



Minor Site Plan Application Town of Allenstown, New Hampshire

for

**Stormwater Drainage Improvements
Allenstown Transfer Station
104 River Road
Allenstown, New Hampshire**

June 21, 2019

Applicant

Casella Waste Management of Massachusetts, Inc.
53 Pelham Road
Salem, New Hampshire 03709

Prepared By

Walsh Engineering Associates, Inc.
1 Karen Drive, Suite 2A
Westbrook, Maine 04092

June 21, 2019

Town of Allenstown Planning Board
16 School Street
Allenstown, NH 03275

RE: **Minor Site Plan Application**
Stormwater Drainage Improvements
Allenstown Transfer Station
104 River Road, Allenstown, NH

Dear Planning Board Members,

On behalf of Casella Waste Management of Massachusetts, Inc. (Applicant), Walsh Engineering Associates, Inc. (WEA) is pleased to submit the enclosed Minor Site Plan Application for the construction of stormwater improvements on the east side of the transfer building at the Allenstown Transfer Station located at 104 River Road in Allenstown. The proposed plan includes the replacement of an existing catch basin, installation of two new storm drain pipes, followed by a Clara gravity separator manufactured by StormwaterRx. The outlet from the Clara unit will tie into the existing stormwater outfall from the site. The intent of the project is to collect stormwater runoff from the high-traffic area of the site and direct it through a treatment system to improve the quality of stormwater discharging from the site. The work is being completed in preparation for the potential future installation of a gravel wetland on the abutting property to the south, which is also owned by the Applicant. While the gravel wetland is not included with this application, its location is shown schematically for clarity. A separate site plan application will be submitted in the future for the installation of the gravel wetland.

Existing Conditions

The site consists of approximately 2.74 acres and is located in the Commercial/Light Industrial zoning district and the Agricultural Conservation overlay district. The current transfer station was last granted approval by the planning board in 2009. The existing development includes two buildings, paved parking, storage, and circulation areas, a weigh scale, various utilities, and a stormwater drainage system. In 2016, the planning board approved a Minor Site Plan amendment for the installation of a trench drain and stormwater treatment system on the west side of the transfer building, which was subsequently installed.

Stormwater at the site generally flows in multiple directions. The entrance to the western side of the transfer building flows to the trench drain and treatment system and then discharges to the wetland on the south side of the property. The remaining portion of the area west of the transfer building flows offsite via overland flow to the western property line. The remaining site area east and south of the transfer building drains to the wetland to the south via a combination of overland flow and collection in a catch basin system. The parcel directly south of the transfer station is also owned by the Applicant.

Proposed Development

Due to advances in stormwater quality BMP technology the Applicant is proposing to replace a catch basin and install two new stormdrains followed by the installation of a Clara 40C gravity separator manufactured by StormwaterRx. The outlet from the Clara separator will tie into the existing outfall from the site. Minor regrading and repaving of the parking lot around the catch basin is necessary to provide adequate drainage into the new catch basin. The proposed stormwater improvements are being installed in preparation for the future installation of a gravel wetland on the property directly to the south, which is also owned by the Applicant. While the gravel wetland is not included with this application, its location is shown schematically for clarity. A separate site plan application will be submitted in the future for the installation of the gravel wetland. The new catch basin and stormdrain pipes need to be installed to raise the elevation of the pipes in order to provide sufficient elevation for the future gravel wetland.

The proposed project will result in no change to impervious area and will not significantly modify existing drainage patterns. Therefore, stormwater runoff volumes and flow rates from the site will remain the same. Given the proposed stormwater quality improvements, no adverse impacts to downgradient waterbodies are anticipated.

We have included the following information for your review of the Minor Site Plan Application:

- Site Plan Review Application
- Abutters List
- Town of Allenstown fee acknowledgement form
- Walsh Engineering Associates W-9 form (for escrow)
- Site Plan Review Checklist
- Allenstown Transfer Station Plan Set, dated June 20, 2019
- Erosion and Sedimentation Control Plan – refer to Plan Set Sheet C3.1
- Post Construction Stormwater Management Plan

The following information summarizes how the project will meet the applicable site plan review standards.

Plans of Buildings

No new buildings are proposed.

Parking

No changes in existing parking are proposed. The proposed work will not result in a need for additional parking as it will not affect the current use of the site.

Driveway and Streets

No changes to driveway and streets are proposed.

Solid Waste

No changes to solid waste site operations are proposed.

Signage

No new signage is proposed.

Lighting

No new exterior lighting is proposed.

Utilities

No new sewer, water, or electrical utilities are proposed.

Drainage and Erosion Control

The proposed project is designed to improve the quality of stormwater discharging from the site. Design information is provided verifying flow capacity of the proposed Clara unit. Drainage structure design information is provided on the plan set. An erosion and sedimentation control plan is provided on Sheet C3.1 and locations of erosion and sedimentation control devices are shown on the plan sheets.

A maintenance plan is provided for the proposed stormwater BMPs which will be incorporated into the existing Stormwater Pollution Prevention Plan (SWPPP) for the site.

Other Items

At this time, no additional items have been requested by the Planning Board.

No changes are proposed to onsite snow storage.

Landscaping

No existing landscaping will be removed and no new landscaping is proposed.

Public Services

No new public utility service connections are proposed.

Property Survey

A survey prepared by Doucet Survey of Newmarket, New Hampshire is enclosed with this submission.

Subdivision and Roads

No new subdivisions or roads are proposed.

Erosion and Sedimentation Control

An erosion and sedimentation control plan is included on Sheet C3.1 of the plan set. Locations of proposed erosion and sedimentation control BMPs are shown on the plans.

Traffic Study

There are no proposed changes to site usage, traffic volumes, or traffic circulation. Therefore, a traffic study is not applicable to this project.

We trust you will find the application sufficient for your review and we look forward to meeting with the Planning Board to discuss the project. Please contact me if you require any additional information during the course of your review.

Respectfully,

A handwritten signature in black ink, appearing to read "William R. Walsh, III". The signature is written in a cursive style with a horizontal line at the end.

William R. Walsh, III, PE
Walsh Engineering Associates, Inc.

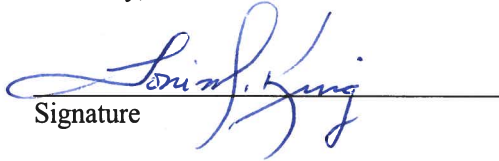
cc: Toni King, PE
David Allen
Michael Walsh, PE

enc. Minor Site Plan Application and Materials
Application Fees
Plan Set

To Whom It May Concern,

By this letter, the undersigned authorizes Walsh Engineering Associates, Inc. to act as the agent for the undersigned in the preparation and submission of all Federal, State, and Local City permit applications and relevant documents and correspondence for all necessary permits for stormwater drainage improvements on the property at 104 River Road, Allentown, NH; to attend meetings and site visits; to appear before all boards, commissions, and committees, and to provide such other services as are necessary and appropriate in furtherance of the aforementioned project.

Sincerely,


Signature

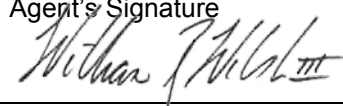
TONI M. KING, REGION ENGINEER
Printed Name and Title

17 JUN 19
Date

Site Plan/Planned Development Application Form

Town of Allenstown, New Hampshire

Revised 10/2015

To be Completed by Applicant	10. Owner Signature	Name	
1. Date of Submission		Address & Email	
		Telephone	
2. Type of Application <input type="checkbox"/> Major Site Plan <input type="checkbox"/> Minor Site Plan <input type="checkbox"/> Planned Development		11. Applicant Signature	Name
		Address & Email	
		Telephone	
3. Existing Uses	12. Contact Person	Name	Telephone & Email
4. Proposed Uses	13. Certification <i>I hereby certify that the above information is correct and that I have submitted herewith all of the pertinent documentation required</i>	Owner's Signature	
		Agent's Signature 	
5. Location of project Address:	14. Required Materials (see Site Plan Regulations for details): *ALL APPLICATIONS ARE TO BE COMPLETED ONLINE AT ALLENSTOWNNH.GOV AND ANY ADDITIONAL ITEMS SUBMITTED ELECTRONICALLY TO PLANNING@ALLENSTOWNNH.GOV I. Completed application for Site Plan review and checklist. II. Site Plan (4 large copies): III. List of current names and addresses of all abutters. IV. Two checks (one for escrow, one for all other fees), signed fee acknowledgement, and W-9. V. The material composition shall be suitable for electronic scanning, recording, and archiving by the Registers of Deeds. VI. A letter of authorization from the owner, if the applicant is not same. VII. 4 large plans, checks, and W-9 to be dropped off at Town Hall. Scans of each should be also submitted digitally with the rest of the application package.		
Tax Map/Lot #:			
6. Zoning District			
7. Has this case gone to the ZBA? <input type="checkbox"/> Yes Case # _____ <input type="checkbox"/> No			
9. Estimated building & site costs:			
Planning department use Only	2. Fees: Escrow _____ Application _____ Postage _____ Newspaper _____ Signed Fee Acknowledgement _____	Receipt Stamp	
1. Materials Submitted: <input type="checkbox"/> Plans <input type="checkbox"/> Completed Checklist <input type="checkbox"/> Application Fee <input type="checkbox"/> Postage Fee(s) <input type="checkbox"/> Letter of Authorization <input type="checkbox"/> Written Waiver Request(s)	3. Date of Pre-application Meeting:		
<input type="checkbox"/> Application <input type="checkbox"/> Abutters list <input type="checkbox"/> Escrow(s) <input type="checkbox"/> Newspaper Fee(s) <input type="checkbox"/> Studies <input type="checkbox"/> Fee Acknowledgement	4. Date of PB Acceptance	Site Plan/Planned Development Application #	



Town of Allenstown
Planning Board
 1 Ferry Street
 Allenstown, NH 03275
 603-485-9202
 planning@allenstownnh.gov

PLANNING BOARD FEE ACKNOWLEDGEMENT FORM

Project Name: Stormwater Drainage Improvements
 Contact Person Name: Walsh Engineering Associates Inc., Michael Walsh
 Mailing Address: One Karen Drive, Suite 2A, Westbrook, ME 04092
 Phone: 207-553-9898
 Email Address: mike@walsh-eng.com

As the applicant for Minor Site Plan Review Stormwater Drainage Improvements, located at Allentown Transfer Station 104 River Road and Allenstown map 105 and lot 038 I have read and understand the Allenstown

Planning Board and/or Allenstown Zoning Board Fees, as applicable (attached). Additionally, I authorize the Town of Allenstown to establish an escrow account for professional review services/costs associated with my Application(s). I understand that with an escrow I may be required to pay additional fees for services incurred, as needed, or, the Town of Allenstown may reimburse fees, as needed, if they are not expended in their entirety once the project approval process concludes. I acknowledge that any outstanding fees not paid that are incurred by the Town of Allenstown associated with the consideration of the Application can and will be required to be paid as a condition of approval. Additionally, I understand that the submittal of appropriate fees, complete and signed application forms, and this Fee Acknowledgement less than 28 days in advance of the next regularly scheduled Planning Board meeting or less than 7 days in advance of the next Zoning Board of Adjustment Meeting will result in the entire application package automatically being deemed incomplete. One check shall be provided for escrow fees and one for application fees. Both checks shall specify the application and what the check is for in the memo line. Lastly, I recognize that the following fees will be paid, as applicable:

- I. Escrow fees (Planning and/or Zoning Board) **Total:** _____
 - a. Central NH Regional Planning Commission Planner: _____
 - b. Engineering: _____
 - c. Legal: _____
 - d. Newspaper Notice: _____
 - e. Abutter Notice: _____
- II. Planning Board Application Fees **Total:** _____
 - a. Site Plan: _____
 - b. Subdivision: _____
 - c. Conditional Use Permit: _____
 - d. Special Use Permit: _____

William R Walsh, III, PE (Agent)

June 21, 2019

Applicant (Printed)

Applicant (Signature)

Date



**TOWN OF ALLENSTOWN
PLANNING BOARD
Site Plan Application Checklist**

This document is adopted as part of the Allenstown Site Plan Regulations and in the event there is any conflict between this checklist and items listed in the Site Plan Regulations the more inclusive requirement shall apply. Please note that all items are to be submitted digitally at allenstownnh.gov per Subdivision Regulation Section 4.04. Checks and large plan sets to be submitted at Town Hall separately.

Project Name/#: _____ Tax Map & Lot No. _____

Address Project: _____ Lot Size: _____ Zoning District: _____

Property Owner: _____ Designer: _____

Description of Proposed Project: _____

SUBMISSION REQUIREMENTS FOR MAJOR AND MINOR SITE PLANS
PER SUBDIVISION REGULATION SECTION 4.04 ALL ITEMS TO BE
SUBMITTED IN DIGITAL FORM.

GENERAL STANDARDS

<u>General Items</u>	Yes	No	N/A	Waiver	Comments
1. Digital submittal of materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
2. Completed application - 4 copies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
3. Fees paid (1 escrow check; 1 check all other fees)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
4. Letter of authorization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

	Yes	No	N/A	Waiver	Comments
5. Waiver request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6. Fee Acknowledgement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
7. W-9 (for escrow)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Plans</u>					
8. Four (4) sets of plans (5.01.b.4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
9. 22x34 max sheet size (5.01.b.1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
10. USGS Topographical datum at 2' intervals with USGS benchmarks (5.02)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
11. Scale: not less than 1"=100' (5.01.b.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
12. Match lines (5.01.b.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
13. Date, title, scale, locus map north arrow (5.01.b.5 & 6.01b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
14. Name & Address of developer, owner and designer (5.01.b.6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
15. Name & Address of all abutters (5.01.c & 6.01c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
16. Easements, covenants & restrictions ON PLAN (5.01.b.7 & 6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
17. Copies of all easements, Covenants& restrictions DOCUMENTS (6.01.o)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Required Exhibits</u>					
18. Boundaries (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

	Yes	No	N/A	Waiver	Comments
19. Existing landscaping (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
20. Water bodies and wetlands (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
21. Trees & other vegetation (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
22. Topographic features (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
23. Zoning District Boundary lines (6.01.d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
24. Acreage AND Square footage Of each parcel (6.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
26. Elevation or photograph Of building with height, Weight bulk and surface treatment (6.01.g)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Plans of Buildings</u>					
26. Type and size of building (6.01.f)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
27. Location of building & setbacks within 50 feet of parcel(6.01.f)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Parking</u>					
28. Off-street parking, loading areas and parking space layout (6.01.h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Driveways & Streets</u>					
29. Location, width, curbing, access & egress to site; streets within and around site (6.01.i & m)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

	Yes	No	N/A	Waiver	Comments
<u>Solid Waste</u>					
30. Type/location of solid waste facility (6.01.j)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Signage</u>					
31. Location, size & design of any proposed signs, advertising or instructional devices (6.01.k)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Lighting</u>					
32. Location/type of all outdoor lighting facilities, including direction and area of illumination (6.01.l)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Utilities</u>					
33. Water & sewer Facilities (6.01.n)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
34. The size and proposed location of water supply and sewage disposal facilities and all distances from existing water and sewage facilities on the site and on abutting properties (6.02.b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
35. Sanitary Sewers Not Linked to storm sewer (7.06.a & j)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
36. New utilities, including electrical, Underground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Drainage & Erosion Control</u>					
37. Location, elevation, and layout of catch basins and other surface drainage (6.02.c)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

