	80.0	100.0	255	269	526
216.00	673	105.1	100.0	952	1,220	939

Device	Routing	Invert	Outlet Devices
#1	Primary	210.50'	**12.0" Round Culvert** L= 44.4' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 210.50' / 208.00' S= 0.0563 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	211.00'	**4.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	214.00'	**5.0' long x 0.5' breadth Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32
#4	Device 1	214.50'	**24.0" Horiz. OCS Rim** C= 0.600 Limited to weir flow at low heads

#5	Secondary	215.00'	**10.0' long (Profile 10) Emergency Spillway**
			Head (feet) 1.97 2.46 2.95 3.94 4.92
			Coef. (English) 3.51 3.48 3.42 3.48 3.57

Primary OutFlow Max=7.51 cfs @ 12.31 hrs HW=214.95' TW=0.00' (Dynamic Tailwater)
└─**1=Culvert** (Inlet Controls 7.51 cfs @ 9.57 fps)
  ├─**2=Orifice/Grate** (Passes < 0.82 cfs potential flow)
  ├─**3=Weir** (Passes < 15.30 cfs potential flow)
  └─**4=OCS Rim** (Passes < 6.16 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=211.00' TW=0.00' (Dynamic Tailwater)
└─**5=Emergency Spillway** (Controls 0.00 cfs)

APPENDIX D

Stormwater Treatment &
BMP Sizing Calculations

Appendix D
Stormwater Treatment Calculations
Gardiner Transfer Company, LLC
Libby Hill Business Park Lot 22
Gardiner, Maine

Subcatchment	Impervious Area (SF)	Treated Impervious Area (SF)	% Treated	Treatment
1.1S	151,367	151,367	100%	Existing Wetpond
1.2S	86,547	86,547	100%	Proposed Gravel Wetland
1.3S	0	0	-	-
2.1S	19,538	19,538	100%	Existing Wetpond
Total Impervious	**257,452**	**257,452**	**100%**	

Subcatchment	Landscaped Area (SF)	Treated Landscaped Area (SF)	% Treated	Treatment
1.1S	0	0	-	Existing Wetpond
1.2S	36,074	36,074	100%	Proposed Gravel Wetland
1.3S	0	0	-	-
2.1S	0	0	-	Existing Wetpond
Total Landscaped	**36,074**	**36,074**	**100%**	

Total Developed Area Treatment	**293,526**	**293,526**	**100%**

PROJECT NAME:	Troiano Gardiner			
PROJECT NO.:	1172-0002			
SHEET NO.:	1	OF	1	
CALCULATED BY:	PMG	DATE:	6/29/2021	
CHECKED BY:	KSJ	DATE:	7/3/2021	

SUBJECT: **Pond 2P - Gravel Wetland Sizing**

GRAVEL WETLAND SIZING CALCULATION*

*Based off the Maine Stormwater Management Design Manual, Volume III, May 2016 and Chapter 500 standards

1. Determine the water quality treatment volume, WQV:

Subcatchment Impervious Area, IA = 86,547 ft^2

Subcatchment Landscaped Area, LA = 36,074 ft^2

WQV (ft^3)	=	86,547	x	1.0	+	36,074	x	0.4	=	8,415 ft^3
		IA (ft^2)		Inch		LA (ft^2)		Inches		

2. Determine the minimum surface area of the gravel wetland, SA:

The total surface area of the bottom of the cells must be no less than the sum of 5% of the impervious area and 2% of the landscaped area draining to the wetland.

SA ≥ 5% of IA + 2% of LA

SA = 4,327 ft^2 + 721 ft^2 = 5,049 ft^2

SA = 5,349 ft^2 > 5,049 ft^2

3. Determine the WQV for each wetland treatment cell, WQV_{CELL}, and the sediment forebay, WQV_{SF}:

The two wetland cells must be capable of holding 45% of the water quality volume each and may provide flood storage if necessary.

WQV_{CELL} = 3,787 ft^3

WQV_{CELL} = 4,010 ft^3 > 3,787 ft^3

The forebay and any swale or dischage pipe to the system should be capable of holding 10% of the WQV.

WQV_{SF} = 841 ft^3

WQV_{SF} = 1,220 ft^3 > 841 ft^3

APPENDIX E

Operation & Maintenance Plan

Lot 22
Libby Hill Business Park, Gardiner, Maine
Operation & Maintenance Plan
July 2021

Responsible Party

Applicant: Gardiner Transfer Company, LLC
PO Box 3541
Portland, Maine 04104

During construction, the Contractor will be the responsible party for maintaining construction BMPs. Upon completion of the proposed development, the Owner will be the responsible party for maintaining the stormwater management system. The responsible party shall schedule maintenance of all stormwater management structures, establish contract services required to implement the program, and retain records and the maintenance logbook.

Records of all inspections and maintenance work performed must be kept on file with the Owner and retained for a minimum of five years. The maintenance logbook shall be made available to the Maine Department of Environmental Protection (Maine DEP) and the City of Gardiner upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. The Maine Erosion and Sedimentation Control BMP and Stormwater Management for Maine: Best Management Practices Manuals published by the Maine DEP should be referenced for additional information.

During Construction

It is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section.

1. **Inspection and Corrective Action**: Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance**: Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of

the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within seven calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

3. **Documentation**: Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

   The log must be made accessible to Maine DEP staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill Prevention**: Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

   NOTE: Any spill or release of toxic or hazardous substances must be reported to the Maine DEP. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous materials, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Maine DEP's website at: https://www.maine.gov/dep/spills/emergspillresp/

2. **Groundwater Protection**: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater

prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive Sediment and Dust**: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. **Debris and Other Materials**: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

5. **Excavation De-watering**: Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Maine DEP.

6. **Authorized Non-stormwater Discharges**: Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   a) Discharges from firefighting activity;
   b) Fire hydrant flushings;
   c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
   d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
   e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
g) Uncontaminated air conditioning or compressor condensate;
h) Uncontaminated groundwater or spring water;
i) Foundation or footer drain-water where flows are not contaminated;
j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
k) Potable water sources including waterline flushings; and
l) Landscape irrigation.

7. **Unauthorized Non-stormwater Discharges**: The Maine DEP's approval under Chapter 500 does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 Authorized Non-stormwater Discharges above. Specifically, the Maine DEP's approval does not authorize discharges of the following:

   a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
   b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
   c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
   d) Toxic or hazardous substances from a spill or other release.

Post Construction

The Owner shall be responsible for inspecting, maintaining, and ensuring proper functioning of all stormwater treatment and conveyance facilities after the facility is constructed. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected.

Regular Maintenance: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder. If water bars or open-top culverts are used to divert runoff from road surfaces, clean-out any sediments within or at the outlet of these structures to restore their function.

Manage each buffer's vegetation consistently with the requirements in any deed restrictions for the buffer. Wooded buffers must remain fully wooded and have no disturbance to the duff layer. Vegetation in non-wooded buffers may not be cut more than three times per year, and may not be cut shorter than six inches.

Vegetated Areas: Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. Inspect and repair down-slope of all spreaders and turn-outs for erosion. Mow vegetation as specified for the area.

Ditches, Swales, & Open Stormwater Channels: Inspect ditches, swales, and other open stormwater channels in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or sideslopes.

Culverts: Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet. If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it shall be removed. This may be accomplished by mechanical means or hydraulic flushing. Care shall be taken to prevent the release of the sediments into the downstream receiving areas.

Catch Basins: Catch basins shall be inspected annually each spring to determine if cleaning is required, or as needed. The inspection (and cleaning) shall occur after spring pavement sweeping. The cleaning shall include removal and proper legal disposal of any accumulated sediments and floatable debris. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads). Contracting with a cleaning contractor with a vacuum truck is the preferred method of catch basin cleaning.

Roadways & Parking Areas: Inspect roadways and parking areas annully in the spring, or as needed. Clear and remove accumulated winter sand in parking lots and along

roadways. Sweep pavement to remove sediment. Grade road shoulders and remove accumulate winter sand. Grade gravel roads and gravel shoulders. Clean out the sediment wihtin water bars or open-top culverts. Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder.

Resource & Treatment Buffers: Inspect resource and treatment buffers once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all spreaders and turn-outs for erosion. If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the spreader bays or turn-out pools. Manage the buffer's vegetation with the requirements in any deed restrictions. Repair any sign of erosion within a buffer. Mow non-wooded buffers no shorter than six inches, no more than two times per year.

Wetponds & Detention Basins: Inspect at least once per year each stormwater management pond or basin, including the pond's embankments, outlet structure, and emergency spillway. Inspect the embankments for settlement, slope erosion, piping, and slumping. Mow the embankment to control woody vegetation. Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks. Remove and dispose of sediments and debris within the control structure. Repair any damage to trash racks or debris guards. Replace any dislodged stone in riprap spillways. Remove and dispose of accumulated sediments within the impoundment and forebay.

Filtration & Infiltration Basins: Inspect at least one per year each underdrained filter, including the filter embankments, vegetation, underdrain piping, and overflow spillway. Clean the basin of debris, sediment, and hydrocarbons. Provide for the removal and disposal of accumulated sediments within the basin. If needed, rehabilitate any clogged surface linings, and flush underdrain piping. Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event. Till, seed, and mulch the basin if vegetation is sparse. Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged.

Documentation: Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Maine DEP staff and a copy provided to the Maine DEP upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.

Recertification: Submit a certification of the following to the Maine DEP within three months of the expiration of each five-year interval from the date of issuance of the permit.

1. **Identification and repair of erosion problems:** All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permantently stabilize these areas.

2. **Inspection and repair of stormwater control system:** All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

3. **Maintenance:** The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Maine DEP, and the maintenance log is being maintained.

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MEPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MEPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.

Duration of Maintenance: Perform maintenance as described and required in the permit unless and until the system is formally accepted by the municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the Maine DEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with Department standards. Upon such assumption of responsibility, and approval by the Department, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

Stormwater Facilities Inspection Checklist

Owner: **Gardiner Transfer Company, LLC**
Location: **Libby Hill Business Park**
Town: **Gardiner, Maine**

Date:_____

Time: _____

Inspector:_____

This log is intended to accompany the Operation & Maintenance Plan for the facility. The following items shall be inspected and maintained on a regular basis, as specified in the Operation & Maintenance Plan, and as described below. This log shall be kept on file for a minimum of five years and shall be made available for review.