	Yes	No	N/A	Waiver	Comments
38. Drainage comply with Stormwater Management Ordinance (6.02j & 7.06.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
39. Erosion Controls (7.06)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
40. Native vegetation For erosion control (7.06m)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
41. Erosion control Blankets w/seeding (7.06h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
42. Maintenance for Erosion controls (7.06k)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
43. Pre and post construction drainage plan, prepared by a professional engineer (6.02.j)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Other</u>					
44. Any other exhibits required by the Planning Board (6.01.o)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
45. 25' Wetland buffer (7.01.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
46. Snow storage per Section 7.11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

ADDITIONAL REQUIRED FILINGS FOR A MAJOR SITE PLAN (MAY BE REQUIRED FOR SOME MINOR SITE PLANS AT THE DISCRETION OF THE BOARD)

	Yes	No	N/A	Waiver	Comments
<u>Buildings</u>					
47. Plan of all proposed buildings with their type, size, location with setbacks and first floor elevation from an on-site permanent benchmark and floor area ratio as related to the Zoning Ordinance (6.02.a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
48. Existing and proposed contours, finished grade elevations; contours shall be a minimum of 2' intervals (6.02.d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Landscaping</u>					
49. Landscape plan showing type, extent & location of existing & proposed landscaping and open space areas including open space and landscape areas that will be retained, as prepared by a licensed landscape architect (6.02e)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Public Services</u>					
50. The size and location of all public service connections, with profiles and supporting design calculations: gas, power, sanitary sewer, storm drain, public water, telephone, fire alarm, overhead and underground; utilities plan shall be prepared by a professional engineer (6.02f)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

	Yes	No	N/A	Waiver	Comments
<u>Property Survey</u>					
51. Surveyed property lines showing deflection angels, distances & bearings, radius, lengths of arcs, control angles along property lines, monuments, and names of all abutters, as prepared by a licensed land surveyor (6.02.g)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>If a Subdivision (or contains roads)</u>					
52. Lines & names of all proposed streets, lanes, ways or easements intended to be dedicated for public use (6.02h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Erosion & Sediment</u>					
53. Erosion & sedimentation control plan (7.06)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>Studies</u>					
54. Traffic study prepared By a professional engineer (6.02.i)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
<u>For Planning Board Use Only:</u>					
JOINT HEARINGS					
55. Joint hearing with Subdivision (Section XII)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
PERFORMANCE BOND					
56. Performance Bond (Section X)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank. Walsh Engineering Associates, Inc.		
	2 Business name/disregarded entity name, if different from above		
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____		4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.) One Karen Drive, Suite 2A		Requester's name and address (optional)
	6 City, state, and ZIP code Westbrook, ME 04092		
	7 List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number										
or										
Employer identification number										
2	6		-	4	6	7	7	0	3	1

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶ 01/01/2019
------------------	----------------------------	--------------------------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
- Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

382667

2000 MAR 10 PM 1:40

BK2197 PG0368

WARRANTY DEED

5352.00

J.M. Container Corp., a/k/a J.M. Container Corporation, a Massachusetts corporation, with a mailing address of P.O. Box 87, Pelham, Hillsborough County, New Hampshire, 03076, for consideration paid, grants to Casella Waste Management, Inc., a Vermont corporation, with a place of business at 501 South Street, Bow, Merrimack County, New Hampshire, 03304, with WARRANTY COVENANTS, the following described premises:

Two (2) certain tracts or parcels of land, with the buildings and improvements thereon, situate on River Road in Allenstown, County of Merrimack and State of New Hampshire, being more particularly bounded and described as follows:


PARCEL ONE

A certain tract or parcel of land, with the buildings and improvements thereon, situated at 102 River Road in Allenstown, County of Merrimack and State of New Hampshire, being shown on a plan entitled "Plan of Land N/F William A. Anderson River Road Allenstown, N.H." dated September 13, 1993, prepared by R.G. Moynihan and recorded as Plan No. 12795 with the Merrimack County Registry of Deeds and further bounded and described as follows:

Beginning at a concrete/granite bound at the southwest corner of the property, which is also the southeast corner of the adjoining property, now or formerly of Maltais, Eugene R. and Elizabeth A.; thence along the northerly side of River Road N 86° 59' 53" E 392.21 feet, more or less, to a concrete/granite bound; thence continuing along said River Road N 77° 29' 53" E 43.95 feet, more or less, to a concrete/granite bound; thence N 43° 59' 53" E 80.99 feet, more or less, to a T-Bar; thence N 41° 24' 02" E 76.51 feet, more or less, to a concrete/granite bound at the southeasterly corner of the adjoining property now or formerly of J.M. Container Corp.; thence along the southerly side of said property now or formerly of J.M. Container Corp. N 59° 19' 08" W 25.89 feet, more or less, to an iron pipe; thence along land of said J.M. Container Corp. N 59° 19' 08" W 502.36 feet, more or less, to a concrete/granite bound which is also the southwest corner of the property of said J.M. Container Corp. and along property now or formerly of Suncook Business Park; thence along the easterly side of said Suncook Business Park property S 41° 50' 47" W 192.29 feet, more or less, to a maple tree at the northeast corner of said Maltais property; thence along the easterly side of said Maltais property S 08° 36' 14" E 275.10 feet, more or less, to the point of beginning.

Containing 3.47 acres, more or less.

For title, reference is made to deed of Salvation Disposal and Construction Company to J.M. Container Corp. dated December 6, 1999 and recorded with the Merrimack County Registry of Deeds at Book 2186, Page 1029. See also prior deed recorded with said Registry of Deeds at Book 1930, Page 1204.

STATE OF NEW HAMPSHIRE		
DEPARTMENT OF REVENUE ADMINISTRATION		REAL ESTATE TRANSFER TAX
***** THOUSAND 3 HUNDRED AND 52 DOLLARS		
03/10/2000	406187	\$ *****352.00
VOID IF ALTERED		

PARCEL TWO

A certain tract or parcel of land, with the buildings and improvements thereon, situated at 104 River Road in Allenstown, County of Merrimack and State of New Hampshire, bounded and described as follows, to wit:

Beginning at a post on the easterly sideline of N.H. Route 28, in the Town of Allenstown, said post marking the division line between land now or formerly of Joseph Duguay and the premises herein described; thence N 64° 25' 30" E 511 feet to an iron pin at land of Lorden Lumber Company; thence S 57° 55' 30" E 1391 feet by said Lorden Lumber Company land to an iron pin at land of one Keniston; thence continuing on the same course by said Keniston land 505 feet to an iron pin on the northerly side of River Road; thence S 48° 10' W along said River Road 158 feet to a point at land now or formerly of Anderson; thence N 55° 37' 45" W 27 feet to an iron pin; thence continuing along the same course 492.7 feet to corner; thence S 43° 43' 45" W 130 feet to an iron pin at land bounded easterly now or formerly of Henry and Murphy; thence continuing along the same course 200 feet to an iron pin at land now or formerly of one Boisvert; thence N 55° 40' 30" W 805.9 feet to an iron pin at land now or formerly of one Robidoux; thence N 56° 22' 30" W 404.7 feet by said Robidoux land to an iron pin at land of said Joseph Duguay; thence N 57° 18' W by said Duguay land 341 feet to the point of beginning. All as shown on a plan and survey made by Asa H. Morgan 1972.

EXCEPTING a certain piece or parcel of land situated in said Allenstown, containing 14.5 acres, more or less, conveyed to Ecological Energy Corporation by deed of Oscar P. Plourde and Mary G. Plourde dated March 28, 1978 and recorded with the Merrimack County Registry of Deeds at Book 1316, Page 328, and being described as follows:

Beginning at an iron pipe at the northwest corner of the premises at land of Duguay and on the southeast side of N. H. Route 28; thence by said highway N 64° 25' 30" E 485.41 feet, more or less, to land of Oscar Plourde; thence by said Plourde land S 57° 55' 30" E 1385 feet, more or less; thence S 43° 43' 45" W 123 feet to land of Anderson; thence by said Anderson land and land of Maltais S 43° 43' 45" W 339 feet, more or less, to an iron pipe at land of LaSalle; thence by said LaSalle land and land of O'Brien, Hodge and Boisvert N 55° 40' 30" W 805.9 feet, more or less, to an iron pipe at land of Robidoux; thence by said Robidoux land N 56° 22' 30" W 404.7 feet, more or less, to an iron pipe at land of Duguay; thence by said Duguay land N 57° 18' W 341 feet, more or less, to the point of beginning. Said parcel is shown as Lot 1 on a plan of land entitled "Subdivision Plan Oscar Plourde Allenstown, N.H." dated January 10, 1978, by Thomas F. Moran, Inc. and recorded with the Merrimack County Registry of Deeds as Plan No. 5152.

The within premises are conveyed together with quitclaim covenants only to an access easement 25 feet wide described in instrument from Ecological Energy Corporation to Oscar P. Plourde and Mary G. Plourde dated March 28, 1978 and recorded with said Registry of Deeds at Book 1316, Page 332, to the extent any easement rights are created by said instrument.

The within premises are subject to the following easements, rights and reservations to the extent they are applicable, if at all:

1. Easement conveyed to Socony-Vacuum Oil Company, Inc. dated July 6, 1945 and recorded with the Merrimack County Registry of Deeds at Book 614, Page 536.
2. Easement conveyed to Public Service Company of New Hampshire dated June 4, 1947 and recorded with said Registry of Deeds at Book 631, Page 476.
3. Rights of access, air, view and light conveyed to the State of New Hampshire by instruments dated November 23, 1955 and May 11, 1956 and recorded with said Registry of Deeds at Book 785, Page 138 and Book 786, Page 528, respectively.
4. Easement conveyed to Ecological Energy Corp. dated March 28, 1978 and recorded with said Registry of Deeds at Book 1316, Page 330. Said easement located on the southerly side of N.H. Route 28, to the extent any easement rights are created by said instrument.
5. Setback requirements as shown on said Plan No. 5152.
6. Reservation for the Town of Allenstown for a 50 foot strip of land on the southeasterly side of N.H. Route 28. No buildings are permitted on this strip of land, but a parking lot is permitted. Said land is reserved for the Town of Allenstown, but not dedicated for a future road.
7. Fifty foot right-of-way referenced in deed of Oscar Plourde and Mary Plourde to J.M. Container Corporation dated February 23, 1990 and recorded with said Registry of Deeds at Book 1832, Page 2250. See also Supplement to Right-Of-Way between Oscar P. Plourde and Mary Plourde and J.M. Container Corporation, a/k/a J.M. Container Corp., dated August 6, 1998 and recorded with said Registry of Deeds at Book 2114, Page 1668.

For title, reference is made to deed of Oscar Plourde and Mary Plourde to J.M. Container Corporation dated February 23, 1990 and recorded with the Merrimack County Registry of Deeds at Book 1832, Page 2250.

WITNESS its hand this 10th day of March, 2000.

J.M. CONTAINER CORP.

WITNESS

By:

Name:

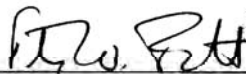
Title:

Angelito Squillante

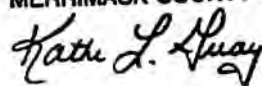
President

STATE OF NEW HAMPSHIRE
COUNTY OF MERRIMACK

The foregoing instrument was acknowledged before me this 10th day of March, 2000,
by Angela Squillante, President of J.M. Container Corp., a Massachusetts
corporation, on its behalf.


Notary Public
My Commission Expires: 8/12/2003

MERRIMACK COUNTY RECORDS


Register

MCRD

X
Geo Insight
Mike Redding
25 Sundial Ave, suite 515 West
Manchester, NH 03103

Doc#: 730181
Book: 3116 Pages: 0617 - 0622
03/16/2009 11:10AM

MCRD Book 3116 Page 617

30-98
2-3
DECLARATION OF EASEMENTS, COVENANTS, AND RESTRICTIONS

DECLARATION made this 12th day of February, 2009, by **CASELLA WASTE MANAGEMENT, INC.**, a Vermont corporation with a principal office and mailing address of 25 Greens Hill Lane, P.O. Box 866, Rutland, Vermont 05702 ("Casella").

WHEREAS, Casella is the owner of two adjacent parcels of real property situated on River Road in the Town of Allenstown, County of Merrimack, State of New Hampshire, being described as Lots 37 and 38 on Town of Allenstown Assessor Map 105, said property being described in Warranty Deed of J.M. Container Corporation to Casella Waste Management, Inc. dated and recorded March 10, 2000 in the Merrimack County Registry of Deeds at Book 2197, Page 368 as "Parcel One" and "Parcel Two," respectively (Parcel Two is hereinafter referred to as the "Transfer Station Property" and Parcel One is hereinafter referred to as the "Adjoining Property"); and

WHEREAS, Casella has developed a Site Plan for the Transfer Station Property, which site plan was prepared by GeoInsight, Inc., dated February 19, 2007, approved by the Town of Allenstown Planning Board on May 16, 2007, and recorded in the Merrimack County Registry of Deeds as Plan No. 19205 (the "Site Plan"); and

WHEREAS, Casella desires to create (i) a certain storm water drainage easement encumbering the Adjoining Property, (ii) a certain grading, slope, fill, and landscaping easement encumbering the Adjoining Property, (iii) a certain fence construction and maintenance easement encumbering the Adjoining Property, and (iv) certain related access easements, covenants, restrictions and obligations; and

WHEREAS, Casella desires for itself and for future owners of the Transfer Station Property and the Adjoining Property that the respective rights, duties and obligations of the owners of said lands be clearly defined herein and the respective rights, duties and obligations of the owners of said lands, as defined herein, be preserved and protected hereinafter;

NOW, THEREFORE, Casella does hereby declare that the Transfer Station Property and the Adjoining Property shall be held, transferred, sold, conveyed, and occupied together with and subject to each and all of the easements, covenants, restrictions, and charges hereinafter set forth, which shall run with the lands burdened and benefitted hereby and shall be binding upon and inure to the benefit of all subsequent owners of and successors in title to said lands.



LT2-3116-617-6



LT1-2-730181-1

1. Recitals. The foregoing recitals are true and correct and are hereby incorporated herein by this reference.

2. Drainage Easement. The owner of the Transfer Station Property, its grantees, transferees, heirs, legal representatives, successors and assigns (hereinafter, the "Transfer Station Owner") shall have a perpetual, non-exclusive easement on, over, across, under and through that certain portion of the Adjoining Property shown as "Proposed Easement Area" on the Site Plan and more particularly described on Exhibit A attached hereto (the "Easement Area") for surface and storm water drainage and dispersal purposes, including, without limitation, the right to lay, construct, reconstruct, install, repair, replace, remove, add, maintain, operate, use, and inspect for storm water drainage and dispersal purposes, a certain subsurface storm water drain pipe system, a certain concrete manhole structure, and a certain flared end outlet and rip rap apron, all as more particularly shown on the Site Plan. Such installation and maintenance of storm water drainage facilities by the Transfer Station Owner shall be performed at the Transfer Station Owner's sole cost, including construction costs and maintenance costs. The Transfer Station Owner shall indemnify and hold harmless the owner of the Adjoining Property, its grantees, transferees, heirs, legal representatives, successors and assigns (hereinafter, the "Adjoining Property Owner") from and against all costs, damages, claims, expenses and liabilities arising from the exercise of the aforementioned easement rights by the Transfer Station Owner.