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
1. Parking Lots & Drives			
Sweep main drive and parking areas	Annual - Spring		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
2. Catch Basins, Manholes, & Drain Pipes			
Clear debris	Semi-annual		
Check depth of sediment in sumps	Semi-annual		
Remove accumulated sediment	Annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
3. Riprap Inlets/Outlets			
Inspect for bypassing	Semi-annual		
Remove accumulated sediment and debris	Semi-annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
4. Culverts and Ditches			
Clear water course of debris	Semi-annual		
Check & repair visible erosion control stone	Semi-annual		
Check outlet stream for erosion or flooding	Semi-annual		
Repair/Replace erosion control devices as needed	Semi-annual		

Stormwater Facilities Inspection Checklist

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
5. Wet Pond			
Examine for cracks and settlement	Semi-annual		
Examine for seepage, wet spots, springs, etc	Semi-annual		
Examine internal drains for solid matter	Semi-annual		
Examine berms for wave cutting	Semi-annual		
Check pond embankments for erosion	Semi-annual		
Measure elevation of the berm for settlement	2 Years		
Mow the grass inside the pond	Semi-annual		
Examine basin for tree/shrub growth into embankments	Semi-annual		
Examine basin for animal burrows	Annual		
Dredge basin for accumulated sediments, reseed, & mulch	As Needed		
Inspect/clean pond outlets	Annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
8. Gravel Wetland			
Check performance	Semi-annual		
Examine inlets and outlets	Semi-annual		
Remove sediment, litter, and debris	Annual		
Harvest biomass	Annual		
Check for invasive species	Annual		

Additional Comments: _____

_____

_____

_____

_____

AUTHORIZED FACILITY PERSONNEL SIGNATURE: _____

DATE: _____

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Land Resources
17 State House Station
Augusta, Maine 04333

FIVE-YEAR RECERTIFICATION FOR LONG-TERM MAINTENANCE OF STORMWATER MANAGEMENT SYSTEMS

For Site Location & Stormwater Projects

This form complies with the condition that requires reporting every 5 years on the long-term maintenance of stormwater management structures of projects permitted under the Stormwater Management Law since 2005. Complete the following sections, include inspection photos, and use additional paper if needed. A copy of the report if the inspection was performed by a professional experienced in BMP maintenance should be included. Electronic copy of this form and information about the five-year recertication are available on the Maine DEP website at: http://www.maine.gov/dep/land/stormwater/stormwaterbmps/

Please type or print in black ink only

Owner/Licensee		**3rd Party Inspection Company** (if applicable)	
Name of Representative:		**Name of Inspector or preparer of report:**	
Company:		**Company:**	
Mailing Address:		**Mailing Address:**	
Daytime Phone #:		**Daytime Phone #:**	
E-mail Address:		**E-mail Address:**	

LOCATION OF DEVELOPMENT			
Name of Project:			
Address and Town:			
DEP Permit Number:		**Year of Permit:**	

PROJECT SPECIFICS	
If the project is unfinished, please describe its current status and your plans for the future. The filing of this report of on-site long-term maintenance activities is still required.	
If the project is within a MPDES Regulated Town, the maintenance report prepared for the town should be submitted with this form.	
If the project is a subdivision with a Homeowner's association, identify the responsible party.	
Confirm that the required recording of deed restrictions for the protection of buffers or conservation land has been done, and that the buffers are maintained according to the restrictions.	
Identify the contractor for the required renewal of a 5-year maintenance contract for the inspection, cleaning and maintenance of manufactured proprietary structures.	
Is a maintenance log available for review?	

LONG-TERM MAINTENANCE (please comment on the following):
All areas of the development have been inspected for erosion, and appropriate steps have been taken to permanently stabilize these areas.
All stormwater control structures have been inspected for damage, wear, malfunction, and appropriate steps have been taken to repair or replace the failing systems.
The erosion control and stormwater maintenance plan for the site is being implemented as written, and a maintenance log has been created and is being maintained.

CERTIFICATIONS/SIGNATURES
By signing below. the owner (or authorized agent) certifies that all stormwater management structures at the project described above are stable and operational as designed.
Signed:_____ **Title**_____**Date:**_____
This completed form and all supporting documents summarized above shall be sent to the following address. An emailed report is appropriate and should be sent to Recert-DEP@maine.gov Five-year Recertification Bureau of Land Resources 17 State House Station Augusta, ME 04333 Tel: (207) 287-2624 or (207) 287-2602

TROIANO TRANSFER STATION
OPERATIONS MANUAL

Operated by
Troiano Transfer Station, Inc.
12 Troiano Way
Gardiner, Maine

Prepared for:
Gardiner Transfer Company, LLC
PO Box 3541
Portland, Maine 04103

Prepared by:
St.Germain
846 Main Street
Westbrook, Maine 04092

May 2022
St.Germain File No.: 1172-0002

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1.0 PURPOSE

This Operations Manual contains the current policies and procedures to operate **Troiano Transfer Station (TTS).** TTS is located on a 13.5-acre parcel adjacent to in the Libby Hill Industrial Park Gardiner, Maine (see Figure 1). The facility contains three buildings, a 5,625 square foot municipal solid waste (MSW) transfer building, a 4,000 square-foot maintenance garage, and a 240 square foot scale house. Other features of the facility include a truck scale, an outdoor tipping pad for construction and demolition debris (CDD), concrete block bins for storage of CDD, parking/staging areas for trucks, trailers, and roll-off containers, parking for employees, and stormwater management features.

The facility is designed to consolidate commercial and municipal MSW and CDD received at the facility into tractor-trailers for transport to approved offsite disposal facilities. This includes a fleet of commercial-waste collection vehicles, storage and distribution of commercial-waste containers, and routine maintenance of fleet vehicles. The facility does not handle hazardous waste, special waste, or universal wastes, except as bypass, which is identified and removed from the incoming MSW or CDD.

The facility is operated under a permit granted by the Maine Department of Environmental Protection (Maine DEP). A copy of the permit is provided in Appendix A. Operation of this facility will be in compliance with this permit.

2.0 DESCRIPTION OF THE FACILITY

The layout of the facility is as shown on Figure 2, Site Plan. All trucks delivering wastes are weighed into and out of the facility at the scales located at the site entrance.

MSW Building

The MSW transfer building is a metal building with an upper level for the off-loading of waste materials and a lower level for the staging of bulk-waste transport trailers. Both levels are accessed at grade through overhead doors. Trucks delivering MSW to the facility proceed from the scales to the transfer station's upper level. Trucks dump their load onto the tipping floor. Any hazardous or special wastes are identified and appropriately separated according to the Hazardous & Special Waste Handling and Exclusion plan. A loader and excavator are operated within the building as necessary and are used to compact waste into the trailers, or place material collected on the floor into the trailer. Transport trailers enter the facility via overhead door on the lower level. Once the trailer is full it is removed from the building and a new trailer placed in the building. The full trailer is then either hauled directly offsite or staged and hauled off site within 48 hours. Any loaded MSW trailers remaining onsite overnight will be staged inside the MSW building with the doors closed.

Construction and Demolition Debris Sorting Area

The CDD sorting area includes an asphalt sorting and transfer pad measuring approximately 130 feet by 180 feet. The western half of the pad is divided into three bins using concrete

blocks for the separation of materials. The eastern half of the pad is open allowing roll-off and dump trucks the ability to offload directly onto the pad. An elevated excavator platform located at the southern end of the pad is used to sort and transfer material.

CDD is offloaded onto the asphalt sorting pad where it is inspected and sorted using excavators with a loader and grapple. Any hazardous or special wastes are identified and appropriately separated according to the Hazardous & Special Waste Handling and Exclusion plan. CDD is sorted into categories such as untreated wood, metal, etc. Sorted materials are loaded into separate roll-off containers and transport trailers with capacities ranging from 30 to 140 cubic yards. All sorted recyclable and non-recyclable materials are transported to commercially licensed solid waste processing, recycling, combustion, and disposal facilities.

Segregated wood waste is staged in a bin in the CDD area for periodic grinding. Prior to staging, the attendants and operators remove pressure-treated wood. The wood is ground on-site by a mobile chipper as frequently as needed so the storage does not exceed the available space. Grinding does not occur more than 30 days per year. Wood chips are removed from the site within 30 days of grinding. Wood fines and other non-processable materials are disposed of as non-recyclables.

Universal and Special Waste Storage
While Universal Wastes are not an accepted waste stream at the facility, they are received as bypass waste. Universal wastes identified in the sorting of MSW or CDD are moved to the Universal Waste Storage Container. Procedures for handling universal wastes are provided in **Appendix D, Universal Waste Procedure.** Automotive batteries received at the facility are managed as universal waste.

Adjacent to the Universal Waste Storage Container is an area for the storage of other specialty disposal items such as gas cylinders and chlorofluorocarbon (CFC) appliances. Gas cylinders are consolidated and shipped offsite to appropriate vendors for recycling. CFCs are recovered from appliances onsite by personnel licensed in CFC recovery. Mercury switches are required to be removed from appliances and other white goods prior to crushing or processing.

No household hazardous waste collection events are proposed to be held at the site.

Maintenance Building
Minor repairs and preventive maintenance on equipment used at the facility are completed in the maintenance building located on the north end of the site. This building is constructed on a concrete slab and is a pre-engineered metal building. This building houses the office for the facility and includes bathrooms and floor drains that are connected to the sanitary sewer system.

Bypass waste discovered in the incoming MSW and CDD are segregated into designated areas. Universal and electronic wastes received at the facility are placed into appropriately

labeled containers within the 53-cubic yard closed roll-off, located adjacent to the transfer building.

Designated gravel areas of the site are used for storage of empty roll-off containers. There are thirty-five truck parking spaces and ten tractor spaces on gravel areas of the site.

3.0 OPERATIONAL RECORDS

Records maintained as part of the operations of the facility includes: the types and quantities of wastes and recyclables received at the facility, equipment operations and maintenance, personnel training, reportable spills/discharges, accidents, and any changes to the approved operations of the facility.

Materials received by the facility are weighed and recorded by category of waste. Additional information recorded includes customer or vendor names, and where the wastes originated from. Information is also recorded on the outbound volume of wastes and recyclables shipped from the site, including destination facilities.

4.0 STORED WASTE

Materials accepted at the site are consolidated into bulk-storage trailers for transport offsite by owned trucks and contracted haulers. No long-term storage of waste materials occurs at the site. The maximum amount of time any municipal or commercial wastes and recyclables are stored onsite is approximately 24 hours. Once a transfer trailer is full, it is scheduled for removal as soon as possible. Trailers are covered to mitigate the potential for liquid discharge.

Trailers are removed daily, by close of business, with the exception of loads staged after 3 PM Monday through Friday, which may remain pending removal the following morning. Staged trailers remaining onsite following close-of-business on Saturday are parked inside the transfer building or in the designated trailer parking spaces.

CDD and oversized bulky wastes can be stored onsite for several days until enough waste is received to fill a full trailer load. The material in the trailer is covered at the end of each operating day in a trailer with a tarp.

The only wastes stored for extended periods of time are universal and electronic wastes, which are accumulated in a 53-cubic yard container and picked up periodically by a licensed universal waste hauler/recycler.

Best practices, including covering all loads, are employed to mitigate the potential for liquid discharge during transport. Any liquid released from staged trailers containing MSW is immediately addressed by facility personnel.

5.0 SUPERVISION OF OPERATIONS

The facility is staffed with a minimum of two individuals during operating hours, along with the commercial truck drivers. The operation of the facility is under the overall supervision and direction of a person qualified and experienced in the operations of solid waste transfer stations. An attendant is on duty at all times the transfer station is open. The principal titles and responsibilities of the individuals employed at the facility are summarized below. As required, TTS also uses the services of outside consultants.

Operations Manager
The Operations Manager is responsible for the operation of TTS including supervision of facility personnel, office and business functions, and compliance with facility permits. The Operations Manager ensures that all company policies and government regulations are followed. Any complaints about noise, odors, litter, dust, or glare are directed to the Operations Manager, who is responsible for resolving the issue.

Attendants
The attendants are responsible for general site operations and maintenance. Their responsibilities include operating equipment and changing storage bins when they are full. Attendants maintain the facility in a clean state, maintain inbound universal waste records, maintain traffic and order onsite, and site structures and facilities.

Office Manager/ Dispatcher
The office manager/dispatcher is responsible for operating the scales and keeping track of the material received and transported from the site. They are also responsible for the general operations of the commercial collection business.

Scale Operator
The scale operator is responsible for ensuring that records of incoming and outgoing wastes are recorded accurately as to the quantities, source, destination, and customer/vendor associated with each load.

Mechanic
The onsite mechanic is responsible for maintaining facility equipment and the commercial waste collection fleet.

6.0 ACCESS CONTROL

Access to the facility is from the Troiano Way via the facility driveway. Access to the facility during non-operating hours is restricted by means of a gate that is locked at the end of each operating day, to limit unauthorized persons' access to the facility. The gate is only opened when an attendant is on duty and capable of overseeing the use of the facility. The hours of operation and types of material accepted, and other limitations on-site operations is posted on a sign at the entrance to the facility.

Normal hours of operation for the facility are as follows:

Table 1 – Troiano Transfer Station Hours of Operation	
Monday through Friday	5:30 am – 5:00 pm
After 5:00 pm weekday	as necessary
Saturdays and Sundays	as necessary

7.0 ACCEPTABLE AND UNACCEPTABLE WASTES

Vehicles delivering wastes are weighed and inspected at the scales. The attendant directs traffic to the appropriate area to unload the material. Trucks carrying unacceptable wastes are not allowed access to the facility. If unacceptable wastes are found mixed in other wastes, they are reloaded and removed by the delivery vehicle. In the event that wastes are determined to be potentially classified as hazardous waste, and the delivery truck has left the facility, the wastes are 5temporarily stored in the eastern corner of the transfer building.

TTS has posted a list of acceptable wastes by processing category in a clearly visible area at the scale. A detailed list of acceptable wastes is also provided to all users of the facility. The facility does not accept materials classified as hazardous or special. A copy of the facility's Hazardous & Special Waste Handling and Exclusion Plan is be found in Appendix D. Any refrigerant-containing appliances contained in a load (and if the generator cannot be located to return and pick up the item), shall be managed in accordance with *Procedures for the Handling of Refrigerant Containing Appliances* included in Appendix E of this Operations Manual. A list of acceptable and unacceptable wastes at TTS is as follows:

Table 2 – Troiano Transfer Station Acceptable and Unacceptable Wastes	
ACCEPTABLE WASTES	**UNACCEPTABLE WASTES**
Construction/Demolition Debris	Industrial Wastes
Bulky Wastes (furniture, Mattresses, etc.)	Special Wastes
Municipal Wastes (MSW)	Hazardous Wastes
Commercial Wastes	Chemicals & Paints
Wood	Liquid Wastes
Cardboard	Biomedical Wastes
Plastics	Radioactive Wastes
Paper	Waste Oil
Tires	
Universal Wastes	
Scrap Metal	
White Goods	

8.0 UNLOADING OF WASTE

At the scales, incoming trucks are directed by the attendant to the appropriate area for unloading. Signs are located at unloading areas to aid in identifying the types of wastes that may be unloaded at each area. If the attendant suspects that a load of wastes contains materials that the facility does not accept, the truck is not allowed to unload until more thoroughly inspected. If the load contains unacceptable materials, it will not be allowed to unload at the facility unless the unacceptable items may be safely segregated, then placed back on the delivery vehicle. The wastes will be placed on the tipping floor. A front-end loader or excavator will be used to place the wastes in the trailers. CDD and bulky wastes are unloaded directly into the disposal bins, if possible. If conditions require, CDD and/or bulky wastes unloaded on the CDD tipping pad are sorted and placed into the bins before the end of the operational day.

"Hot loads" may occur or be discovered at various points within the transfer cycle and a specific hot-load drop-area is not identified; however, all hot loads are dropped on an impervious surface where runoff will be treated by the existing stormwater quality controls.

MSW containers waiting for unloading are staged on the paved area south of the CDD pad and north of the bituminous berm and curbing.

Universal wastes are carefully transferred to the storage container to the west of the transfer building and logged in accordingly. Consolidated universal wastes are temporarily stored and shipped to various universal waste consolidators or recycling facilities that are authorized to receive and handle the waste. The Universal Waste Handling Plan is included as Appendix F of this Operations Manual.

9.0 EQUIPMENT

The heavy equipment that TTS operates at the facility include a front-end loader, a yard tractor, an excavator and sweeper. The excavator is used to compact wastes in the transport trailers and to place wastes in the trailers when they have been offloaded onto the tipping floor. The front-end loader is used to move wastes from the floor and outside areas into the trailers. The yard tractor is used to move trailers and containers around the site. The sweeper is used for sediment, dust, and litter control on paved surfaces.

Performance manuals for equipment utilized at the facility are on file in the office and available to facility personnel as needed. TTS maintains all equipment according to the manufacturer's recommendations and keeps a maintenance log onsite for reference.

Back-up equipment is not maintained onsite. However, TTS stocks selected spare parts for equipment as recommended by each vendor and manufacturer. If needed, back-up equipment is available from several third-party suppliers in the Gardiner area.

10.0 CONTROL OF LITTER

TTS personnel inspect the property frequently for the presence of litter, with particular attention to the CDD area and the litter fence west of the maintenance building. The Vector, Odor, and Litter Control Plan, is included as Appendix C.

11.0 DUST AND ODOR CONTROL

Fugitive emissions of dust are controlled by regular sweeping of paved areas and the use of water spray as needed on gravel areas. Particular attention is given to transitions from asphalt to gravel.

Odors are controlled through the proper operations of the facility. The transfer of MSW occurs inside a building. Once a transport trailer is full it is transported offsite in a timely manner. Odor impacts to the nearby abutters are not expected for several reasons.

- The facility is located more than 500 feet from any dwelling;
- All trailers dedicated to the transfer of MSW from the facility are removed in a timely manner and at the end of each operating day, when the facility is fully closed and locked, including the trailer bay; and
- The tipping floor is cleaned on an as-needed basis using dry sweeping compounds.

Should an offensive load be received at the facility that, in the judgment of the operator, requires deodorizing, an odor-controlling substance is applied.

The Vector, Odor, and Litter Control Plan for this facility is included in Appendix C.

12.0 UTILITIES

The facility is served by municipal water and sewer services. Wastewater generated by this facility consists of domestic sewage from onsite bathrooms and floor drains located in the maintenance garage. Wastewater discharges into a gravity sewer connected to the Gardiner sewer system. The floor drains in the maintenance building are directed through the oil/water separators prior to entering the sanitary system. The floor drains and trench drain are checked on a minimum of a monthly basis and cleaned twice annually. More frequent cleaning may be required during those times of the year when sand and salt are used on the roadways.

Potable water is provided by means of a 1-inch water line from Troiano Way. The water line runs to the maintenance building.

13.0 DISEASE/VECTOR CONTROL

The attendant is responsible for the control of vectors. The attendant inspects the site on a weekly basis for signs of vectors. If the presence of vectors is noticed or suspected, the

operator shall obtain common household type bait and distribute to the area of concern. If, after five days the measure is determined to be ineffective, the attendant shall contact the Operations Manager to retain a professional exterminator. The Vector, Odor, and Litter Control Plan is included as Appendix C.

14.0 FIRE PROTECTION

Hot loads are not intended to be accepted at the facility. However, if a hot load of waste is received, it is immediately separated from other wastes and the fire is extinguished. The Gardiner Fire Department provides emergency service to the facility and is familiar with site operations. Any changes in the facilities layout are forwarded to the Gardiner Fire Department. Onsite equipment for external and internal fire control is provided. Detachable fire extinguishers for control of minor fires, are provided and maintained in good working order throughout the site, in close proximity to all processing equipment.

No burning of wastes, including wood wastes and/or wood from C&D, will occur on the site.

15.0 WASTE OIL COLLECTION

No waste oil other than that generated from the service on TTS vehicles is handled or accepted onsite. Waste oil from the servicing of the haul trucks is temporarily stored in the maintenance building in 55-gallon metal drums. TTS utilizes a licensed waste oil transporter/contractor for the proper disposal of waste oil.

16.0 OFFSITE STAGING OF TRUCKS OR TRAILERS

TTS will not allow any customer or corporate vehicle to stage adjacent to the facility on public or private property, including Troiano Way. Any observed staging will be addressed by the Facility Manager and the offending entity may be required to stop using the facility if a reasonable resolution cannot be reached.

17.0 ANNUAL REPORT

To comply with the requirement of Chapter 400 Section 3 (E) of the Maine Solid Waste Management Regulations, an annual report and fee for Transfer Stations is submitted to the Maine DEP by April 30th of each calendar year.