3. Grading and Landscaping Easement. The Transfer Station Owner shall have a perpetual, non-exclusive easement on, over, across, under and through the Easement Area for purposes of performing grading, slope and fill work in such area, to install landscaping and related improvements in such area, and to maintain such slope areas and landscaped areas from time to time, including, without limitation, the right, but not the duty or obligation, to grade, construct, reconstruct, install, repair, replace, remove, add, maintain, operate, use, landscape, and inspect a certain berm to serve as an aesthetic screen and sound barrier, to construct, reconstruct, install, repair, replace, remove, add, maintain, operate, use, and inspect a certain retaining wall of stone-filled gabion baskets, to plant, replace, remove, add, and maintain trees, shrubs, and other vegetation on and around the berm, and to water and fertilize such plantings, all as more particularly shown on the Site Plan. Such grading, slope, fill and landscaping work by the Transfer Station Owner shall be performed at the Transfer Station Owner's sole cost, including construction costs and maintenance costs. The Transfer Station Owner shall indemnify and hold harmless the Adjoining Property Owner from and against all costs, damages, claims, expenses and liabilities arising from the exercise of the aforementioned easement rights by the Transfer Station Owner.

4. Fence Easement. The Transfer Station Owner shall have a perpetual, non-exclusive easement on, over, across, under and through the Easement Area for purposes of installing and maintaining a fence, including, without limitation, the right, but not the duty or obligation, to construct, reconstruct, install, repair, replace, remove, add, maintain, operate, use, and inspect a certain fence with one or more access gates, all as shown on the Site Plan, and the right to prevent access from other portions of the Adjoining Property to the area enclosed by said fence. Such fence installation and maintenance by the Transfer Station Owner shall be performed at the Transfer Station Owner's sole cost, including construction costs and maintenance costs. The Transfer Station Owner shall indemnify and hold harmless the

Adjoining Property Owner from and against all costs, damages, claims, expenses and liabilities arising from the exercise of the aforementioned easement rights by the Transfer Station Owner.


5. Access. The Transfer Station Owner shall have the right of access to said Easement Area from adjacent public ways and/or from the Transfer Station Property over and across the Adjoining Property for all purposes, including access for vehicles and equipment necessary for Transfer Station Owner to exercise its rights and perform its obligations under this Declaration.

6. Rights Reserved to Owner of Burdened Property. Except as otherwise set forth herein, the Adjoining Property Owner shall have the right to freely use and enjoy the Easement Area and other portions of the Adjoining Property insofar as the exercise thereof does not endanger or interfere with the easement rights of the Transfer Station Owner set forth herein, except that no other building, structure, landscaping, or other improvements shall be erected, constructed, installed or performed within the Easement Area, nor shall the grade or landscaping within the Easement Area be substantially altered, without the express prior written consent of the Transfer Station Owner in each such case. All equipment and other facilities installed by the Transfer Station Owner pursuant to its rights hereunder, whether affixed to the realty or not, shall be and shall remain at all times the property of the Transfer Station Owner, its grantees, transferees, heirs, legal representatives, successors and assigns.

7. No Public Dedication. Nothing contained in this Declaration shall create or shall be deemed to create any easements or use rights in the general public or constitute a public dedication for any public use whatsoever.

8. Successors and Assigns. All easements, covenants, restrictions, rights and obligations contained herein shall run with and be appurtenant to the lands herein described and, except as otherwise herein set forth, shall run with said lands forever and be binding upon and inure to the benefit of and be specifically enforceable by the grantees, transferees, heirs, legal representatives, successors and assigns of the owners of said lands.

CASELLA WASTE MANAGEMENT, INC.

By: 
Name: James W. Bohlig
Title: Vice President

STATE OF VERMONT
COUNTY OF RUTLAND, ss.

This instrument was acknowledged before me on this 12th day of February, 2009 by James W. Bohlig, as the duly authorized Vice President of **Casella Waste Management, Inc.**, a Vermont corporation, on behalf of and as the free act and deed of said corporation. The identity of the subscribing party was determined by (check box that applies and complete blank line, if any):

- My personal knowledge of the identity of said person **OR**
- The oath or affirmation of a credible witness, _____ (name of witness), the witness being personally known to me **OR**
- The following identification documents: _____ (driver's license, passport, other).

Shelley S. Rogers
Notary Public/Justice of the Peace
My Commission Expires: 2/10/2011
Notary Seal:

SHELLEY S. ROGERS
NOTARY PUBLIC
STATE OF VERMONT

MCRD

EXHIBIT A

Description of Easement Area

Beginning at a concrete/granite bound on the northerly side of River Road at the northeast corner of the "Proposed Easement Area," so-called, as shown on the Site Plan dated February 19, 2007, prepared by GeoInsight, Inc. and recorded as Plan No. 19205 in the Merrimack County Registry of Deeds, which is also the northeast corner of the servient property (referred to as "Parcel One" in Warranty Deed of J.M. Container Corporation to Casella Waste Management, Inc. dated and recorded March 10, 2000 in the Merrimack County Registry of Deeds at Book 2197, Page 368, and as Tax Map No. 105, Lot No. 37) and the southeast corner of the dominant property (referred to as "Parcel Two" in Warranty Deed of J.M. Container Corporation to Casella Waste Management, Inc. dated and recorded March 10, 2000 in the Merrimack County Registry of Deeds at Book 2197, Page 368, and as Tax Map No. 105, Lot No. 38);

Thence proceeding from said point of beginning North 76 degrees, 34 minutes, 41 seconds West a distance of 25.89 feet, more or less, along the southerly side of said dominant property to an iron pipe;

Thence continuing along the southerly side of said dominant property North 75 degrees, 38 minutes, 43 seconds West a distance of 502.36 feet, more or less, to a concrete/granite bound which is also the southwest corner of said dominant property and along property now or formerly of Suncook Business Park;

Thence along the easterly side of said Suncook Business Park property South 25 degrees, 33 minutes, 35 seconds West a distance of 192.29 feet, more or less, to the northeast corner of property now or formerly of Maltais, Eugene R. and Elizabeth A.;

Thence along the easterly side of said Maltais property South 24 degrees, 57 minutes, 26 seconds East a distance of 123.10 feet, more or less, to a point;

Thence South 84 degrees, 54 minutes, 18 seconds East a distance of 107.58 feet, more or less, to a point;

Thence North 20 degrees, 29 minutes, 1 second East a distance of 173.49 feet, more or less, to a point;

Thence North 89 degrees, 26 minutes, 41 seconds East a distance of 223.73 feet, more or less, to a point;

Thence North 30 degrees, 39 minutes, 14 seconds East a distance of 45.21 feet, more or less, to a point;

Thence South 79 degrees, 24 minutes, 10 seconds East a distance of 113.27 feet, more or less, to a point along the northerly side of River Road;

Thence along the northerly side of said River Road North 25 degrees, 9 minutes, 38 seconds East a distance of 76.51 feet, more or less, to the point of beginning.

The said Easement Area having an area of 77,170.3 square feet or 1.77 acres, more or less.

MEANING AND INTENDING to describe an easement area over a portion of the premises conveyed by J.M. Container Corporation to Casella Waste Management, Inc. by Warranty Deed dated and recorded March 10, 2000 in the Merrimack County Registry of Deeds at Book 2197, Page 368, which premises are more particularly described in said Deed as "Parcel One."

352127

MCRD

MERRIMACK COUNTY RECORDS

Kathi L. Gray, CPO, Register

B1316P332

PERMANENT EASEMENT

10.00

KNOW ALL MEN BY THESE PRESENTS, that the Ecological Energy Corporation, a Delaware corporation with its principal place of business at 65 Feldsmire Road, Newton, County of Middlesex, and Commonwealth of Massachusetts, grant to Oscar P. Plourde and Mary G. Plourde, husband and wife, both of 220 Main Street, Pembroke, County of Merrimack and State of New Hampshire, a PERMANENT EASEMENT in and to a certain parcel of land situated in Allenstown, County of Merrimack and State of New Hampshire, described as follows, to wit:

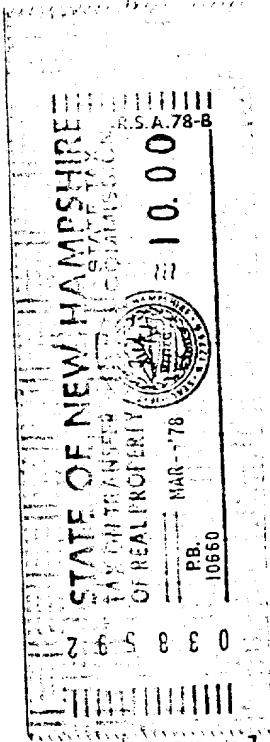
Beginning at a point on the northwest corner of the premises at land of Ecological Corporation and on the southeast side of New Hampshire Route 28; thence by said highway,

1. North 64°-25'-30" East - 25 feet, more or less to land designated as a right of way retained by the within grantors; thence by said right of way and parallel to land of Lorden Lumber Company
2. South 57°-53'-30" East - 1391 feet more or less to land of the herein grantees; thence
3. Southwesterly by the westerly line of land of the herein grantees a distance of 25 feet more or less to land of Ecological Energy Corporation; thence,
4. Westerly by land of said Ecological Energy Corporation a distance of 1385 feet more or less to the point of beginning.

All as more particularly shown as 25 foot right of way on plan of land of Oscar Plourde, Allenstown, New Hampshire, January 10, 1978, by Thomas F. Moran, Inc. and recorded in the Merrimack County Registry of Deeds as Plan No. 5152.

Meaning and intending to describe a part of the premises conveyed to the herein grantors by deed of Romeo Plourde and Therese Plourde, dated March 29, 1972, and recorded in the Merrimack County Registry of Deeds in Volume 1133, Page 216, and reconveyed by said Romeo Plourde and Therese Plourde to the herein grantors by warranty deed dated March 29, 1972, and recorded in the Merrimack County Registry of Deeds in Volume 1160, Page 339.

B1316P332



This Permanent Easement is granted to the said grantees with full and free right and liberty for them and their tenants, servants, visitors, licensees, successors and assigns, to pass, use and repass along said easement for all lawful purposes connected with the use and enjoyment of the said premises of the grantees.

To hold the said right of way hereby granted to the grantees, its successors and assigns, as appurtenant to its said premises.

Ecological Energy Corporation releases to said grantees, all rights and other interests therein.

WITNESS our hand and seal this 28th day of March, 1978.

WITNESS:

ECOLOGICAL ENERGY CORPORATION

Joel P. Suttlenberg

By: Arnold H. Gorsky
Arnold H. Gorsky, (Adoptive Seal)
President

STATE OF NEW HAMPSHIRE
HILLSBOROUGH, SS.

MARCH 28th, 1978

Personally appeared the above-named, Arnold H. Gorsky, President of Ecological Energy Corporation, known to me, or satisfactorily proven, to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

Before me,

Jeff Hall
Justice of the Peace/Notary Public

In consideration of the sum of \$1.00 and other valuable consideration, the above-described premises are hereby released and discharged from a certain mortgage deed from Oscar P. Plourde and Mary G. Plourde to the Suncook Bank dated February 21, 1975, and recorded in Merrimack County Records, Lib. 1236, Fol. 507. All other terms and conditions of said mortgage to remain in full force and effect.

THE SUNCOOK BANK

Claine Brown
Witness

By: Ernest E. Coulombe
ERNEST E. COULOMBE Vice President

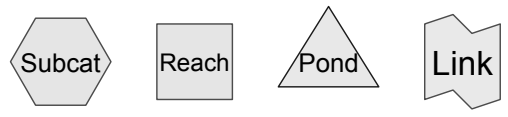
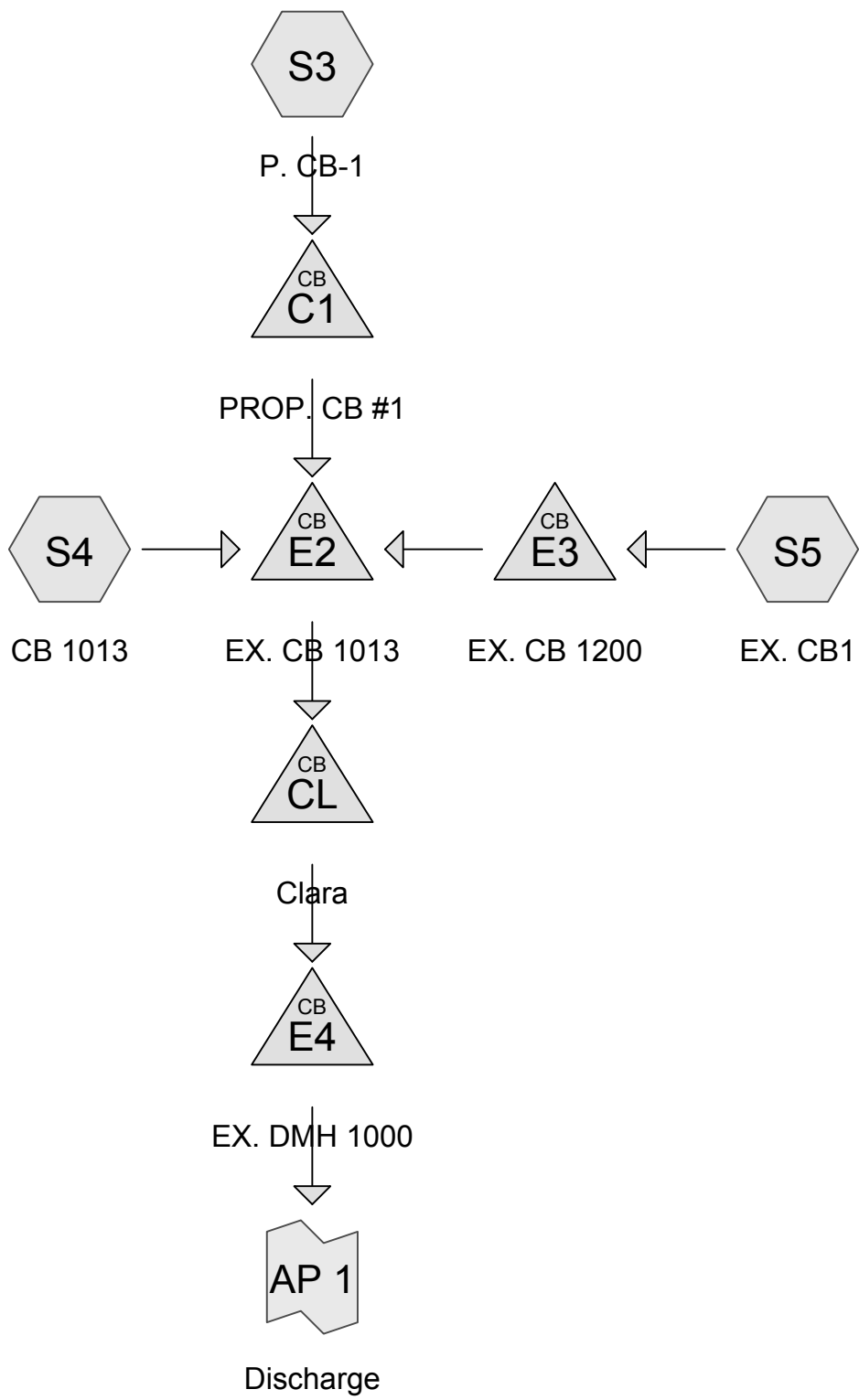
Kathleen M. Guay
REGISTER

MERRIMACK COUNTY RECORDS
Recorded Mar. 29, 2-10P.M. 1978

B1316P333

Abutters List
 Minor Site Plan Review
 Town of Allenstown, NH
 Allenstown Transfer Station
 104 River Road
 Map 105, Lot 38