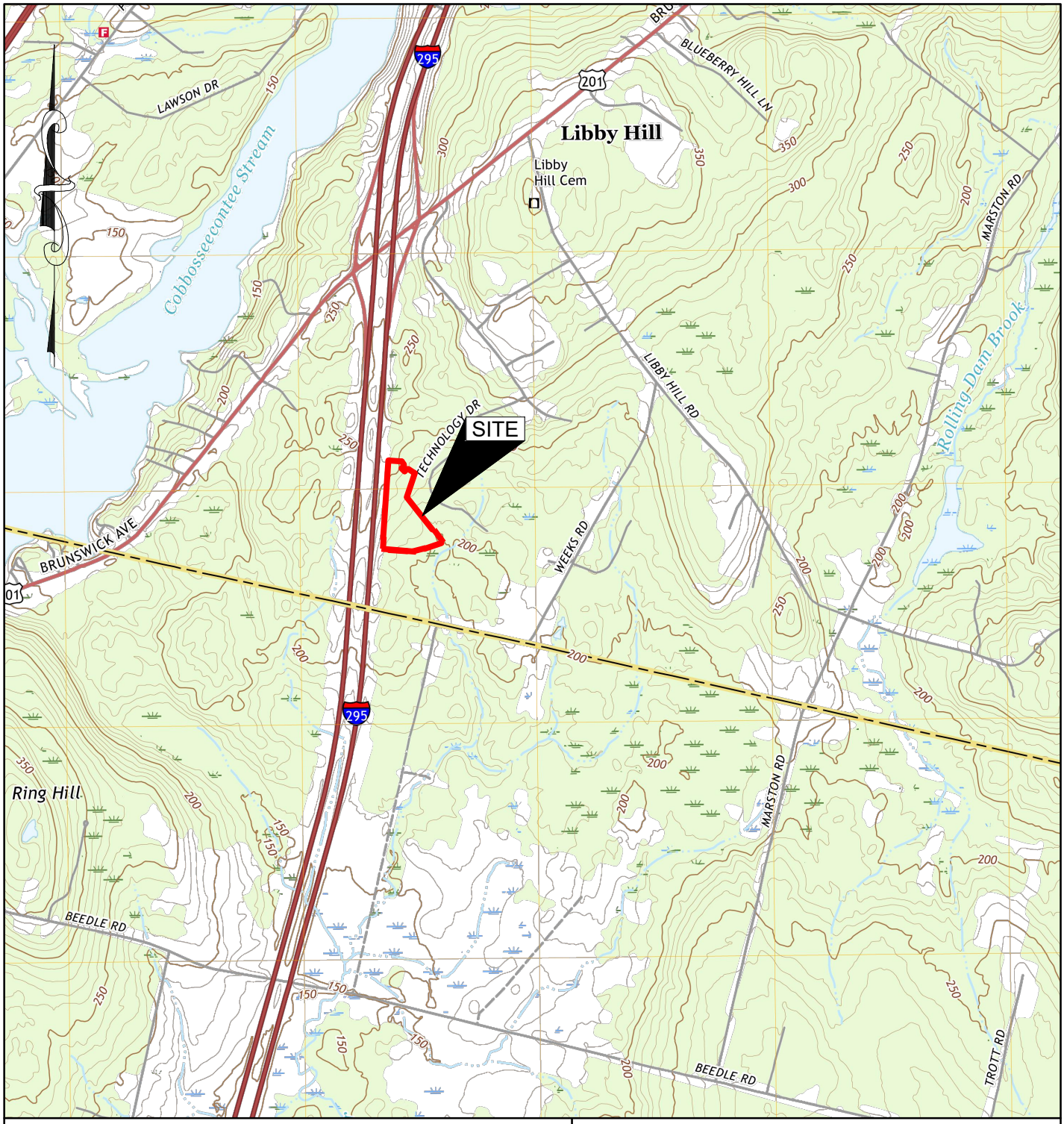
18.0 SITE MAINTENANCE

This section describes the yard maintenance activities that are performed onsite. Some of these activities are required to maintain facility structures in good working condition; other activities are general in nature.

18.1 Stormwater System

The stormwater management system consists of catch basins, ditches, culverts, a wet pond, and a gravel wetland. The locations of these facilities are shown on Figure 2. The ability of the ditches, culverts, and catch basins to operate effectively, is dependent on minimizing the accumulation of materials such as leaves, needles, and silt. These tend to decrease the hydraulic capacity of the stormwater conveyance structures. Specific requirements for maintaining the stormwater system are included in the Stormwater Management, Inspection and Maintenance Plan in Appendix B.

FIGURES



REFERENCE:
USGS SERIES 7.5 TOPOGRAPHIC MAP, GARDINER, ME 2018 QUADRANGLE.

2000 0 1000 2000 4000

SCALE IN FEET
1"=2,000'

SITE LOCATION MAP

GARDINER TRANSFER STATION
12 TROIANO WAY
GARDINER, MAINE 04345

GARDINER TRANSFER COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE 04104

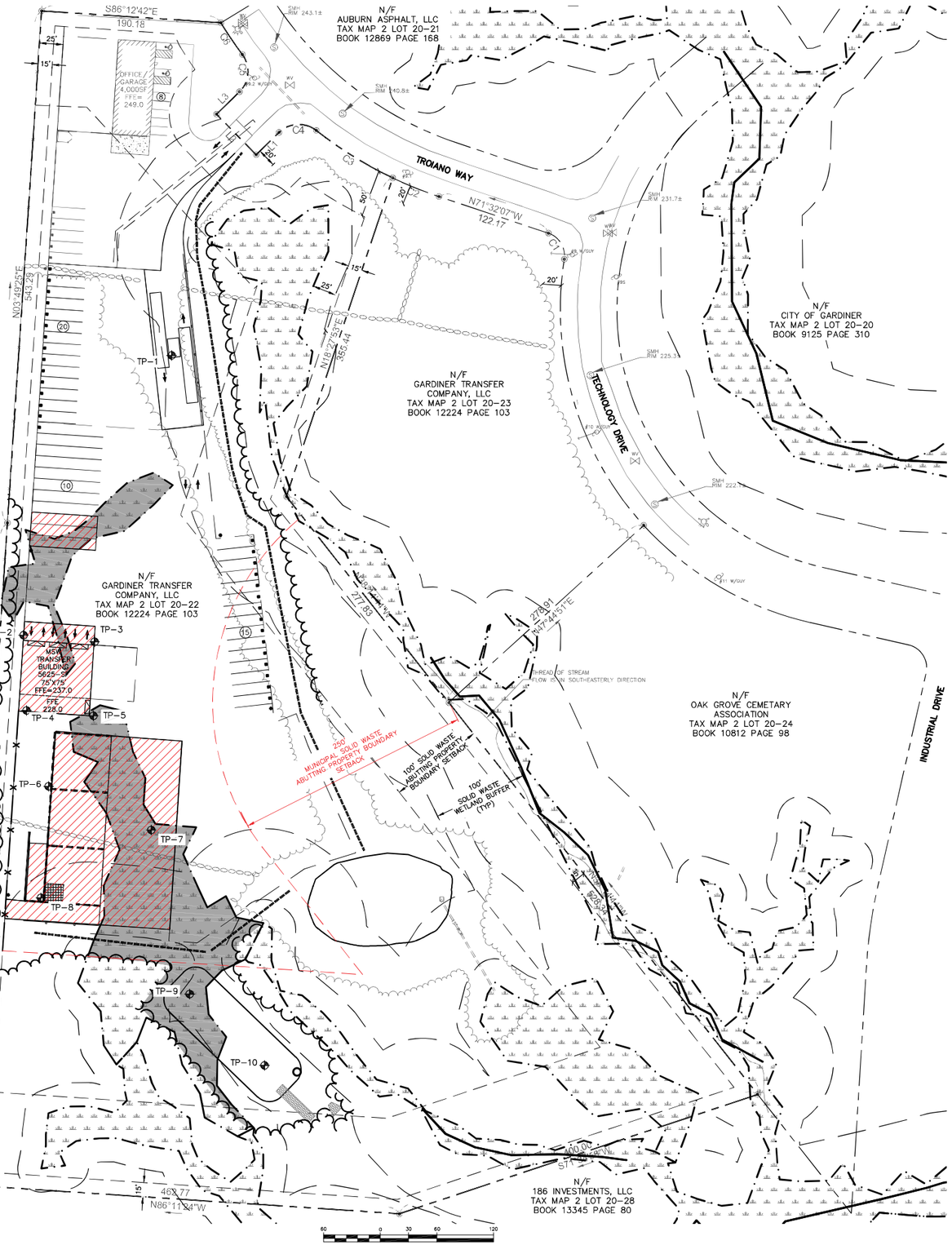
St.Germain

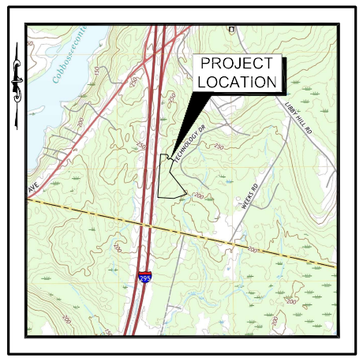
FIGURE
1

DATE: 6/21/2022 | PROJECT NO.: 1172-0002 | FILE: 1172-0002 COV02

846 MAIN STREET, WESTBROOK, MAINE 04092 TEL: 207-591-7000 WWW.STGERMAIN.COM

M:\Cad Drawings - Dwgs\Active Dwgs\1172 Troiano\1172-0002 TWS Gardiner\DWG\1172-0002 COV02.dwg 6/21/2022 11:35:39 PM





SITE LOCATION MAP

SCALE: 1" = 2,000'±

SOURCE: USGS, GARDINER MAINE, QUADRANGLE, DATED 2018

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DEPICT THE PROPOSED CONDITIONS FOR FOR TAX MAP 2 LOT 20-22 IN GARDINER, MAINE. THE TOTAL AREA OF THE SUBJECT PARCEL IS 13.49± ACRES.
2. THE OWNER OF RECORD IS GARDINER TRANSFER COMPANY, LLC, C/O TROIANO WASTE SERVICES, INC, PO BOX 3541, PORTLAND, MAINE 04104 RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS BOOK 12224 PAGE 103.
3. PROPERTY BOUNDARIES ARE BASED ON A PLAN ENTITLED "LIBBY HILL BUSINESS PARK PHASE 2, WEEKS ROAD AND ENTERPRISE AVENUE, GARDENER, MAINE" PREPARED BY MAINE COAST SURVEYING AND RECORDED IN THE KENNEBEC COUNTY REGISTRY OF DEEDS PLAN BOOK 2007, PAGE 137 AND 138.
4. TOPOGRAPHIC INFORMATION IS BASED ON A PLAN ENTITLED "EXISTING CONDITIONS LOTS 22 & 23 LIBBY HILL BUSINESS PARK" BY BOUNDARY ENGINEERING SURVEY TECHNOLOGY, DATED AUGUST 7, 2015. TOPOGRAPHIC ELEVATIONS ARE BASED ON TEMPORARY BENCHMARK A FROM RECORD DRAWING – MANHOLE NO. 69 RIM ELEVATION 264.80. HORIZONTAL DATA BASED ON NAD83 MAINE STATE PLANE WEST DATUM.
5. WETLAND BOUNDARIES OBTAINED FROM A FIELD SURVEY PERFORMED BY MICHAEL JOHNSON OF WOODLOT ALTERNATIVES, INC ON AUGUST 6, 2004 AND FIELD VERIFIED BY TOM TETREAU, PWS OF STANTEC CONSULTING SERVICES, INC ON DECEMBER 20, 2019.
6. THE PROPERTY IS LOCATED WITHIN THE CITY OF GARDINER PLANNED INDUSTRIAL/COMMERCIAL (PIC) DISTRICT ZONE.
7. WASTE PROCESSING FACILITY USE AND AUTOMOBILE REPAIR USE ARE ALLOWED USES VIA PERMIT WITH REVIEW IN THE PIC DISTRICT ZONE.
8. THE PROJECT PROPOSES 38,127 SF OF WETLAND IMPACTS.
9. THE SOLID WASTE HANDLING AREA TOTALS APPROXIMATELY 39,893 SF.

LEGEND

- PROPERTY LINE/ROW
- ADJACENT PROPERTY LINE
- SETBACKS
- MONUMENTS
- EDGE OF GRAVEL
- EDGE OF PAVEMENT
- EDGE OF WETLAND
- WETLAND SYMBOL
- CURB
- PAVEMENT STRIPING
- BUILDINGS
- EXISTING/PROPOSED TREELINE
- STONEWALL
- SIGNS
- BOLLARDS
- UTILITY POLE
- SOLID WASTE HANDLING AREA

St.Germain
846 Main St., Westbrook, Maine 04092
207-591-7000 • StGermain.com

REV.	DATE	REVISION DESCRIPTION

DESIGNED BY:	PMG
DRAWN BY:	PMG
CHECKED BY:	PJC
DATE:	7/13/2022
FILE NAME:	1172-0002 STP10.dwg

PROJECT NAME:

LOT 22
LIBBY HILL BUSINESS PARK
10 TROIANO WAY
GARDINER, MAINE

CLIENT:

GARDINER TRANSFER
COMPANY, LLC
PO BOX 3541
PORTLAND, MAINE

SHEET TITLE:

SETBACK PLAN

SHEET NO:

FIG 2

M:\Cad Drawings – Dwgs\Active Dwgs\1172 Troiano\1172-0002 TWS Gardiner\DWG\1172-0002 STP10.dwg 7/13/2022 2:55:30 PM

APPENDIX A

Facility Permits

APPENDIX B

Stormwater Management, Inspection and Maintenance Plan

Lot 22
Libby Hill Business Park, Gardiner, Maine
Operation & Maintenance Plan
July 2021

Responsible Party

Applicant: Gardiner Transfer Company, LLC
PO Box 3541
Portland, Maine 04104

During construction, the Contractor will be the responsible party for maintaining construction BMPs. Upon completion of the proposed development, the Owner will be the responsible party for maintaining the stormwater management system. The responsible party shall schedule maintenance of all stormwater management structures, establish contract services required to implement the program, and retain records and the maintenance logbook.

Records of all inspections and maintenance work performed must be kept on file with the Owner and retained for a minimum of five years. The maintenance logbook shall be made available to the Maine Department of Environmental Protection (Maine DEP) and the City of Gardiner upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. The Maine Erosion and Sedimentation Control BMP and Stormwater Management for Maine: Best Management Practices Manuals published by the Maine DEP should be referenced for additional information.

During Construction

It is the Contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section.

1. **Inspection and Corrective Action**: Inspect disturbed and impervious areas, erosion control measures, materials storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and within 24 hours after a storm event (rainfall), and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.

2. **Maintenance**: Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of

the problem but no later than the end of the next workday. If additional BMPs or significant repair of BMPs are necessary, implementation must be completed within seven calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

3. **Documentation**: Keep a log (report) summarizing the inspections and any corrective action taken. The log must include the name(s) and qualifications of the person making the inspections, the date(s) of the inspections, and major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicles access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.

   The log must be made accessible to Maine DEP staff and a copy must be provided upon request. The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

Housekeeping

1. **Spill Prevention**: Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

   NOTE: Any spill or release of toxic or hazardous substances must be reported to the Maine DEP. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous materials, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Maine DEP's website at: https://www.maine.gov/dep/spills/emergspillresp/

2. **Groundwater Protection**: During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater

prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.

3. **Fugitive Sediment and Dust**: Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. **Debris and Other Materials**: Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

5. **Excavation De-watering**: Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Maine DEP.

6. **Authorized Non-stormwater Discharges**: Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   a) Discharges from firefighting activity;
   b) Fire hydrant flushings;
   c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
   d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
   e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
g) Uncontaminated air conditioning or compressor condensate;
h) Uncontaminated groundwater or spring water;
i) Foundation or footer drain-water where flows are not contaminated;
j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
k) Potable water sources including waterline flushings; and
l) Landscape irrigation.

7. **Unauthorized Non-stormwater Discharges**: The Maine DEP's approval under Chapter 500 does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Section 6 Authorized Non-stormwater Discharges above. Specifically, the Maine DEP's approval does not authorize discharges of the following:

   a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
   b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
   c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
   d) Toxic or hazardous substances from a spill or other release.

Post Construction

The Owner shall be responsible for inspecting, maintaining, and ensuring proper functioning of all stormwater treatment and conveyance facilities after the facility is constructed. All measures must be maintained in effective operating condition. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected.

Regular Maintenance: Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader. Grading of gravel roads, or grading of the gravel shoulders of gravel or paved roads, must be routinely performed to ensure that stormwater drains immediately off the road surface to adjacent buffer areas or stable ditches, and is not impeded by accumulations of graded material on the road shoulder or by excavation of false ditches in the shoulder. If water bars or open-top culverts are used to divert runoff from road surfaces, clean-out any sediments within or at the outlet of these structures to restore their function.

Manage each buffer's vegetation consistently with the requirements in any deed restrictions for the buffer. Wooded buffers must remain fully wooded and have no disturbance to the duff layer. Vegetation in non-wooded buffers may not be cut more than three times per year, and may not be cut shorter than six inches.

Vegetated Areas: Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows. Inspect and repair down-slope of all spreaders and turn-outs for erosion. Mow vegetation as specified for the area.

Ditches, Swales, & Open Stormwater Channels: Inspect ditches, swales, and other open stormwater channels in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or sideslopes.

Culverts: Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet. If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it shall be removed. This may be accomplished by mechanical means or hydraulic flushing. Care shall be taken to prevent the release of the sediments into the downstream receiving areas.

Catch Basins: Catch basins shall be inspected annually each spring to determine if cleaning is required, or as needed. The inspection (and cleaning) shall occur after spring pavement sweeping. The cleaning shall include removal and proper legal disposal of any accumulated sediments and floatable debris. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads). Contracting with a cleaning contractor with a vacuum truck is the preferred method of catch basin cleaning.

Roadways & Parking Areas: Inspect roadways and parking areas annully in the spring, or as needed. Clear and remove accumulated winter sand in parking lots and along

roadways. Sweep pavement to remove sediment. Grade road shoulders and remove accumulate winter sand. Grade gravel roads and gravel shoulders. Clean out the sediment wihtin water bars or open-top culverts. Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder.

Resource & Treatment Buffers: Inspect resource and treatment buffers once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all spreaders and turn-outs for erosion. If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the spreader bays or turn-out pools. Manage the buffer's vegetation with the requirements in any deed restrictions. Repair any sign of erosion within a buffer. Mow non-wooded buffers no shorter than six inches, no more than two times per year.

Wetponds & Detention Basins: Inspect at least once per year each stormwater management pond or basin, including the pond's embankments, outlet structure, and emergency spillway. Inspect the embankments for settlement, slope erosion, piping, and slumping. Mow the embankment to control woody vegetation. Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks. Remove and dispose of sediments and debris within the control structure. Repair any damage to trash racks or debris guards. Replace any dislodged stone in riprap spillways. Remove and dispose of accumulated sediments within the impoundment and forebay.

Filtration & Infiltration Basins: Inspect at least one per year each underdrained filter, including the filter embankments, vegetation, underdrain piping, and overflow spillway. Clean the basin of debris, sediment, and hydrocarbons. Provide for the removal and disposal of accumulated sediments within the basin. If needed, rehabilitate any clogged surface linings, and flush underdrain piping. Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event. Till, seed, and mulch the basin if vegetation is sparse. Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged.

Documentation: Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Maine DEP staff and a copy provided to the Maine DEP upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.

Recertification: Submit a certification of the following to the Maine DEP within three months of the expiration of each five-year interval from the date of issuance of the permit.

1. **Identification and repair of erosion problems:** All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permantently stabilize these areas.

2. **Inspection and repair of stormwater control system:** All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system.

3. **Maintenance:** The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Maine DEP, and the maintenance log is being maintained.

Municipalities with separate storm sewer systems regulated under the Maine Pollutant Discharge Elimination System (MEPDES) Program may report on all regulated systems under their control as part of their required annual reporting in lieu of separate certification of each system. Municipalities not regulated by the MEPDES Program, but that are responsible for maintenance of permitted stormwater systems, may report on multiple stormwater systems in one report.

Duration of Maintenance: Perform maintenance as described and required in the permit unless and until the system is formally accepted by the municipality or quasi-municipal district, or is placed under the jurisdiction of a legally created association that will be responsible for the maintenance of the system. If a municipality or quasi-municipal district chooses to accept a stormwater management system, or a component of a stormwater system, it must provide a letter to the Maine DEP stating that it assumes responsibility for the system. The letter must specify the components of the system for which the municipality or district will assume responsibility, and that the municipality or district agrees to maintain those components of the system in compliance with Department standards. Upon such assumption of responsibility, and approval by the Department, the municipality, quasi-municipal district, or association becomes a co-permittee for this purpose only and must comply with all terms and conditions of the permit.