Parcel Number	GIS Number	Cama Number	Property Address	Owner Name	Co-Owner Name	Owner Address	Owner City	Owner State	Owner Zip
104-001	104-001	104-001	80 PINEWOOD ROAD	BOISSONNEAULT, ANN		80 PINEWOOD ROAD	ALLENSTOWN	NH	03275
105-003	105-003	105-003	91 PINEWOOD ROAD	STAUFFACHER, DAN G.	STAUFFACHER, PAMELA A.	16 SHERWOOD MEADOWS	PEMBROKE	NH	03275
105-004	105-004	105-004	65 PINEWOOD ROAD	SUNCOOK BUSINESS PARK		65 PINEWOOD ROAD	ALLENSTOWN	NH	03275
105-036	105-036	105-036	70 RIVER ROAD	MALTAIS, ELIZABETH ANN		70 RIVER ROAD	ALLENSTOWN	NH	03275
105-039	105-039	105-039	106 RIVER ROAD	KENISTON, ELIZABETH A TRUST	KENISTON, ELIZABETH A, TRUSTEE	106 RIVER ROAD	ALLENSTOWN	NH	03275
105-041	105-041	105-041	103 RIVER ROAD	PLOURDE (P&L) REVOCABLE FAMILY	PHILLIP & LYNN PLOURDE TRUSTEE	PO BOX 96	SUNCOOK	NH	03275
105-042	105-042	105-042	101 RIVER ROAD	HARLOW, MELISSA	GILLESPIE, THOMAS	101 RIVER ROAD	ALLENSTOWN	NH	03275
105-063	105-063	105-063	73 RIVER ROAD	POWERS, PAULA A.	POWERS, JAMES F.	73 RIVER ROAD	ALLENSTOWN	NH	03275
105-064	105-064	105-064	71 RIVER ROAD	BERTEAU, CAROL M.	DIVOLL, SHERYL A.	71 RIVER ROAD	ALLENSTOWN	NH	03275
105-065	105-065	105-065	69 RIVER ROAD	SPAULDING, CHARLES D.	SPAULDING, SHEILA A.	69 RIVER ROAD	ALLENSTOWN	NH	03275
105-066	105-066	105-066	67 RIVER ROAD	VANDYNE, VICTORIA C		67 RIVER ROAD	ALLENSTOWN	NH	03275
105-067	105-067	105-067	65 RIVER ROAD	ANGOWSKI, CAROL		65 RIVER ROAD	ALLENSTOWN	NH	03275



Routing Diagram for Gravel Wetland
 Prepared by Walsh Engineering Associates, Printed 6/19/2019
 HydroCAD® 10.00-21 s/n 02136 © 2018 HydroCAD Software Solutions LLC

Gravel Wetland

Prepared by Walsh Engineering Associates

HydroCAD® 10.00-21 s/n 02136 © 2018 HydroCAD Software Solutions LLC

Printed 6/19/2019

Page 2

Pipe Listing (selected 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	C1	306.10	305.62	59.5	0.0081	0.013	12.0	0.0	0.0
2	CL	305.47	304.80	17.6	0.0381	0.013	24.0	0.0	0.0
3	E2	305.62	305.47	30.7	0.0049	0.013	24.0	0.0	0.0
4	E3	307.70	305.80	136.9	0.0139	0.013	15.0	0.0	0.0
5	E4	304.80	305.00	86.1	-0.0023	0.013	24.0	0.0	0.0

Gravel Wetland

Prepared by Walsh Engineering Associates

HydroCAD® 10.00-21 s/n 02136 © 2018 HydroCAD Software Solutions LLC

Type III 24-hr 2 Year Rainfall=2.90"

Printed 6/19/2019

Page 3

Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Link AP 1: Discharge

Inflow=2.98 cfs 0.215 af
Primary=2.98 cfs 0.215 af

Pond C1: PROP. CB #1

Peak Elev=307.05' Inflow=1.95 cfs 0.143 af
12.0" Round Culvert n=0.013 L=59.5' S=0.0081 '/' Outflow=1.95 cfs 0.143 af

Pond CL: Clara

Peak Elev=306.28' Inflow=2.98 cfs 0.215 af
24.0" Round Culvert n=0.013 L=17.6' S=0.0381 '/' Outflow=2.98 cfs 0.215 af

Pond E2: EX. CB 1013

Peak Elev=306.56' Inflow=2.98 cfs 0.215 af
24.0" Round Culvert n=0.013 L=30.7' S=0.0049 '/' Outflow=2.98 cfs 0.215 af

Pond E3: EX. CB 1200

Peak Elev=308.14' Inflow=0.87 cfs 0.059 af
15.0" Round Culvert n=0.013 L=136.9' S=0.0139 '/' Outflow=0.87 cfs 0.059 af

Pond E4: EX. DMH 1000

Peak Elev=305.88' Inflow=2.98 cfs 0.215 af
24.0" Round Culvert n=0.013 L=86.1' S=-0.0023 '/' Outflow=2.98 cfs 0.215 af

Subcatchment S3: P. CB-1

Runoff Area=30,489 sf 91.48% Impervious Runoff Depth=2.45"
Tc=5.0 min CN=96 Runoff=1.95 cfs 0.143 af

Subcatchment S4: CB 1013

Runoff Area=2,358 sf 100.00% Impervious Runoff Depth=2.67"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.012 af

Subcatchment S5: EX. CB1

Runoff Area=18,780 sf 54.00% Impervious Runoff Depth=1.65"
Tc=5.0 min CN=87 Runoff=0.87 cfs 0.059 af

Total Runoff Area = 1.185 ac Runoff Volume = 0.215 af Average Runoff Depth = 2.17"
21.77% Pervious = 0.258 ac 78.23% Impervious = 0.927 ac

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Type III 24-hr 2 Year Rainfall=2.90"

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Summary for Link AP 1: Discharge

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 2.17" for 2 Year event
Inflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af
Primary = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond C1: PROP. CB #1

Inflow Area = 0.700 ac, 91.48% Impervious, Inflow Depth = 2.45" for 2 Year event
Inflow = 1.95 cfs @ 12.07 hrs, Volume= 0.143 af
Outflow = 1.95 cfs @ 12.07 hrs, Volume= 0.143 af, Atten= 0%, Lag= 0.0 min
Primary = 1.95 cfs @ 12.07 hrs, Volume= 0.143 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 307.05' @ 12.08 hrs

Flood Elev= 308.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	306.10'	12.0" Round Culvert L= 59.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 306.10' / 305.62' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.93 cfs @ 12.07 hrs HW=307.04' TW=306.56' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 1.93 cfs @ 3.25 fps)

Summary for Pond CL: Clara

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 2.17" for 2 Year event
Inflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af
Outflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 306.28' @ 12.08 hrs

Flood Elev= 310.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.47'	24.0" Round Culvert L= 17.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.47' / 304.80' S= 0.0381 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.96 cfs @ 12.07 hrs HW=306.28' TW=305.88' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 2.96 cfs @ 3.70 fps)

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Type III 24-hr 2 Year Rainfall=2.90"

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Summary for Pond E2: EX. CB 1013

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 2.17" for 2 Year event
Inflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af
Outflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 306.56' @ 12.08 hrs
Flood Elev= 309.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.62'	24.0" Round Culvert L= 30.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.62' / 305.47' S= 0.0049 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.93 cfs @ 12.07 hrs HW=306.56' TW=306.28' (Dynamic Tailwater)
↑1=Culvert (Outlet Controls 2.93 cfs @ 2.98 fps)

Summary for Pond E3: EX. CB 1200

Inflow Area = 0.431 ac, 54.00% Impervious, Inflow Depth = 1.65" for 2 Year event
Inflow = 0.87 cfs @ 12.07 hrs, Volume= 0.059 af
Outflow = 0.87 cfs @ 12.07 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.07 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 308.14' @ 12.07 hrs
Flood Elev= 309.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	307.70'	15.0" Round Culvert L= 136.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 307.70' / 305.80' S= 0.0139 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=0.86 cfs @ 12.07 hrs HW=308.14' TW=306.56' (Dynamic Tailwater)
↑1=Culvert (Inlet Controls 0.86 cfs @ 2.25 fps)

Summary for Pond E4: EX. DMH 1000

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 2.17" for 2 Year event
Inflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af
Outflow = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.07 hrs, Volume= 0.215 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 305.88' @ 12.07 hrs
Flood Elev= 310.00'

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Type III 24-hr 2 Year Rainfall=2.90"

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Device	Routing	Invert	Outlet Devices
#1	Primary	305.00'	24.0" Round Culvert L= 86.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 304.80' / 305.00' S= -0.0023 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.97 cfs @ 12.07 hrs HW=305.88' TW=0.00' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 2.97 cfs @ 2.49 fps)

Summary for Subcatchment S3: P. CB-1

Runoff = 1.95 cfs @ 12.07 hrs, Volume= 0.143 af, Depth= 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=2.90"

	Area (sf)	CN	Description
*	27,890	98	Northern parking lot + roof drain
	2,599	74	>75% Grass cover, Good, HSG C
	30,489	96	Weighted Average
	2,599		8.52% Pervious Area
	27,890		91.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S4: CB 1013

Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.012 af, Depth= 2.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=2.90"

	Area (sf)	CN	Description
*	2,358	98	
	2,358		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S5: EX. CB1

Runoff = 0.87 cfs @ 12.07 hrs, Volume= 0.059 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 2 Year Rainfall=2.90"

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Type III 24-hr 2 Year Rainfall=2.90"

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	Area (sf)	CN	Description
*	10,141	98	Impervious
	8,639	74	>75% Grass cover, Good, HSG C
	18,780	87	Weighted Average
	8,639		46.00% Pervious Area
	10,141		54.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

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Type III 24-hr 10 Year Rainfall=4.30"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Link AP 1: Discharge

Inflow=4.73 cfs 0.347 af
 Primary=4.73 cfs 0.347 af

Pond C1: PROP. CB #1

Peak Elev=307.61' Inflow=2.98 cfs 0.224 af
 12.0" Round Culvert n=0.013 L=59.5' S=0.0081 '/' Outflow=2.98 cfs 0.224 af

Pond CL: Clara

Peak Elev=306.57' Inflow=4.73 cfs 0.347 af
 24.0" Round Culvert n=0.013 L=17.6' S=0.0381 '/' Outflow=4.73 cfs 0.347 af

Pond E2: EX. CB 1013

Peak Elev=306.87' Inflow=4.73 cfs 0.347 af
 24.0" Round Culvert n=0.013 L=30.7' S=0.0049 '/' Outflow=4.73 cfs 0.347 af

Pond E3: EX. CB 1200

Peak Elev=308.29' Inflow=1.51 cfs 0.105 af
 15.0" Round Culvert n=0.013 L=136.9' S=0.0139 '/' Outflow=1.51 cfs 0.105 af

Pond E4: EX. DMH 1000

Peak Elev=306.16' Inflow=4.73 cfs 0.347 af
 24.0" Round Culvert n=0.013 L=86.1' S=-0.0023 '/' Outflow=4.73 cfs 0.347 af

Subcatchment S3: P. CB-1

Runoff Area=30,489 sf 91.48% Impervious Runoff Depth=3.84"
 Tc=5.0 min CN=96 Runoff=2.98 cfs 0.224 af

Subcatchment S4: CB 1013

Runoff Area=2,358 sf 100.00% Impervious Runoff Depth=4.06"
 Tc=5.0 min CN=98 Runoff=0.24 cfs 0.018 af

Subcatchment S5: EX. CB1

Runoff Area=18,780 sf 54.00% Impervious Runoff Depth=2.91"
 Tc=5.0 min CN=87 Runoff=1.51 cfs 0.105 af

Total Runoff Area = 1.185 ac Runoff Volume = 0.347 af Average Runoff Depth = 3.51"
21.77% Pervious = 0.258 ac 78.23% Impervious = 0.927 ac

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Type III 24-hr 10 Year Rainfall=4.30"

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Summary for Link AP 1: Discharge

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 3.51" for 10 Year event
Inflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af
Primary = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond C1: PROP. CB #1

Inflow Area = 0.700 ac, 91.48% Impervious, Inflow Depth = 3.84" for 10 Year event
Inflow = 2.98 cfs @ 12.07 hrs, Volume= 0.224 af
Outflow = 2.98 cfs @ 12.07 hrs, Volume= 0.224 af, Atten= 0%, Lag= 0.0 min
Primary = 2.98 cfs @ 12.07 hrs, Volume= 0.224 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 307.61' @ 12.08 hrs

Flood Elev= 308.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	306.10'	12.0" Round Culvert L= 59.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 306.10' / 305.62' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.94 cfs @ 12.07 hrs HW=307.60' TW=306.87' (Dynamic Tailwater)

↑**1=Culvert** (Outlet Controls 2.94 cfs @ 3.74 fps)

Summary for Pond CL: Clara

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 3.51" for 10 Year event
Inflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af
Outflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 306.57' @ 12.08 hrs

Flood Elev= 310.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.47'	24.0" Round Culvert L= 17.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.47' / 304.80' S= 0.0381 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.68 cfs @ 12.07 hrs HW=306.57' TW=306.16' (Dynamic Tailwater)

↑**1=Culvert** (Outlet Controls 4.68 cfs @ 3.85 fps)

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Type III 24-hr 10 Year Rainfall=4.30"

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Summary for Pond E2: EX. CB 1013

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 3.51" for 10 Year event
Inflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af
Outflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 306.87' @ 12.08 hrs
Flood Elev= 309.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.62'	24.0" Round Culvert L= 30.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.62' / 305.47' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.62 cfs @ 12.07 hrs HW=306.87' TW=306.57' (Dynamic Tailwater)
↑**1=Culvert** (Outlet Controls 4.62 cfs @ 3.20 fps)

Summary for Pond E3: EX. CB 1200

Inflow Area = 0.431 ac, 54.00% Impervious, Inflow Depth = 2.91" for 10 Year event
Inflow = 1.51 cfs @ 12.07 hrs, Volume= 0.105 af
Outflow = 1.51 cfs @ 12.07 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min
Primary = 1.51 cfs @ 12.07 hrs, Volume= 0.105 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 308.29' @ 12.07 hrs
Flood Elev= 309.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	307.70'	15.0" Round Culvert L= 136.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 307.70' / 305.80' S= 0.0139 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.51 cfs @ 12.07 hrs HW=308.29' TW=306.87' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 1.51 cfs @ 2.62 fps)

Summary for Pond E4: EX. DMH 1000

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 3.51" for 10 Year event
Inflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af
Outflow = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 4.73 cfs @ 12.07 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 306.16' @ 12.07 hrs
Flood Elev= 310.00'

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Type III 24-hr 10 Year Rainfall=4.30"

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Device	Routing	Invert	Outlet Devices
#1	Primary	305.00'	24.0" Round Culvert L= 86.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 304.80' / 305.00' S= -0.0023 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.72 cfs @ 12.07 hrs HW=306.16' TW=0.00' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 4.72 cfs @ 2.93 fps)

Summary for Subcatchment S3: P. CB-1

Runoff = 2.98 cfs @ 12.07 hrs, Volume= 0.224 af, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=4.30"

	Area (sf)	CN	Description
*	27,890	98	Northern parking lot + roof drain
	2,599	74	>75% Grass cover, Good, HSG C
	30,489	96	Weighted Average
	2,599		8.52% Pervious Area
	27,890		91.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S4: CB 1013

Runoff = 0.24 cfs @ 12.07 hrs, Volume= 0.018 af, Depth= 4.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=4.30"

	Area (sf)	CN	Description
*	2,358	98	
	2,358		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S5: EX. CB1

Runoff = 1.51 cfs @ 12.07 hrs, Volume= 0.105 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 10 Year Rainfall=4.30"

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Type III 24-hr 10 Year Rainfall=4.30"