Stormwater Facilities Inspection Checklist

Owner: **Gardiner Transfer Company, LLC**
Location: **Libby Hill Business Park**
Town: **Gardiner, Maine**

Date:_____

Time: _____

Inspector:_____

This log is intended to accompany the Operation & Maintenance Plan for the facility. The following items shall be inspected and maintained on a regular basis, as specified in the Operation & Maintenance Plan, and as described below. This log shall be kept on file for a minimum of five years and shall be made available for review.

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
1. Parking Lots & Drives			
Sweep main drive and parking areas	Annual - Spring		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
2. Catch Basins, Manholes, & Drain Pipes			
Clear debris	Semi-annual		
Check depth of sediment in sumps	Semi-annual		
Remove accumulated sediment	Annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
3. Riprap Inlets/Outlets			
Inspect for bypassing	Semi-annual		
Remove accumulated sediment and debris	Semi-annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
4. Culverts and Ditches			
Clear water course of debris	Semi-annual		
Check & repair visible erosion control stone	Semi-annual		
Check outlet stream for erosion or flooding	Semi-annual		
Repair/Replace erosion control devices as needed	Semi-annual		

Stormwater Facilities Inspection Checklist

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
5. Wet Pond			
Examine for cracks and settlement	Semi-annual		
Examine for seepage, wet spots, springs, etc	Semi-annual		
Examine internal drains for solid matter	Semi-annual		
Examine berms for wave cutting	Semi-annual		
Check pond embankments for erosion	Semi-annual		
Measure elevation of the berm for settlement	2 Years		
Mow the grass inside the pond	Semi-annual		
Examine basin for tree/shrub growth into embankments	Semi-annual		
Examine basin for animal burrows	Annual		
Dredge basin for accumulated sediments, reseed, & mulch	As Needed		
Inspect/clean pond outlets	Annual		

Inspection/Maintenance Item	Frequency	Satisfactory/ Unsatisfactory	Maintenance Performed
8. Gravel Wetland			
Check performance	Semi-annual		
Examine inlets and outlets	Semi-annual		
Remove sediment, litter, and debris	Annual		
Harvest biomass	Annual		
Check for invasive species	Annual		

Additional Comments: _____

_____

_____

_____

_____

AUTHORIZED FACILITY PERSONNEL SIGNATURE: _____

DATE: _____

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Land Resources
17 State House Station
Augusta, Maine 04333

FIVE-YEAR RECERTIFICATION FOR LONG-TERM MAINTENANCE OF STORMWATER MANAGEMENT SYSTEMS

For Site Location & Stormwater Projects

This form complies with the condition that requires reporting every 5 years on the long-term maintenance of stormwater management structures of projects permitted under the Stormwater Management Law since 2005. Complete the following sections, include inspection photos, and use additional paper if needed. A copy of the report if the inspection was performed by a professional experienced in BMP maintenance should be included. Electronic copy of this form and information about the five-year recertication are available on the Maine DEP website at: http://www.maine.gov/dep/land/stormwater/stormwaterbmps/

Please type or print in black ink only

Owner/Licensee		**3rd Party Inspection Company** (if applicable)	
Name of Representative:		**Name of Inspector or preparer of report:**	
Company:		**Company:**	
Mailing Address:		**Mailing Address:**	
Daytime Phone #:		**Daytime Phone #:**	
E-mail Address:		**E-mail Address:**	

LOCATION OF DEVELOPMENT			
Name of Project:			
Address and Town:			
DEP Permit Number:		**Year of Permit:**	

PROJECT SPECIFICS	
If the project is unfinished, please describe its current status and your plans for the future. The filing of this report of on-site long-term maintenance activities is still required.	
If the project is within a MPDES Regulated Town, the maintenance report prepared for the town should be submitted with this form.	
If the project is a subdivision with a Homeowner's association, identify the responsible party.	
Confirm that the required recording of deed restrictions for the protection of buffers or conservation land has been done, and that the buffers are maintained according to the restrictions.	
Identify the contractor for the required renewal of a 5-year maintenance contract for the inspection, cleaning and maintenance of manufactured proprietary structures.	
Is a maintenance log available for review?	

LONG-TERM MAINTENANCE (please comment on the following):
All areas of the development have been inspected for erosion, and appropriate steps have been taken to permanently stabilize these areas.
All stormwater control structures have been inspected for damage, wear, malfunction, and appropriate steps have been taken to repair or replace the failing systems.
The erosion control and stormwater maintenance plan for the site is being implemented as written, and a maintenance log has been created and is being maintained.

CERTIFICATIONS/SIGNATURES
By signing below. the owner (or authorized agent) certifies that all stormwater management structures at the project described above are stable and operational as designed.
Signed:_____ **Title**_____**Date:**_____
This completed form and all supporting documents summarized above shall be sent to the following address. An emailed report is appropriate and should be sent to Recert-DEP@maine.gov Five-year Recertification Bureau of Land Resources 17 State House Station Augusta, ME 04333 Tel: (207) 287-2624 or (207) 287-2602

APPENDIX C

Vector, Odor, and Litter Control Plan

VECTOR, LITTER, AND ODOR CONTROL PLAN

Operated by
Troiano Transfer Station, Inc.
12 Troiano Way
Gardiner, Maine

Prepared for:
Gardiner Transfer Company, LLC
PO Box 3541
Portland, Maine 04103

Prepared by:
St.Germain
846 Main Street
Westbrook, Maine 04092

May 2022
St.Germain File No.: 1172-0002

Facility Overview

Troiano Transfer Station is used for the transfer of municipal solid wastes (MSW), and construction and demolition debris (CDD) from local residential and commercial sources to offsite disposal and processing facilities.

Trucks entering the facility are directed to the scale south of the entrance driveway. Once weighed, trucks proceed to the MSW transfer building or CDD tipping pad.

Incoming MSW enters at the upper level and is sorted on the indoor tipping floor before being loaded into the transfer trailer for off-site disposal.

The CDD tipping pad is located to the south of the MSW transfer building. Materials are unloaded onto the pad, sorted, and loaded into a trailer for off-site disposal. The CDD tipping pad area drains to the south to a gravel wetland.

A gravel laydown area to the east is used to store empty roll-off containers. Stormwater from the pad flows to the gravel wetland.

Facility Operations

Incoming loads are directed to either the MSW building or the CDD tipping pad. Wastes are loaded into trailers or sorted as soon as possible. Some wastes like wood or metal may be stored onsite until chipped or enough material is received for a full trailer load can be removed. More information on the facility operation can be found in the Operations Manual.

Vector Control

The onsite population of vectors shall be minimized through the application of good housekeeping practices and other methods, as necessary. Equipment, storage, and leisure areas are kept free of debris and food waste to prevent vectors from establishing residence in or near areas where employees work and eat. Since vermin prefer solid waste to CDD, the facility's vector control efforts focus on the MSW transfer building.

The attendant is responsible for the control of vectors, common household bait will be distributed to any areas of concern. If, after five days the measure is determined to be ineffective, the attendant shall contact the Operations Manager to retain a professional exterminator. Vectors include rats, rodents, and other scavengers in or on the MSW.

Litter Control

Facility personnel inspects the property weekly for the presence of litter, with particular attention to the MSW transfer building area and the CDD tipping pad area. MSW and/or CDD materials that have either blown away from the tipping area or may have fallen from transport vehicles are promptly retrieved and relocated to the appropriate area.

Litter fencing is located along the west side of the site. Litter fencing is inspected weekly to collect and dispose of litter that becomes trapped along the base of the fence.

Odor Control

Area-specific odor-control activities/actions implemented at the facility include the following practices:

Transfer Station

- MSW is handled inside the enclosed transfer building;
- Wastes are raked out of corners inside the building daily; and
- The tipping and trailer staging areas are washed, as necessary.

Trailer Staging

- Trailers loaded with MSW will be staged inside the MSW building, no storage of full MSW trailers will occur outside the building.
- All trailers staged outside the transfer building will be empty; and
- Stormwater in this area is directed to the stormwater conveyance system and detention pond.

Gravel Laydown Area

- Only empty roll-off containers will be stored in the gravel laydown area; and
- Precipitation runoff from the gravel laydown area flows gravel wetland.

Other Odor-Controlling Applications

- Loads determined to contain excessive odor are diverted to final disposal facilities;
- The facility also requires that all odorous loads be tarped/covered while in transit; and
- TTS is committed to constant improvement in odor-control management and mechanisms.

APPENDIX D

Hazardous & Special Waste Handling and Exclusion Plan

HAZARDOUS & SPECIAL WASTE HANDLING AND EXCLUSION PLAN

Troiano Transfer Station
Troiano Way
Gardiner, Maine

May 2022

1. **Facility Safety Officer**
   The Operations Manager shall be designated as the "Facility Safety Officer". Annually, the Facility Safety Officer provides training to the operational staff on:

   A. Detection of hazardous and special wastes;
   B. Appropriate notification procedures; and
   C. Appropriate handling procedures.

2. **Identification/Notification of Unpermitted Wastes**
   Unpermitted hazardous and special wastes are not to be accepted at this facility. Attendants inspect all wastes being received at the site. The type of container and origin of the wastes can help identify hazardous wastes and special wastes. Municipal solid waste from households may contain small quantities of household hazardous wastes. However, larger quantities of household pesticides and hazardous wastes generated by commercial and industrial establishments are not acceptable at this solid waste facility. The following list will help with the identification and handling of materials of concern.

   A. **Asbestos** is typically a friable (can be pulverized by hand pressure) insulation material but can take other forms. Asbestos is also combined with other materials to produce non-friable (hard) siding, flooring, or other products. If a waste is suspected to be, or contain, asbestos, contact Maine Department of Environmental Protection (Maine DEP) asbestos program personnel at **(207) 287-0877**. If asbestos is encountered, apply a light mist of water to the materials and avoid inhalation of particles.
   B. **Bio-medical Wastes** are generally red bag wastes from hospitals, laboratories, clinics, nursing homes and occasionally doctor's offices and can include blood, body parts, disposable instruments, linens, and other soiled items. Keep people away and follow hazardous waste procedures, including notifying the appropriate responder, either a qualified fire department or the Maine DEP. If accidentally contacted, disinfect contact area with a 1:3 bleach to water solution.
   C. **Calcium Hypochlorite** is commonly used for disinfecting swimming pools but can be reactive when wet. Calcium hypochlorite can release chlorine gas and cause fire when wetted. Treat calcium hypochlorite as hazardous and prevent wetting or contact with moisture. If wetted, evacuate the area. Keep calcium hypochlorite away from petroleum and other organic materials.
   D. **Electrical Capacitors and Transformers** are items that may have been removed from white goods and other electrical equipment by individuals, scrap metal firms, or firms that work on appliances or motors. If encountered, avoid skin contact and breathing exposure; follow hazardous waste procedures.

E. **Industrial Chemicals** are generally liquid in five-gallon, or larger, pails or drums of either plastic or steel. Occasionally industrial chemicals may be found in lined cardboard barrels. Industrial chemicals can also be found in solid form, especially flakes or granular materials. These solids can cause excessive corrosion or be reactive with liquids. Solids may be in any form of container or found loose. If encountered, avoid skin contact and breathing exposure; treat as hazardous.
F. **Laboratory Chemicals** are usually found in smaller containers of one pint to one gallon, glass or plastic bottles. These chemicals can be severe irritants, highly toxic or explosive. If encountered, avoid skin contact and breathing exposure; do not open or jar containers; treat as hazardous.
G. **Sandblast Grit** is generally fine sand or garnet mixed with paint, brick and/or masonry chips. If encountered, avoid breathing; handle as special waste.
H. **Waste Oil** includes used motor oils, hydraulic fluid, and other lubrication oils from individuals, farm operations, and vehicle and heavy equipment repair firms. If encountered avoid skin contact; treat as special waste.

Excluded items are not limited to the above specifically listed items; however, this list represents materials of typical concern.

3. Finding and Reacting to an Unknown Waste

When unknown material is found at the facility, attendants shall identify the material to determine whether it is a special waste or a hazardous waste. If hazardous waste, the attendant(s) shall immediately notify the Operations Manager. They will attempt to identify the person who has left, delivered, or attempted to deliver the hazardous waste and notify the Maine DEP, if necessary.

A. While keeping a safe distance upwind from the material, the attendant(s) may attempt to determine the following, if safe to do so:

1. Look for container or waste labeling;
2. Determine the physical state of the material (solid, liquid, or gas);
3. Estimate container size or amount of waste; and/or
4. Determine the type and condition of the container or packaging.

B. If the material is determined to potentially be hazardous, the attendant(s) shall:

1. Evacuate and secure the area of the facility around the material;
2. If safely feasible, determine if there is any release of the material to the soil, water, or air;
3. If safely feasible, determine if any release found has been confined or is ongoing; and
4. Undertake the appropriate notification procedure below.

4. Notification

A. When hazardous wastes or suspected hazardous wastes are found left at the site, the Operations Manager shall notify the following:

Table 1 – Gregory's Disposal – Fairfield Transfer Station Hazardous Waste Contacts	
Maine DEP Oil Spill Response	(800) 482-0777
Maine DEP Hazardous Materials Spill Response	(800) 452-4664
Maine State Police (Augusta)	(207) 624-7076
Gardiner Fire Department	(207) 582-4535

B. When non-permitted special waste is found left at the site, the Operations Manager shall notify a solid waste staff person at the Maine DEP regional office between 8:00 AM to 5:00 PM, Monday through Friday.
C. If the material cannot be identified, the Operations Manager will notify the Maine DEP at the numbers listed above for assistance in identification. If sampling and further detection of hazardous or special waste is required, a qualified hazardous waste handling firm or solid waste contractor must be used, as appropriate.

5. Clean-up/decontamination

A. Only trained personnel shall handle hazardous wastes. Such training shall follow the guidelines of 29 CFR Part 1910. 120.
B. Unpermitted special wastes shall be removed from the area where found and transported to a special waste disposal facility licensed to accept that special wastes within sixty days.
C. Because hazardous wastes require special training to handle, and to minimize the area of potential contamination, it is recommended that any hazardous wastes found at the site be removed by qualified personnel, directly, without placement and storage in the interim storage area. However, if temporary storage is required, a hazardous and special waste interim storage area has been designated within a corner of the transfer building.

6. Emergency Information

The Operations Manager will have the following telephone numbers available for telephone notifications:

Table 2 – Troiano Transfer Station Hazardous Waste Contacts	
During Normal Business Hours:	
During normal business hours: Maine DEP Bureau of Remediation & Waste Management - Augusta	(207) 287-2651

Table 2 – Troiano Transfer Station Hazardous Waste Contacts	
After Hours or Weekends:	
Maine DEP Oil Spill Response	(800) 482-0777
Maine DEP Hazardous Materials Spill Response	(800) 452-4664
Gardiner Fire Department	(207) 582-4535
Gardiner Police Department	(207) 582-3211
Ambulance	911
Maine Poison Center	(800) 442-6305

7. Written Reports

A written spill report shall be filed with the Maine DEP, Bureau of Remediation & Waste Management within 15 days of any incident involving hazardous wastes or materials. The report must indicate:

A. Date and time of the incident;
B. Location;
C. Material lost or spilled;
D. Amount lost or spilled;
E. Amount recovered;
F. Cause of the incident;
G. Corrective action(s) taken;
H. Clean-up methods used;
I. Disposition of recovered materials;
J. List of agencies notified; and
K. The time of agency response onsite.

APPENDIX E

Policy on CFC-Containing Appliances

PROCEDURES FOR WHITE GOODS MANAGEMENT

Troiano Transfer Station
Troiano Way
Gardiner, Maine

May 2022

PURPOSE:

The following procedures have been developed to dictate how refrigerant-containing appliances are collected, handled, and stored at this facility. This policy was developed in compliance with the federal Clean Air Act that prohibits the intentional release of refrigerants from appliances. These refrigerants are technically known as chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs).

TYPES OF APPLIANCES:

The most common appliances that contain CFCs or HCFCs are:

- Refrigerators;
- Freezers;
- Air Conditioners; and
- Dehumidifiers.

GENERAL ACCEPTANCE OF APPLIANCES:

Troiano Transfer Station receives as bypass appliances that contain CFCs and/or HCFCs. Any appliance unknowingly received and detected in the MSW or CDD during reloading of the material is safely placed in the designated storage area and tagged as required.

CFCs are not removed from the equipment while onsite.

HANDLING PROCEDURES:

1. Appliances checked-in at the scale are delivered to the proper offloading area, and then safely offloaded to prevent any damage to the unit that may result in any possible release of refrigerants.

2. The unit is then inspected to ascertain whether the refrigerant components are intact. If the unit is tagged certifying that it does not contain CFCs, then it may be handled as any white goods for disposal. If the unit is not tagged certifying CFC removal, then it must be assumed that it still contains CFCs and requires special handling and storage.

3. The storage area must be designated with a sign stating that it is for the storage of refrigerant-containing appliances only.

4. Log the unit in by utilizing an approved log sheet that provides the required information.

5. Following the removal of the CFCs, the log sheet should be completed for the unit and final disposal documented.

RECORDKEEPING:

The facility Operations Manager is responsible for maintaining all required documentation pertaining to appliance management and disposal.

APPENDIX F

Universal Waste Handling Plan

UNIVERSAL WASTE HANDLING PLAN

Troiano Transfer Station
Troiano Way
Gardiner, Maine

May 2022

This section of the solid waste transfer facility Operations Manual describes the requirements for safely handling universal wastes at this facility. These operating requirements are intended to prevent the release of hazardous chemicals to the environment.

1.0 Purpose

While universal wastes are not explicitly accepted at this facility, they are found as bypass in the received waste streams. Troiano Transfer Station is classified by the Maine Department of Environmental Protection (Maine DEP) as a Central Accumulation Facility for the purpose of collecting and managing universal wastes.

A Central Accumulation Facility is where universal wastes from households and businesses are collected for shipment to a universal waste consolidation facility or to a universal waste recycling facility.

2.0 Responsibilities

The Operations Manager is responsible for the implementation of the universal waste rules at the facility. The Operations Manager has ultimate authority for all universal wastes accepted and managed at the facility.

3.0 Acceptable Universal Wastes

Universal wastes include:

A. **Batteries** - Batteries contain heavy metals such as lead, cadmium and mercury. Battery types include Nickel Cadmium, Metal Hydride, small, sealed Lead Acid, Lithium, Mercuric Oxide and Silver Oxide button batteries.

Note: The battery types listed above may be managed in accordance with the Universal Waste rules or in accordance with a Maine Department of Environmental Protection (Maine DEP)-sanctioned manufacturer take-back program, such as the Rechargeable Battery Recycling Corporation (RBRC) program.

Vehicle batteries are NOT considered universal waste; these batteries should be handled through the battery deposit system managed by auto shops and auto parts stores.

B. **Cathode ray tubes (CRTs) (TV screens and computer monitors)** - CRTs have very high lead content. These include video display components of televisions, computer monitors, and other display devices. All computer components, including keyboards, are accepted.

C. **Lamps -** Some lamps contain mercury and lead, which are hazardous to humans and the environment. These include fluorescent, high-intensity discharge, neon, mercury vapor, high-pressure sodium and metal halide bulbs.

D. **Thermostats with a mercury ampule -** Some thermostats (temperature control devices) contain mercury in a sealed glass bulb. Mercury-containing thermometers and other mercury devices are also classified as universal wastes; see below.

E. **Totally enclosed, non-leaking, polychlorinated biphenyl (PCB) ballasts -** The types of ballasts included are those that electronically control light fixtures. PCBs are known to cause cancer in humans. When released to the environment, PCBs can build up in fish and other foods.

F. **Mercury Switch -** A mercury switch is a mercury-added manufactured item that uses metallic mercury to measure, control or regulate the flow of gas, fluids or electricity.

G. **Mercury Device** – A mercury device is a manufactured item that has mercury added to it. Examples are mercury thermometers, mercury manometers, mercury blood pressure cuffs, and mercury switches. The term does not include motor vehicle switches.

H. **Motor Vehicle Switch** - A motor vehicle switch is a mercury switch used in a motor vehicle. It includes mercury light switches used to turn a light bulb or lamp on and off, and a mercury switch used in anti-lock braking systems.

4.0 Prohibited Activities

The following activities are prohibited:

A. Disposing, diluting, or treating universal waste. The intentional breaking of cathode ray tubes or lamps is considered a form of treatment and may not be conducted intentionally.

B. Sending or transporting universal waste to any facility other than a consolidation facility for universal waste, or a recycling facility for universal waste. Exception: broken lamps, PCB ballasts and residues from mercury spill kits may be sent to an approved Hazardous Waste disposal or treatment facility.