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	Area (sf)	CN	Description
*	10,141	98	Impervious
	8,639	74	>75% Grass cover, Good, HSG C
	18,780	87	Weighted Average
	8,639		46.00% Pervious Area
	10,141		54.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

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Type III 24-hr 25 Year Rainfall=5.10"

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Time span=0.00-30.00 hrs, dt=0.01 hrs, 3001 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

Link AP 1: Discharge

Inflow=5.72 cfs 0.424 af
Primary=5.72 cfs 0.424 af

Pond C1: PROP. CB #1

Peak Elev=308.09' Inflow=3.56 cfs 0.270 af
12.0" Round Culvert n=0.013 L=59.5' S=0.0081 '/' Outflow=3.56 cfs 0.270 af

Pond CL: Clara

Peak Elev=306.72' Inflow=5.72 cfs 0.424 af
24.0" Round Culvert n=0.013 L=17.6' S=0.0381 '/' Outflow=5.72 cfs 0.424 af

Pond E2: EX. CB 1013

Peak Elev=307.04' Inflow=5.72 cfs 0.424 af
24.0" Round Culvert n=0.013 L=30.7' S=0.0049 '/' Outflow=5.72 cfs 0.424 af

Pond E3: EX. CB 1200

Peak Elev=308.38' Inflow=1.88 cfs 0.132 af
15.0" Round Culvert n=0.013 L=136.9' S=0.0139 '/' Outflow=1.88 cfs 0.132 af

Pond E4: EX. DMH 1000

Peak Elev=306.31' Inflow=5.72 cfs 0.424 af
24.0" Round Culvert n=0.013 L=86.1' S=-0.0023 '/' Outflow=5.72 cfs 0.424 af

Subcatchment S3: P. CB-1

Runoff Area=30,489 sf 91.48% Impervious Runoff Depth=4.63"
Tc=5.0 min CN=96 Runoff=3.56 cfs 0.270 af

Subcatchment S4: CB 1013

Runoff Area=2,358 sf 100.00% Impervious Runoff Depth=4.86"
Tc=5.0 min CN=98 Runoff=0.28 cfs 0.022 af

Subcatchment S5: EX. CB1

Runoff Area=18,780 sf 54.00% Impervious Runoff Depth=3.66"
Tc=5.0 min CN=87 Runoff=1.88 cfs 0.132 af

Total Runoff Area = 1.185 ac Runoff Volume = 0.424 af Average Runoff Depth = 4.29"
21.77% Pervious = 0.258 ac 78.23% Impervious = 0.927 ac

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Type III 24-hr 25 Year Rainfall=5.10"

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Summary for Link AP 1: Discharge

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 4.29" for 25 Year event
Inflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af
Primary = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Summary for Pond C1: PROP. CB #1

Inflow Area = 0.700 ac, 91.48% Impervious, Inflow Depth = 4.63" for 25 Year event
Inflow = 3.56 cfs @ 12.07 hrs, Volume= 0.270 af
Outflow = 3.56 cfs @ 12.07 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 3.56 cfs @ 12.07 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 308.09' @ 12.08 hrs

Flood Elev= 308.20'

Device	Routing	Invert	Outlet Devices
#1	Primary	306.10'	12.0" Round Culvert L= 59.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 306.10' / 305.62' S= 0.0081 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=3.52 cfs @ 12.07 hrs HW=308.09' TW=307.03' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 3.52 cfs @ 4.48 fps)

Summary for Pond CL: Clara

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 4.29" for 25 Year event
Inflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs

Peak Elev= 306.72' @ 12.08 hrs

Flood Elev= 310.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.47'	24.0" Round Culvert L= 17.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.47' / 304.80' S= 0.0381 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.67 cfs @ 12.07 hrs HW=306.72' TW=306.30' (Dynamic Tailwater)

↑1=Culvert (Outlet Controls 5.67 cfs @ 3.92 fps)

Gravel Wetland

Prepared by Walsh Engineering Associates

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Type III 24-hr 25 Year Rainfall=5.10"

Printed 6/19/2019

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Summary for Pond E2: EX. CB 1013

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 4.29" for 25 Year event
Inflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 307.04' @ 12.08 hrs
Flood Elev= 309.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	305.62'	24.0" Round Culvert L= 30.7' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 305.62' / 305.47' S= 0.0049 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.58 cfs @ 12.07 hrs HW=307.03' TW=306.72' (Dynamic Tailwater)
↑1=Culvert (Outlet Controls 5.58 cfs @ 3.30 fps)

Summary for Pond E3: EX. CB 1200

Inflow Area = 0.431 ac, 54.00% Impervious, Inflow Depth = 3.66" for 25 Year event
Inflow = 1.88 cfs @ 12.07 hrs, Volume= 0.132 af
Outflow = 1.88 cfs @ 12.07 hrs, Volume= 0.132 af, Atten= 0%, Lag= 0.0 min
Primary = 1.88 cfs @ 12.07 hrs, Volume= 0.132 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 308.38' @ 12.08 hrs
Flood Elev= 309.90'

Device	Routing	Invert	Outlet Devices
#1	Primary	307.70'	15.0" Round Culvert L= 136.9' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 307.70' / 305.80' S= 0.0139 '/ Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf

Primary OutFlow Max=1.86 cfs @ 12.07 hrs HW=308.37' TW=307.04' (Dynamic Tailwater)
↑1=Culvert (Outlet Controls 1.86 cfs @ 4.00 fps)

Summary for Pond E4: EX. DMH 1000

Inflow Area = 1.185 ac, 78.23% Impervious, Inflow Depth = 4.29" for 25 Year event
Inflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af
Outflow = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af, Atten= 0%, Lag= 0.0 min
Primary = 5.72 cfs @ 12.07 hrs, Volume= 0.424 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Peak Elev= 306.31' @ 12.07 hrs
Flood Elev= 310.00'

Gravel Wetland

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Type III 24-hr 25 Year Rainfall=5.10"

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Device	Routing	Invert	Outlet Devices
#1	Primary	305.00'	24.0" Round Culvert L= 86.1' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 304.80' / 305.00' S= -0.0023 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.72 cfs @ 12.07 hrs HW=306.30' TW=0.00' (Dynamic Tailwater)

↳ **1=Culvert** (Barrel Controls 5.72 cfs @ 3.13 fps)

Summary for Subcatchment S3: P. CB-1

Runoff = 3.56 cfs @ 12.07 hrs, Volume= 0.270 af, Depth= 4.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.10"

	Area (sf)	CN	Description
*	27,890	98	Northern parking lot + roof drain
	2,599	74	>75% Grass cover, Good, HSG C
	30,489	96	Weighted Average
	2,599		8.52% Pervious Area
	27,890		91.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S4: CB 1013

Runoff = 0.28 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 4.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.10"

	Area (sf)	CN	Description
*	2,358	98	
	2,358		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for Subcatchment S5: EX. CB1

Runoff = 1.88 cfs @ 12.07 hrs, Volume= 0.132 af, Depth= 3.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Type III 24-hr 25 Year Rainfall=5.10"

Gravel Wetland

Type III 24-hr 25 Year Rainfall=5.10"

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	Area (sf)	CN	Description
*	10,141	98	Impervious
	8,639	74	>75% Grass cover, Good, HSG C
	18,780	87	Weighted Average
	8,639		46.00% Pervious Area
	10,141		54.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

WALSH

ENGINEERING ASSOCIATES, INC.

Water Quality Volume (WQV) and Water Quality Flow (WQF) Calculations
From NHDES Stormwater Manual, Vol. 2

Subcatchment Areas			
Subcatchment	Impervious (sf)	Landscaped (sf)	Total (sf)
S3	27,890	2,599	30,489
S4	2,358	-	2,358
S5	10,141	8,639	18,780
TOTAL	40,389	11,238	51,627

WQV Calcs			
Variable	Formula	Value	Units
A	Contributing Area	51,627	sf
IA	Contributing Impervious Area	40,389	sf
Rv	$0.05+0.9*IA/A$	0.75	
WQV	$1''*Rv*A$	3,244.30	cu. ft
WQF Calcs			
Q	WQV/A	0.06	ft
CN	$1000/(10+5P+10Q-10[Q^2+1.5QP]^{0.5})$	97.58	
S	$(1000/CN)-10$	0.25	
la	$0.25*S$	0.06	
qu	Table III @ Tc=0.1hr	675.00	cfs/sq.mi.-in.
qu (cfs)	$(cfs/mi*mi*in)*(1mi./5280ft)^2*(12in./ft.)$	0.0003	cfs
WQF	$qu*WQV$	0.94	cfs
Check flow rate on structure			
Treatment Capacity	StormwaterRx Clara 40C = 540 gpm	1.2	cfs
Treatment Capacity (1.2 cfs) > WQF (0.94 cfs)		Adequate Capacity	

Inspection and Maintenance Plan For Stormwater Management Facilities

Allenstown Transfer Station
104 River Road
Allenstown, New Hampshire

**October 2016
Revised June 2019**

Stormwater management facilities include paved surfaces, catch basins, trench drains storm drain pipe, and proprietary stormwater treatment devices. The maintenance of all stormwater management facilities, the establishment of any contract services required to implement the program, and the keeping of records and maintenance log book will be the responsibility of Casella Waste Management of Massachusetts, Inc. (Owner).

At a minimum, the following maintenance activities for each stormwater management system shall be performed on a prescribed schedule.

Paved Surfaces

Accumulations of winter sand along paved surfaces shall be cleared at least once a year, preferably in the spring, and periodically during the year on an as-needed basis, to minimize transportation of sediment during rainfall events. Accumulations on pavement may be removed by pavement sweeping or vacuuming. 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.

Catch Basins and Trench Drains

All catch basins, trench drains, and any other field inlets throughout the collection system, shall be inspected twice per year (in spring and fall) to assure that the inlet entry and grates are clear of debris and will accept the intended flows. Any debris and sediments shall be cleared.

Sediment should be removed from these structures when it accumulates within 12 inches of the lowest pipe invert. At a minimum, remove floating debris and hydrocarbons at the time of the inspection. The removed material must be disposed of in accordance with the New Hampshire Solid Waste Disposal Rules. Confined space entry safety procedures shall be practiced should entry into these structures be required.

Storm Drainage Pipes

Piped drainage systems shall be inspected on an annual basis 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 pipe inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. This may be accomplished by hydraulic flushing or any mechanical means; however, care should be taken to contain the sediment at the pipe outlet, and not flush the sediments into the stormwater filter or wetland areas.

Riprap aprons where stone is displaced should be replaced and chinked to assure stability. With time, additional riprap may be added. Vegetation growing through riprap should be removed on an annual basis.

Proprietary Treatment Devices

The stormwater management plan includes the following proprietary stormwater treatment devices:

- Hydroguard hydrodynamic separator
- Stormsafe stormwater filter basin
- LIDMIX Stormwater filter vault
- Clara 40C Gravity Separator

The proprietary systems listed above shall be operated and maintained in accordance with the manufacturer's recommendations. Copies of the Operation & Maintenance manuals for each device are enclosed with this submission.

Disposal

Any sediment or debris removed during maintenance of the stormwater system must be disposed of in accordance with the Maine Solid Waste Disposal Rules.

Recordkeeping

The Owner will keep a written maintenance log that summarizes inspections, maintenance, and any corrective actions taken. The log shall 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 sediment or debris, the location where the sediment or debris was disposed after removal will be indicated. This log shall be made available to the New Hampshire Department of Environmental Services and/or the Town of Allenstown upon request.

Sample Inspection Report

Allenstown Transfer Station
104 River Road, Allenstown, New Hampshire

STORMWATER FACILITIES INSPECTION REPORT

NAME: _____ SIGNATURE: _____

TITLE: _____ COMPANY: _____

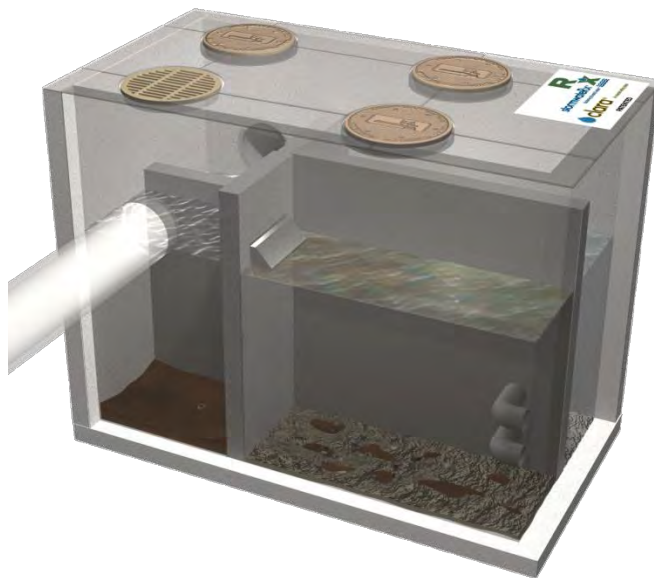
DATE: _____ WEATHER: _____

OBSERVATIONS:

<u>BMP</u>	<u>Defects</u>	<u>Location(s)</u>	<u>Repair/Action Needed</u>	<u>Date/Action taken</u>
Paved Areas	Yes/no			
Catch Basins/Trench Drains	Yes/no			
Stormdrain Pipes	Yes/no			
Riprap Aprons	Yes/no			
Hydroguard Hydrodynamic Separator	Yes/no			
Stormsafe Stormwater Filter Basin	Yes/no			
LIDMIX Stormwater Filter Vault	Yes/no			
Clara 40C Gravity Separator	Yes/no			



Stormwater Separator Operation & Maintenance Manual



8912 NE Alderwood Road
Portland, OR 97220

stormwaterx.com
800.680.3543

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Important!

Do not neglect upstream source control and stormwater management once the Clara is installed. The best water quality results are accomplished by the combination of source control and treatment BMPs.

Do not flush spills or otherwise use the Clara to capture pollutants from stormwater drain line, jetting, or pavement washing. The Clara is not designed to treat pollutants of this variety.

Do not enter any chamber within the Clara without the required OSHA Confined Space training.

Stormwater sampling should be done with care. Avoid sampling from the Clara's outfall if at that location the outfall is shared with other sources of stormwater. Also use new bottles and avoid making contact with any surface when taking samples.

The Clara should be maintained at a minimum of once a year. Inspection of the Clara is necessary to determine the proper maintenance interval.

1 Introduction and System Description

Clara[®] is a patented oil-water solids separator that removes dirt, oil and floatables by gravity separation. Polluted stormwater is directed to the two settling chambers for removal of dirt, oil and floatables. Cleaner stormwater flows to the outlet chamber for discharge. With the built-in internal high flow bypass, pollutants are trapped in the settling chambers of this below ground structure even during excessive runoff events.

Clara can be used as stand-alone treatment or in as a pretreatment device in a treatment train configuration. When installed as pretreatment, the Clara will prolong the maintenance interval and improve the function of the downstream treatment system (i.e. filtration or oil / water separator). The Clara is beneficial for sites with high concentrations of oil and solids in the stormwater or on sites with a likelihood of oil spills.