5.0 Universal Waste Storage Requirements

The requirements for the storage of universal waste are as follows:

A. Universal wastes must be stored in a secured area, which is locked when not in use. The facility universal waste storage is a covered container located to the west of the MSW transfer building.

B. Universal waste storage areas must be designated by a clearly marked sign with the following wording:

- "Universal Hazardous Waste Storage" **or**

- The type of waste being stored there, e.g.,
  - "Waste Cathode Ray Tube Storage"
  - "Waste Lamp Storage"
  - "Waste PCB Ballast Storage"
  - "Waste Mercury Device Storage"
  - "Waste Motor Vehicle Switch Storage"

C. Universal waste storage containers:

1) May not show evidence of leakage, spillage or damage that could result in leakage under reasonable conditions; and
2) Must be structurally sound, compatible with the waste, and protect the items from breakage.

D. Each container must be labeled with the date universal waste is first put into it, or the date the universal waste is received at the facility, whichever is the earlier date. This date is called the accumulation start date.

E. Universal waste containers must be marked with the type of waste they contain i.e., "Waste Cathode Ray Tubes", "Waste Lamps", "Waste Mercury Devices", "Waste PCB Ballasts", "Waste Motor Vehicle Switches".

F. Universal wastes will not be stored for more than **365** days from the date the waste is first received at the transfer station.

G. Universal wastes must be stored inside for protection from the weather.

H. Universal wastes shall be packed in containers with packing materials adequate to prevent breakage during storage, handling and transportation.

I. Full universal waste containers shall be sealed securely around box openings. Universal waste containers shall immediately be sealed if breakage occurs.

J. Boxes containing universal waste shall not be stacked more than five-feet high.

K. The solid waste facility operator must perform weekly inspections of universal waste storage areas and maintain a written inspection log to document the inspections. The log must include the following items:

1) Name of the inspector;
2) Date of the inspection;
3) Condition of all waste containers;
4) Description of any problem noted during the inspection and action taken to fix it; and
5) Number and types of universal waste onsite.

A sample log sheet is included at the end of this section.

L. Universal waste containers shall be arranged to make inspection easy. The inspector shall be able to see the accumulation start date (i.e., the date waste was first put in the container) or the date of receipt of the container, and the container's condition.

M. All releases of waste and residues resulting from spills or leaks of universal waste shall be immediately contained and transferred into a container that meets the requirements of the Maine Hazardous Waste Management Rules, except for incidental releases as explained in Section 6.0 below.

6.0 Universal Waste Shipping Requirements

The requirements for the shipping of universal waste are as follows:

A. The universal wastes shall be whole and intact except for incidental breakage of 10 or fewer lamps or CRTs.

B. Breakage of 10 or fewer lamps or CRTs may still be handled as universal waste. Larger spills or spills resulting from breakage of other universal wastes must be handled as hazardous waste in accordance with Chapter 850, Section 3(A)(13)(e)(iii) of the Hazardous Waste Rules.

C. The universal wastes shall be in closed containers that are compatible with the type and number of universal wastes being shipped. Packages must meet the U.S. Department of Transportation standards contained in 49 CFR 171-180.

D. The universal wastes shall be shipped by a common carrier or licensed hazardous waste transporters to the consolidation or recycling facility.

E. A copy of one of the following documents must accompany the universal waste during shipping:

- the log of universal wastes; or
- Recyclable Hazardous Material Uniform Bill of Lading; or
- Uniform Hazardous Waste Manifest.

F. Logs may be used as the shipping document if the following conditions are met:

1) The waste is sent to an **in-state** consolidation facility or **out-of-state** consolidation facility with a current state contract**.**
2) The universal waste information is recorded on the log sheet.
3) The log sheet must accompany the waste to the **in-state** consolidation facility.
4) The in-state consolidator submits the **quarterly** universal waste report to the Maine DEP on-time for the facility.
5) The log sheet contains the following information:
   a) Name, address, and telephone number of the generator. (If from a household enter "Household Generator" instead of name, address, and telephone number.)
   b) Date of delivery to the facility.
   c) Types and quantities of universal waste.

G. The universal waste must be sent to a consolidation facility or recycling facility authorized to handle the waste under a state program and which is a defined universal waste facility.

7.0 Universal Waste Training Requirements

The training requirements for all employees who handle or oversee the universal waste storage area are as follows:

1) All employees and contractors who handle or have responsibility for managing universal waste shall be trained on proper handling and emergency procedures.
2) Documentation of the training shall be kept at the facility for a minimum of three years or for the length of employment, whichever is longer.
3) This documentation must include the name of the employee or contractor receiving the training, the date of the training and the information covered during the training. An agenda will satisfy the last requirement.

8.0 Universal Waste Record Keeping Requirements

The following records must be maintained by the facility:

1) Central Accumulation Facility Waste Notification Form or EPA ID Number

   If handling less than 5000 kg of universal wastes at any one time; then the solid waste facility must submit a Maine DEP Notification form (a blank form is attached as Appendix A), instead of obtaining a U.S. EPA (EPA) identification number. Solid waste facilities must maintain a copy of this completed notification form as part of the facility "Operations Manual".

   or

   If handling more than 5000 kg of universal wastes at any one time; then the solid waste facility must obtain an EPA identification number allowing for the handling of more than 5000 kg of universal wastes at any one time.

2) Weekly Inspection Logs will be kept for **one year** from the date of shipment or receipt of universal waste.

3) Documentation of Training must be kept for at least **three years** or length of employment, whichever is longer.

4) A Bill of Lading or Manifest is required if the waste is not shipped to an in-state consolidator or an out-of-state consolidator under contract with the state at the time of shipment; a copy of the bill of lading or manifest must be kept for at least **three years** from the date of shipment from the transfer station.

5) A Certificate of Recycling must be kept for at least **three years** from the date of shipment of the universal waste except for ballasts or residues from mercury spill kits. These two wastes may be sent for treatment or disposal.

   The Certificate of Recycling shall be dated and signed by the recycling facility confirming that all hazardous waste components of the universal waste have been recycled, used, reused or reclaimed within thirty-five (35) days of receipt.

6) A Summary of Universal Waste Handling Activities must be included as part of the solid waste facility's annual report to the Maine DEP. The Operations Manager maintains **a log to use for reference when writing this summary.**

9.0 Universal Waste Spill Cleanup Plan

1) The solid waste facility operator shall report all spills/discharges of universal wastes, except those noted below, to the Maine DEP spill hotline at **1-800-452-4664**.

The following types of incidental spills **do not** need to be reported:

- Cathode ray tubes: breakage of **10** or fewer CRTs.
- Lamps: Breakage of **10** or fewer lamps.

2) The following procedures shall be used to clean up universal wastes:

a) Block off the area to prevent any accidental tracking of the mercury or other hazardous chemicals.

b) Open all doors and windows and turn on any ventilation fans.

c) Always wear safety glasses and disposable rubber gloves when cleaning up a spill.

d) **DO NOT USE A VACUUM TO CLEANUP SPILLS**. The use of a vacuum on a mercury or lead-containing universal waste spill will disperse mercury or lead dust into the air and cause mercury or lead to stick to the metal parts in the vacuum motor, discharging mercury or lead every time the vacuum is used. **This poses a serious health problem and should be avoided.** In addition, the vacuum will have to be decontaminated or disposed of as hazardous waste.

e) Using two pieces of stiff paper or a damp sponge, scoop or wipe up as much of the broken material as possible and put it in a sealable plastic bag or sealable plastic or metal container.

f) Go over the spill area thoroughly with a damp sponge or rag. For **mercury spills,** go over the area with tape to pick up small particles of mercury, then use a sponge.

g) Put cleanup material in a sealed container(s) and store as universal waste. All items (i.e., brooms, scoops, tape, gloves, sponges, rags) used to cleanup universal waste spills are considered contaminated and must be handled as hazardous waste.

h) If a spill is on a carpet or other permeable surface, it may be necessary to remove the flooring to prevent continued exposure. This debris should be considered contaminated and handled as hazardous waste.

i) Thoroughly wash your hands and face after cleaning up any universal waste spills.

Universal Waste Log Form for Transfer Station/Recycling Center

Facility Name: Troiano Transfer Station **Contact name and phone number: _____**
Facility address: Troiano Way, Gardiner, Maine

Household (HH) or Business Name	Business Address/Phone (Not needed for households)	Date Received	Waste Type Code[1].	# of UW items[2].	Lamp Size (2',4',8') or type (U tube)	Battery Type[2]
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

[1] **Waste Codes:**
Battery = **BT**
Cathode Ray Tube = **CR**
Lamp = **H**
Motor Vehicle Switch = **MS**
Mercury Thermostat = **TH**
PCB Ballast = **PC**
manufacturer
Mercury Device = **MD**

[2] **# of Universal Waste Items:**
Total individual number of items, i.e.: individual lamps, CRTs, thermostats…

[3] **Battery Type:** Lithium=Li, Mercuric Oxide=HgO, Nickel Cadmium= NiCd, Nickel Metal Hydride =NiMH; Silver Oxide= AgO
Not required for batteries collected for RBRC or other DEP approved take back program.

WEEKLY CHECKLIST FOR
UNIVERSAL WASTE STORAGE AREAS

DATE: _____ TIME: _____

INSPECTOR: _____

OBSERVATION	YES	NO
ARE ANY CONTAINERS OF WASTE OPEN?		
DO ALL CONTAINERS HAVE A UNIVERSAL WASTE LABEL?		
DO YOU HAVE ACCESS TO EACH CONTAINER AND CAN YOU READ THE LABEL?		
IS EACH CONTAINER MARKED WITH THE FIRST DATE THE WASTE WAS PLACED IN THAT CONTAINER OR RECEIPT OF WASTE?		
ARE ANY OF THE DATES ON THE CONTAINERS OVER 365 DAYS OLD?		
ARE THE CONTAINERS IN GOOD CONDITION AND INTACT?		
WAS THE STORAGE AREA LOCKED WHEN YOU ARRIVED?		
WHAT IS THE TOTAL NUMBER OF UNIVERSAL WASTE ITEMS IN THE STORAGE AREA?		

PROBLEMS OBSERVED:

REFERRAL TO:
FOLLOW UP:
ALL PROBLEMS CORRECTED ON (Date)

APPENDIX C
EMPLOYEE SIGN-OFF FORM

By signing below, I acknowledge that I have thoroughly read this document: Troiano Transfer Station, Gardiner Maine, dated May 2022.

Printed Name	Signature	Date