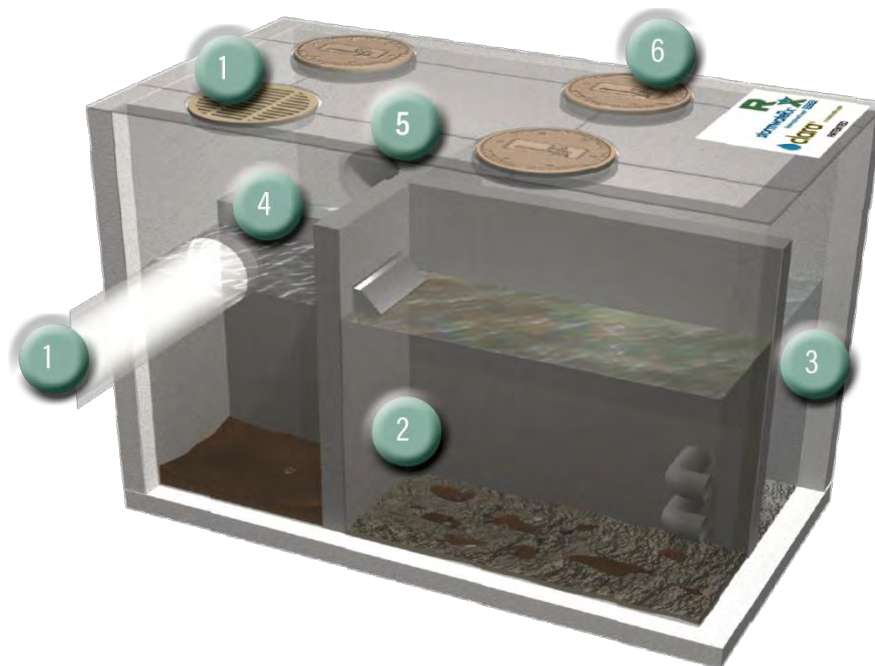


Figure 1: Clara Stormwater Separator

1.1 Clara Features

- (1) **Inlet:** Stormwater runoff enters the inlet chamber of the Clara by way of an inlet pipe and/or inlet grate. For most storms, stormwater is then directed through the **treatment flow inlet** which distributes stormwater into the **oil and grit chamber**.
- (2) **Oil and grit chamber:** The treatment flow transfers from the inlet chamber through the treatment flow inlet into the oil and grit chamber, the first of the two **settling chambers**. In this chamber, coarse debris and oil are removed from the stormwater by gravity

settling and floatation. Retention time is maximized by the long flow path to the **plug flow conduit** which transfers flow to the settleable solids chamber.

- (3) **Settleable solids chamber:** The settleable solids chamber is the second settling chamber where the stormwater is given more opportunity for settling thereby removing the medium sized particulates. The **outlet orifice elbow** in this chamber serves to control the flow rate through the settling chambers and retain floatables within the Clara.
- (4) **High flow bypass:** For storms that exceed the treatment design capacity of the Clara, stormwater moves directly from the inlet chamber to the outlet chamber by flowing over the internal high flow bypass weir. This is done to prevent scouring within the Clara **settling chambers** during peak flow events.
- (5) **Outlet:** Stormwater discharges from the Clara by way of the outlet chamber. The treatment flow reaches the outlet chamber from the settleable solids chamber by way of a down-turned orifice, which controls the flow rate out of the settling chamber. Storms exceeding the treatment design capacity enter the outlet chamber from over the high flow bypass weir. Stormwater discharges by gravity through the Clara outlet pipe. A **pump** may be located in the outlet chamber to pump water from the Clara to an above ground treatment system.
- (6) **Access manholes:** For maintenance, the inlet, outlet, and settling chambers can be accessed by way of the manhole covers.

The “Installed Clara Project Specifications” sheet provides the details of the system installed at your site. Refer to this document for details on your site-specific Clara system.

1.2 Typical Installation Configurations

In most applications, the Clara is installed below ground and inline with the existing storm drain lines. In these applications, stormwater can continue to flow by gravity out of the Clara to be discharged offsite.

The inlet and outlet chambers of the Clara can be distinguished based upon the direction of stormwater flow at your facility. The inlet and outlet chambers cannot be distinguished based upon their proximity to the other chambers of the Clara alone. The direction of flow is shown in Figure 2 to help identify the inlet and outlet chambers of the Clara. For Clara systems with a grate inlet, the inlet chamber can be identified as the chamber under the grate. For Clara systems with a pump, the outlet chamber can be identified as the chamber with the pump.

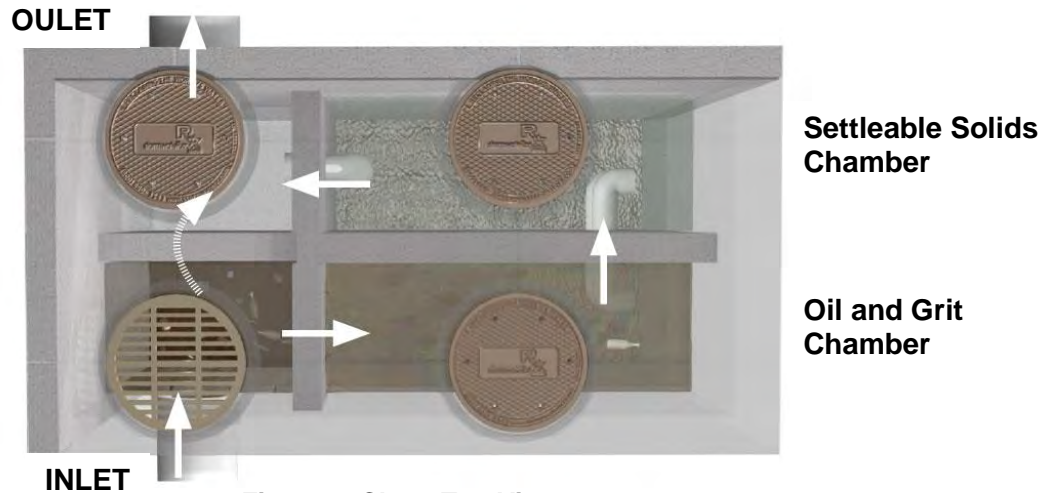


Figure 2. Clara, Top View

2 Clara Operations

Regular inspection and maintenance is required for the proper operation of the Clara. Site conditions vary such that the maintenance requirements cannot be prescribed without regular inspections. Inspections determine the frequency of maintenance required and also verify that the system is operating at optimal conditions. Stormwater sampling should be done with care.

2.1 Inspections

After installation, the Clara should be inspected monthly during the first rainy season to establish site-specific inspection and maintenance intervals. Thereafter, inspections should be completed before the wet-weather season and after a major storm event, or as observed pollutant accumulation dictates. An Inspection Report Form is included at the end of this manual and should be completed with each inspection. A copy should also be added to your Stormwater Pollution Prevention Plan.

Sediment accumulation within the Clara should be monitored to keep the system operating at optimal conditions. Most solids will accumulate along the side wall and corners of the oil and grit chamber, and settleable solids chamber. Accumulation of heavy sediment may also collect in the inlet and outlet chambers so it is good practice to monitor the sediment accumulation in these chambers as well. The following inspection procedure should generally be followed for the Clara systems:

1. Set up safety equipment if the system is near vehicle and pedestrian traffic.
2. Remove a single manhole cover on the top of the Clara.
3. Determine the depth of solids and oil accumulating inside the Clara by using the provided Sludge Judge sampling device. Assemble the device and slowly lower it to the bottom of the Clara making sure that the bottom of the device is facing down (Figure 3).
4. Pull the Sludge Judge straight up and out of the Clara. A column of water is trapped within the sampling device by the float valve at the bottom of the device. The 1-ft

increments marked on the side of the sampling device should be used to identify the amount of solids and oil inside the chamber.

5. Record the thickness of the accumulated solids and oil in the Inspection Report Form. Figure 2 (above) can be used to help with the orientation of the Clara chambers.
6. Empty the contents from the sampling device by depressing the pin on the bottom of the sampling device against the ground.
7. Conduct a sample in a different location within the chamber. More solids may be found along the chambers' side walls.
8. Repeat steps 3 – 7 until for several locations within the chamber.
9. Replace the manhole cover.
10. Repeat Steps 2 – 9 for the remaining chambers (total of 4 chambers).



Figure 3. Sludge Judge® Sampling Device

2.2 Sampling Protocol and Methodology

Water quality samples should be taken only when the system has been maintained and is operating effectively (see Section 3). The Clara can be sampled in a variety of methods depending on the system's configuration. For all stormwater sampling, use caution to prevent contamination. Contamination can occur by making contact with the walls of the Clara, the surfaces of inlet or outlet plumbing, or the sample collector's hands.



SAMPLING SHOULD NOT BE DONE DURING HIGH FLOW EVENTS. THE STORMWATER WILL ONLY RECEIVE PARTIAL TREATMENT AT THESE TIMES.

The influent water quality should be measured by sampling from the Clara's inlet chamber following steps 1 – 4 below.

1. Remove the manhole cover above the Clara's inlet (*or outlet*) chamber.
2. Identify the separate inlet and outlet chambers within the Clara. This will require some prior knowledge of the direction of stormwater flow within the catch basin's onsite (see Section 1.2).
3. Verify that the stormwater is NOT currently passing over the High Flow Bypass indicating that the Clara's treatment capacity has been reached. Sampling should only be done when the system is operating within its treatment capacity.
4. Using a long handled sampling device, collect water from the center of the inlet (*or outlet*) chamber approximately 3 inches below the water's surface.

Effluent sampling can be done using either the Clara's outlet chamber or the system's outfall. However, avoid sampling from the Clara's outfall if at that location the outfall is shared with other sources of stormwater. In this case, the Clara's effluent should be sampled from the outlet chamber to prevent comingling of treated and untreated stormwater in the sample. The outlet chamber should be sampled by following steps 1 – 4 above.

StormwaterRx recommends sampling the inlet to the Clara each time that the outlet is sampled. Without the inlet sample data, StormwaterRx LLC cannot diagnose or provide recommendations on tuning system performance. The outlet should be sampled approximately 15 minutes after sampling the inlet to get the most representative inlet/outlet sample pair.

3 Maintenance Guidelines

The Clara should be maintained at a minimum of once a year or when solids accumulation at the base of any of the four chambers is 12 inches or more. Maintenance should also be conducted if greater than 6 inches of oil is observed on the water surface. Refer to Section 2.1 for the inspection guidelines to determine the amount of solids and oil accumulation within the Clara. To maintain the Clara, use a certified vacuum truck service to remove the accumulated pollutants from all four chambers of the Clara. This should be done during dry weather conditions.



THE CLARA SHOULD BE MAINTAINED AT A MINIMUM OF ONCE A YEAR. CLEANING THE CLARA BEFORE THE ONSET OF THE RAINY SEASON IS RECOMMENDED.



Figure 4. Vactor truck used for Clara maintenance

4 Sediment Disposal

Water and sediment removed from the Clara must be disposed in accordance with all applicable waste disposal regulations. Most vacuum truck services offer the appropriate disposal of the contents removed from the Clara. The accumulated sediment from the Clara can typically be sent to the local landfill once it has been dried. Follow local regulations for standard guidelines for solid waste disposal.

The vacuum service may want to know the total volume that needs to be pumped. The total volume (water and pollutants) stored within the Clara is provided in Table 1.

Table 1. Clara Storage Volumes

Clara Model	Per Cycle Disposal Volume (yd ³)
25C/CP	8
40C/CP	12
90C/CP	23

5 Maintenance Support

If you have any questions about maintenance procedures contact StormwaterRx at (800) 680-3543. Please have your Clara Model number ready.

6 Best Management Practice Requirements

Achieving the benchmarks consistently requires rigorous implementation of best management practices (BMPs) including source control, structural and treatment BMPs. Treatment BMPs (i.e. the Clara separator) are not designed to operate in the absence of other BMPs. In most cases, employing source control practices on a regular basis is necessary to reach stormwater quality benchmarks.

Your Stormwater Pollution Prevention (or Control) Plan (SWPPP or SWPCP) should address the BMPs appropriate for your facility. During normal business operation, make sure that all best management practices are deployed and maintained. When engaging in operations that are atypical of standard business practices, please utilize source control measures to keep pollutants out of the stormwater. The following are a few examples of typically employed practices.

- **Sweeping:** Sweep site on a regular basis, such as daily, weekly or bi-monthly, especially in areas of heavy industrial activities.
- **Covering activities:** When practical, cover significant materials or industrial operations that are outdoors, to prevent stormwater contact with potential pollutants.
- **Spill control:** When a spill occurs, contain and use onsite spill kits to dispose of material.
- **Catch basin and stormwater conveyance clean out:** The Clara should be cleaned/maintained after cleaning your catch basins and stormwater conveyance systems.



DO NOT USE THE CLARA AS THE PRIMARY MEANS FOR SPILL CONTROL

StormwaterRx LLC

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This document is subject to change without notice.

StormwaterRx LLC
122 Southeast 27th Avenue
Portland, Oregon, 97214
(800) 680 - 3543



LIDMAT

Stormwater Filtration System



Maintenance Guide

Manufacturer:

ACF Environmental
2831 Cardwell Road
Richmond, Virginia 23234
Phone: (800)-448-3636




Caution:

The LIDMAT should be maintained by trained individuals who are familiar with all confined space entry, disposal procedures and traffic safety regulations.

1.0 Inspecting LIDMAT

The LIDMAT System, like any other stormwater treatment device requires maintenance to remain efficient as a stormwater filter. ACF Environmental highly recommends inspecting the system within the first month after installation in a vault or propriety filter system that was specifically designed to accommodate LIDMAT or LIDMIX.


<p>Inspection and cleaning should be performed only after NO rainfall for at least 24 hours.</p> <p>If working in the street, proper safety equipment should be worn, including but not limited to a hardhat, vest, gloves and eye protection, and local traffic safety rules & regulations should be followed.</p> <p>Begin by removing the manhole access covers located over the inlet forebay, filtration deck and effluent chamber. Allow several minutes for the system to vent.</p> <p>CAUTION: Grates can be extremely heavy. Some type of lifting mechanism is highly recommended.</p>	
<p>Visually inspect all chambers for heavy sediment, trash and debris loading. A battery powered flashlight or droplight is recommended for thorough inspection.</p> <p>Some telltale signs that cleaning or filter replacement is necessary are as follows:</p> <ul style="list-style-type: none"><input type="checkbox"/> Waterline marks within a couple inches of the top of the any bypass weir.<input type="checkbox"/> Standing water in the outlet chamber because it was designed to drain down after a storm.<input type="checkbox"/> Cannot see the tops of the filter media because they are covered with sediment, which indicates a sediment depth on top of the deck of greater than 6 inches. <p>Record observations and comments on the maintenance log sheet. In addition, the use of digital photographs and/or sketches may be warranted to maintain the most accurate historical records.</p>	



2.0 Cleaning Frequency

Vault and cartridge systems require periodic cleaning. There are no hard and fast rules in this regard. Small units and installation sites with higher than expected sediment loads or areas with significant trees and foliage require more maintenance. We recommend inspecting the surface area of a LIDMAT that is installed in a cartridge or vault system a minimum twice a year.

3.0 Cleaning out a typical LIDMAT System

<p>Be sure to follow all safety and traffic control protocols.</p> <p>With the manhole access covers or hatches removed, the LIDMAT is available for cleaning.</p> <p>Remove the sediment and debris from the system. This can be done manually or with a vacuum device.</p>	
<p>With the debris and sediment removed, the LIDMAT will be visible on the deck surface.</p> <p>To remove the mats, reach down into the basin and grasp the lifting straps on the corners of the mat</p>	

4.0 Replacement

LIDMAT should be replaced as needed and at a minimum once per year. This is because small particles can eventually accumulate within the media. The internal surface of the fabric can also become clogged or saturated and the reactivity of the media.

The LIDMAT stand-alone systems are ordered by length, height, and width. Each length of LIDMAT has a unique serial number that is on the order tag. This will also identify the way that the LIDMATS are connected to the inlet or other LIDMATS in the system. The tags will also specify if there is a custom or specialized fabric or media selection.



5.0 Disposal

All liquid, oils, sediment, debris, trash and other accumulates removed from the vault must be handled and disposed of in accordance with local, state and federal regulations.

Disposal considerations must be part of a well-planned and scheduled maintenance regime. Solid waste disposal can typically be coordinated with a local landfill, whereas liquid waste can be disposed of at either a wastewater treatment plant, or a municipal vacuum truck decant facility.

**Inspection and Maintenance Log-
Sheet**
LIDMAT Vault or Manhole System

Maintenance Company

Company Name:

Onsite Technician:

Contact Phone No:

Treatment System

Date of Maintenance:

Vault\Manhole Location:

Maintenance Item

Comments

Water Depth (prior to maintenance) in forebay:

Sediment Depth (prior to maintenance) in forebay:

Sediment Depth (prior to maintenance) on cartridge deck:

Structural Damage:

Maintenance Performed:

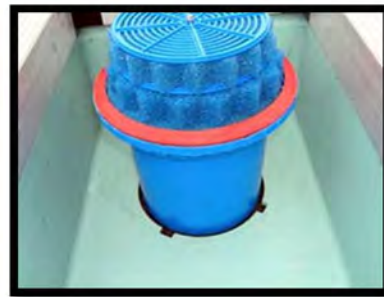
Additional Work Required:

Structural Repairs:



StormSafe

Modular Stormwater Filtration System



Maintenance Guide

Vault and Manhole Configurations

Manufacturer:

Fabco Industries, Inc
66 Central Avenue
Farmingdale, NY 11735
Phone: (631)-393-6024





Caution:

The StormSafe should be maintained by trained individuals who are familiar with all confined space entry, disposal procedures and traffic safety regulations.

StormSafe Vault and Manhole Maintenance Guide

1.0 Inspecting the StormSafe

The StormSafe Cartridge System, like any other stormwater treatment device requires maintenance to remain efficient as a stormwater filter. Fabco Industries highly recommends inspecting the system within the first year after installation following the steps below.



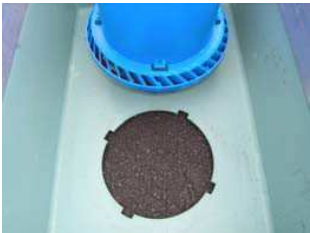
<p>Inspection and cleaning should be performed only after NO rainfall for at least 24 hours.</p> <p>If working in the street, proper safety equipment should be worn, including but not limited to a hardhat, vest, gloves and eye protection, and local traffic safety rules & regulations should be followed.</p> <p>Begin by removing the manhole access covers located over the inlet forebay, cartridge filtration deck and effluent chamber. Allow several minutes for the system to vent.</p> <p>CAUTION: Grates can be extremely heavy. Some type of lifting mechanism is highly recommended.</p>	 
<p>Visually inspect all chambers for heavy sediment, trash and debris loading. A battery powered flashlight or droplight is recommended for thorough inspection.</p> <p>Some telltale signs that cleaning or filter replacement is necessary are as follows:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Waterline marks within a couple inches of the top of the bypass weir. <input type="checkbox"/> Standing water in the outlet chamber because it was designed to drain down after a storm. <input type="checkbox"/> Cannot see the tops of the cartridges because they are covered with sediment, which indicates a sediment depth on top of the deck of greater than 6 inches. <p>Record observations and comments on the maintenance log sheet. In addition, the use of digital photographs and/or sketches may be warranted to maintain the most accurate historical records.</p>	 

StormSafe Vault and Manhole Maintenance Guide





2.0 Cleaning Frequency

The StormSafe Cartridge System requires periodic cleaning. There are no hard and fast rules in this regard. Small units and installation sites with higher than expected sediment loads or areas with significant trees and foliage require more maintenance. In general, Fabco Industries recommends cleaning out the unit(s) at least once per year by removing the debris, sand and silt from the inlet forebay and cartridge chamber with a vacuum assisted device and changing out the cartridges.

3.0 Cleaning out the StormSafe:

<p>Be sure to follow all safety and traffic control protocols.</p> <p>With the manhole access covers or hatches removed, the StormSafe is available for cleaning.</p> <p>Remove the sediment and debris from the system. This can be done manually or with a vacuum device.</p>	
<p>With the debris and sediment removed, the filter cartridge(s) will be visible on the deck surface. Fabco suggests removing the cartridge(s) from the StormSafe and removing any loose debris, sediment, trash from the blue foam pre-filter.</p> <p>To remove the cartridge(s) reach down into the basin and firmly grasp the plastic outer rim of the cartridge bod just below the foam. Twist the cartridge body counter-clock-wise about 1/4 turn until it stops. Lift the cartridge straight up to remove.</p>	
<p>The filter cartridge(s) install through a hole in the bottom of the support deck or collection basin. The hole has four (4) slots that accept 4 tabs molded into the underside of the cartridge body.</p>	

StormSafe Vault and Manhole Maintenance Guide

<p>Insert the filter cartridge down through the hole in the base of the unit. The colored ring on the cartridge should be facing upwards. Push the cartridge all the way through the hole until it rests on the bottom. Slowly turn the cartridge in a clockwise direction until the tabs align with the slots and the cartridge body drops about ¼' further down.</p>	
<p>Once the tabs fall through the slots, continue turning firmly in a clockwise direction until the tabs contact the STOPS. The cartridge is now installed.</p>	 
<p>With the StormSafe chambers and new cartridges installed the maintenance process is complete. Re-install the manhole access covers and demobilize.</p>	

4.0 Disposal

All liquid, oils, sediment, debris, trash and other accumulates removed from the StormSafe must be handled and disposed of in accordance with local, state and federal regulations.

Disposal considerations must be part of a well-planned and scheduled maintenance regime. Solid waste disposal can typically be coordinated with a local landfill, whereas liquid waste can be disposed of at either a wastewater treatment plant, or a municipal vacuum truck decant facility.



StormSafe Vault and Manhole Maintenance Guide

5.0 Selecting replacement cartridges

The Fabco filter cartridges used in the StormSafe product are designed primarily to capture: floating materials, sediments and suspended solids and emulsified products such as hydrocarbon compounds, dissolved heavy metals, nutrients (P&N) and pathogens (bacteria). Before ordering your cartridges make sure you select the correct type. Each cartridge type can be identified by a colored “Ring” located at the top of the cartridge.

Part Number	Targeted Pollutant	Ring Color
9718-1	Standard Cartridge Good All-purpose cartridge for common surface runoff that may contain a little bit of everything.	Red
9718-2	Pathogen Cartridge 2x's more pathogen treatment Vs. Std Cartridge. Use near sensitive water ways to keep beaches and shell fishing areas open.	Yellow
9718-3	Hydrocarbon Cartridge 25% more hydrocarbon filter media Vs Std cartridge. Excellent for vehicle or maintenance related applications.	Blue
9718-4	Heavy Metals Cartridge Uses unique FABLITE filter media for HV metals. Suggested for industrial usage where persistent HV metals have been identified in surface runoff.	Grey
9718-5	Standard Short Cartridge Reduced height version of std Cart.	Mint
9718-6	Nutrient Cartridge Uses proprietary FABPHOS media for nutrients. Highly effective on the critical dissolved Ortho-Phosphates. Helps reduce algae blooms keeping the water clean and healthy.	Green
9718-7	High Flow Cartridge Good all-purpose cartridge More high flow open cell foam layers than std Cart.	Red with Black mesh



<u>Inspection and Maintenance Log- Sheet</u> StormSafe Cartridge Vault or Manhole System	
Maintenance Company	
Company Name:	
Onsite Technician:	
Contact Phone No:	
Treatment System	
Date of Maintenance:	StormSafe Model
Vault\Manhole Location:	
<u>Maintenance Item</u>	<u>Comments</u>
Water Depth (prior to maintenance) in forebay:	
Sediment Depth (prior to maintenance) in forebay:	
Sediment Depth (prior to maintenance) on cartridge deck:	
Structural Damage:	
Maintenance Performed:	
Additional Work Required:	
Structural Repairs:	

Allenstown Transfer Station Stormwater Improvements

104 River Road
Allenstown, New Hampshire

Prepared For:
Casella Waste Management of Massachusetts, Inc.
53 Pelham Road
Salem, New Hampshire
Permitting Set - June 21, 2019

Design Consultants:

CIVIL ENGINEER
WALSH ENGINEERING ASSOCIATES, INC.
ONE KAREN DRIVE, SUITE 2A
WESTBROOK, MAINE 04092
207-553-9898

Utilities:

WATER
PEMBROKE WATER WORKS
346 PEMBROKE STREET
PEMBROKE, NEW HAMPSHIRE 03275-3236

ELECTRIC
EVERSOURCE ENERGY
780 N. COMMERCIAL STREET
MANCHESTER, NH 03101
866-554-6025

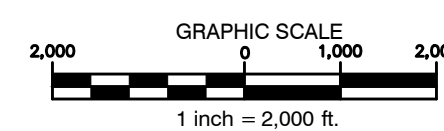
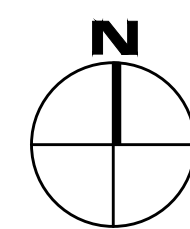
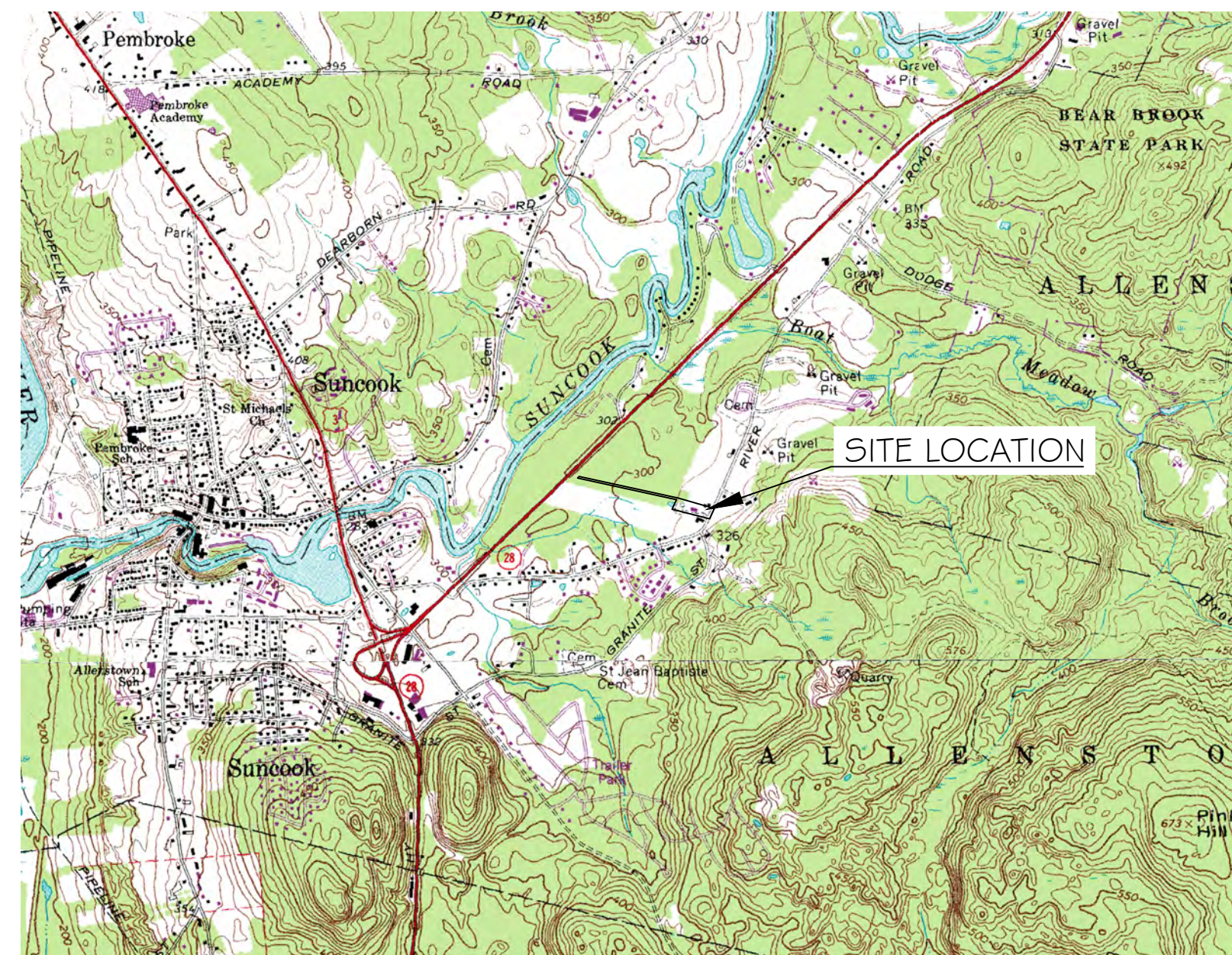
SEWER
ALLENSTOWN SEWER DEPARTMENT
35 CANAL STREET
ALLENSTOWN, NEW HAMPSHIRE 03275
603-485-5600



One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.553.9898 | www.walsh-eng.com

List of Drawings:

SHEET NO.	SHEET TITLE
	COVER SHEET
	DOUCET SURVEY PLAN
C1.0	EXISTING CONDITIONS & REMOVALS PLAN
C1.1	EASEMENT AND ABUTTER PLAN
C2.0	STORMWATER MANAGEMENT SITE PLAN
C3.0	DETAILS
C3.1	DETAILS



Permits:

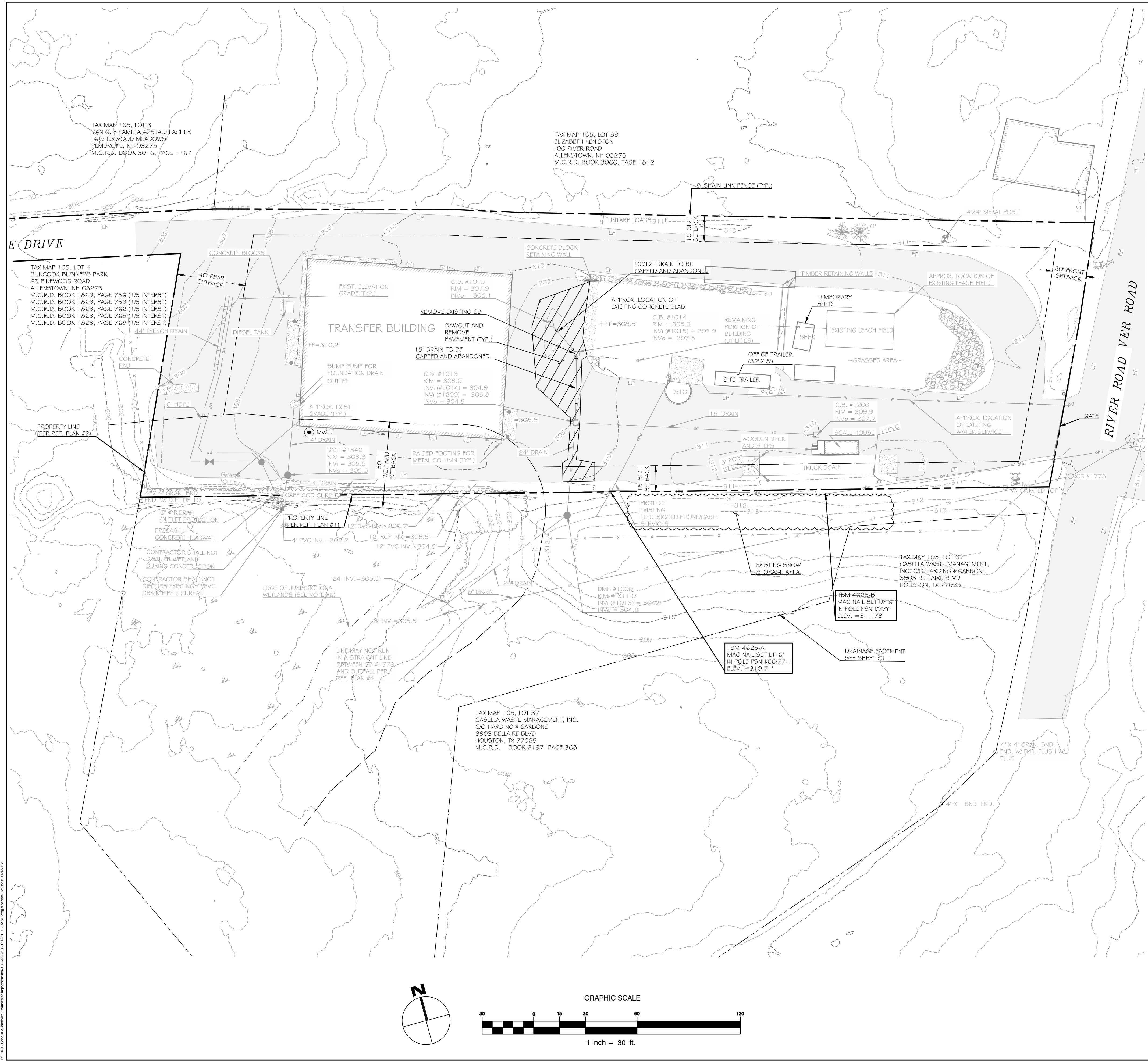
TYPE	JURISDICTION	STATUS
MINOR SITE PLAN APPLICATION	TOWN OF ALLENSTOWN	SUBMITTED JUNE 21, 2019

Record Owner:

CASELLA WASTE MANAGEMENT OF MASSACHUSETTS, INC.
104 RIVER ROAD
ALLENSTOWN, NH

Parcel ID:

MAP 105
LOT 38



LEGEND

EXISTING	
⊕	STORM DRAIN MANHOLE
■	STORM DRAIN CATCH BASIN
— — —	STORM DRAIN LINE
⊙	SANITARY SEWER MANHOLE
— — —	SANITARY SEWER LINE
— — —	WATER LINE
— — —	OVERHEAD UTILITY LINE
●	BOLLARD
▭	BUILDING
— — —	FENCE METAL
— — —	RIPRAP
— — —	EDGE OF PAVEMENT
— — —	EDGE OF CONCRETE
— — —	CURB
— — —	TREELINE
— — —	INTERMEDIATE CONTOUR
— — —	INDEX CONTOUR
— — —	WETLANDS
— — —	WETLAND BUFFER

- PLAN REFERENCES:**
- TOPOGRAPHIC AND PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
 - A SET OF SITE PLANS TITLED "TRANSFER STATION ALLENSTOWN, NEW HAMPSHIRE" PREPARED BY GEOSIGHT, INC. OF 106 GRANITE ST., 3RD FLOOR, SUITE A, MANCHESTER, NH DATED JANUARY 19, 2007
 - A PLAN TITLED "TOPOGRAPHIC AND BOUNDARY LINE VERIFICATION PLAN FOR WALSH ENGINEERING ASSOCIATES" PREPARED BY DOUCET SURVEY, INC. OF 102 KENT PLACE, NEW MARKET, NEW HAMPSHIRE AND DATED AUGUST 2016.

- GENERAL NOTES:**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AND LOCAL UTILITY COMPANIES AT LEAST THREE (3) BUSINESS DAYS, BUT NOT MORE THAN 30 CALENDAR DAYS, PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION, IN ACCORDANCE WITH NEW HAMPSHIRE STATE LAW. "DIG SAFE" TELEPHONE NUMBER IS 811.
 - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL AND ANY MEANS, METHODS, AND TECHNIQUES EMPLOYED TO PERFORM THE WORK SHOWN ON THE PLANS.
 - ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING ALL SAFETY REGULATIONS (OSHA).
 - ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH NEW HAMPSHIRE DOT STANDARD DETAILS AND SPECIFICATIONS.
 - THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THE WORK SHOWN ON THESE PLANS PRIOR TO CONSTRUCTION.
 - ALL PAVEMENT/CONCRETE CUTS SHALL BE SAW CUT OR GROUND TO RESULT IN CLEAN EDGES. A TACK COAT SHALL BE APPLIED ALONG THE PAVEMENT CUT EDGES AND THE NEW PAVEMENT BUTTED TO IT, UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
 - ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO NEW HAMPSHIRE DOT STANDARD DETAILS AND SPECIFICATIONS.
 - CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS SHOWN ON THE DRAWINGS. IF ANY DISCREPANCIES ARE FOUND, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE NOTIFIED IMMEDIATELY.

ZONING INFORMATION:

1. REFERENCE:	TAX MAP 105, LOT 38
2. TOTAL PARCEL AREA:	2.74 AC. (119,354 S.F.) (PER TAX MAP)
3. OWNER OF RECORD:	CASELLA WASTE MANAGEMENT, INC. C/O HARDING & CARBONE 3903 BELLAIRE BLVD. HOUSTON, TX 77025 M.C.R.D. BOOK 2197, PAGE 368
4. ZONE: COMMERCIAL/LIGHT INDUSTRIAL	
DIMENSIONAL REQUIREMENTS:	
MIN. LOT AREA	REQUIRED: N/A EXISTING: N/A
MIN. FRONTAGE	REQUIRED: 75' EXISTING: 156'
MIN. FRONT SETBACK	REQUIRED: 20' EXISTING: 169'
MIN. SIDE SETBACK	REQUIRED: 15' EXISTING: 29'
MIN. REAR SETBACK	REQUIRED: 40' EXISTING: 74'
WETLANDS SETBACK	REQUIRED: 50' EXISTING: 0'

WALSH
ENGINEERING ASSOCIATES, INC.

One Karen Dr., Suite 2A | Westbrook, Maine 04092
ph: 207.563.9898 | www.walsh-eng.com

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Allenstown Transfer Station Stormwater Improvements

104 River Road
Allenstown, NH 03275
Tax Map: 105-38

Casella Waste Management of Massachusetts, Inc.

55 Pelham Road
Salem, New Hampshire, 03079

ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

Rev.	Date	Description	Drawn	Check

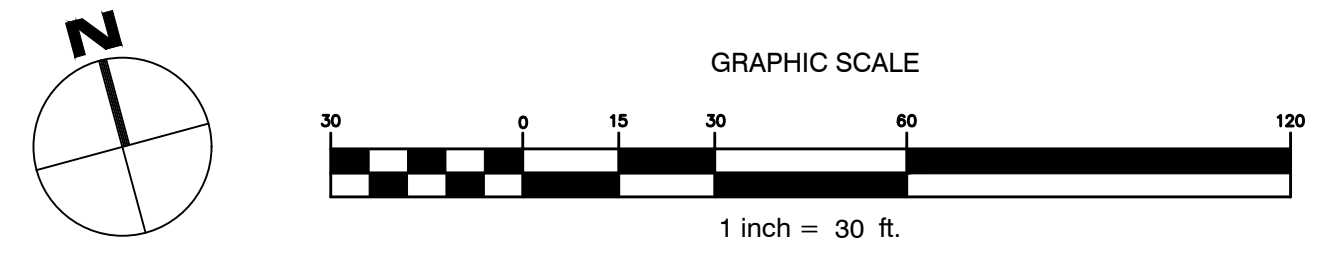
Sheet Title:
Existing Conditions and Removals Site Plan

Job No.: 226D Sheet No.:

Date: Scale: 1" = 30'

Drawn: ALJ/JWG Checked: SWC

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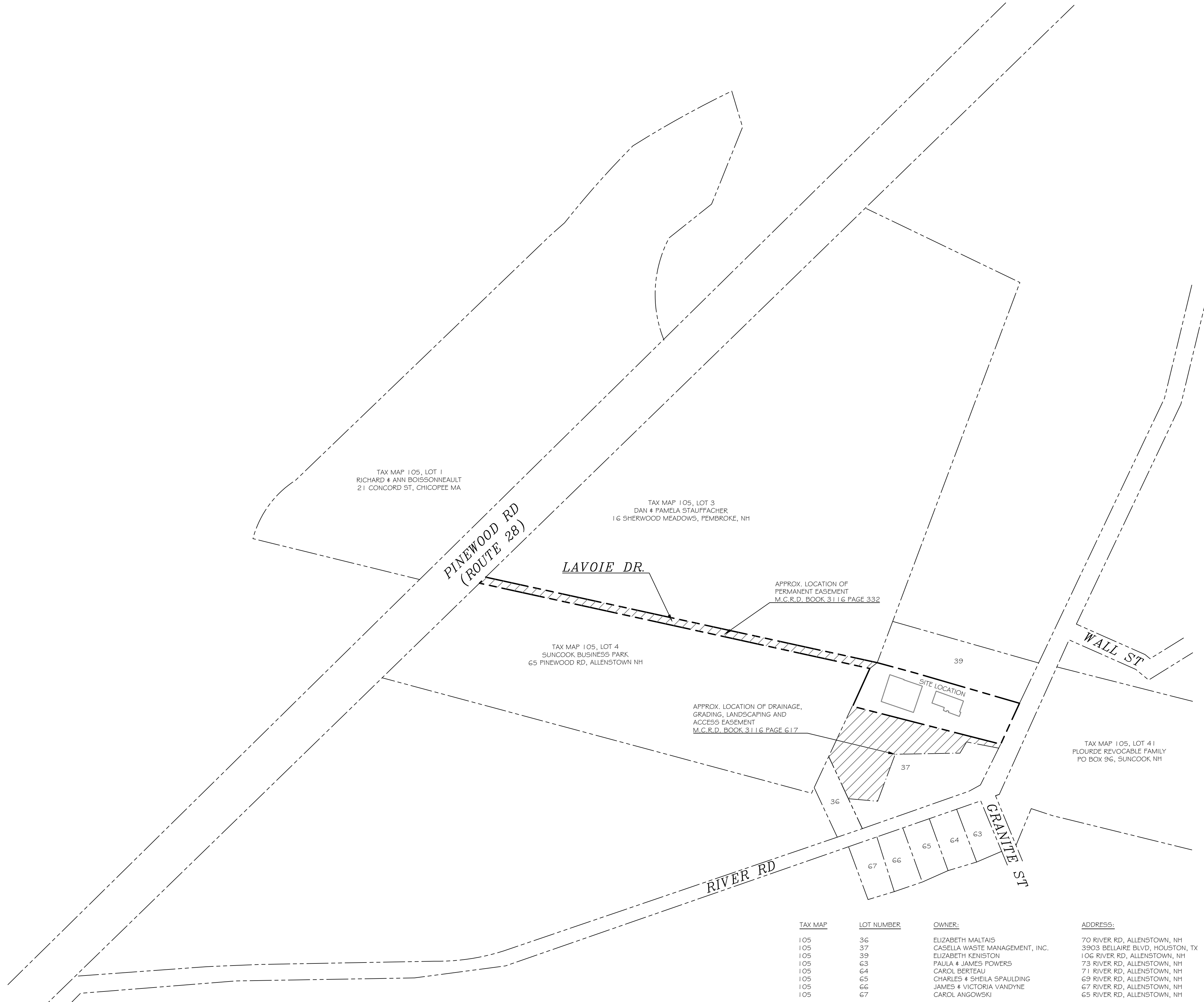
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PLAN REFERENCES:

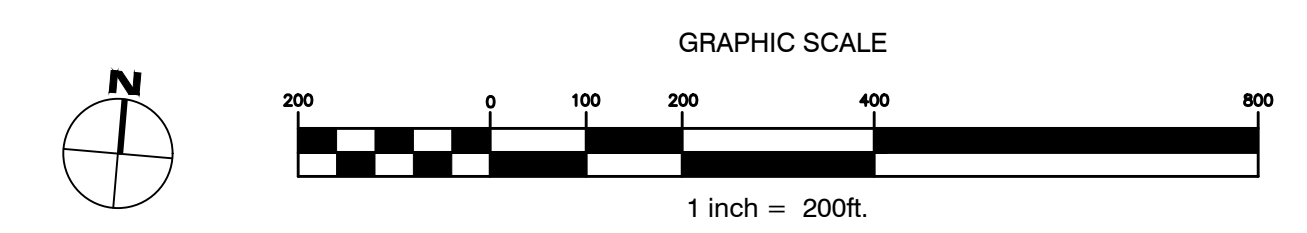
1. PROPERTY BOUNDARY INFORMATION TAKEN FROM A COMPILATION OF THE FOLLOWING:
 - 1.1. A SET OF SITE PLANS TITLED "TRANSFER STATION ALLENSTOWN, NEW HAMPSHIRE" PREPARED BY GEINSIGHT, INC. OF 186 GRANITE ST., 3RD FLOOR, SUITE A, MANCHESTER, NH DATED JANUARY 19, 2007 AND PLAN 19205 RECORDED MARCH 16, 2009
 - 1.2. A PLAN TITLED "TOPOGRAPHIC AND BOUNDARY LINE VERIFICATION PLAN FOR WALSH ENGINEERING ASSOCIATES" PREPARED BY DOUCET SURVEY, INC. OF 104 RIVER ROAD, ALLENSTOWN, NH AND DATED AUGUST 2016.
 - 1.3. TOWN OF ALLENSTOWN ELECTRONIC TAX MAP INFORMATION AT WWW.AXISGIS.COM/ALLENSTOWNNH
2. DRAINAGE, GRADING, LANDSCAPE AND ACCESS EASEMENT SHOWN IS APPROXIMATE BASED ON PLAN REFERENCES 1.1 AND 1.2 ABOVE AND DEED RECORDED IN M.C.R.D. BOOK 3116, PAGE 617.
3. PERMANENT EASEMENT SHOWN IS APPROXIMATE BASED ON PLAN REFERENCES 1.1 AND 1.2 ABOVE AND DEED RECORDED IN M.C.R.D. BOOK 3116, PAGE 332

LEGEND

EXISTING	
	PROPERTY LINE
	ABUTTER LINE
	EASEMENT



TAX MAP	LOT NUMBER	OWNER:	ADDRESS:
105	36	ELIZABETH MALTAIS	70 RIVER RD, ALLENSTOWN, NH
105	37	CASELLA WASTE MANAGEMENT, INC.	3803 BELLAIRE BLVD, HOUSTON, TX
105	39	ELIZABETH KENISTON	106 RIVER RD, ALLENSTOWN, NH
105	63	FAULA & JAMES POWERS	73 RIVER RD, ALLENSTOWN, NH
105	64	CAROL BERTEAU	71 RIVER RD, ALLENSTOWN, NH
105	65	CHARLES & SHEILA SPAULDING	69 RIVER RD, ALLENSTOWN, NH
105	66	JAMES & VICTORIA VANDYNE	67 RIVER RD, ALLENSTOWN, NH
105	67	CAROL ANGOWSKI	65 RIVER RD, ALLENSTOWN, NH



ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

Allenstown Transfer Station Stormwater Improvements

104 River Road
Allenstown, NH 03275
Tax Map: 105-38

Casella Waste Management of Massachusetts, Inc.

53 Pelham Road
Salem, New Hampshire, 03079

Rev.	Date	Description	Drawn	Check

Sheet Title:
Easement and Abutter Plan

Job No.: 226D Sheet No.:

Date:

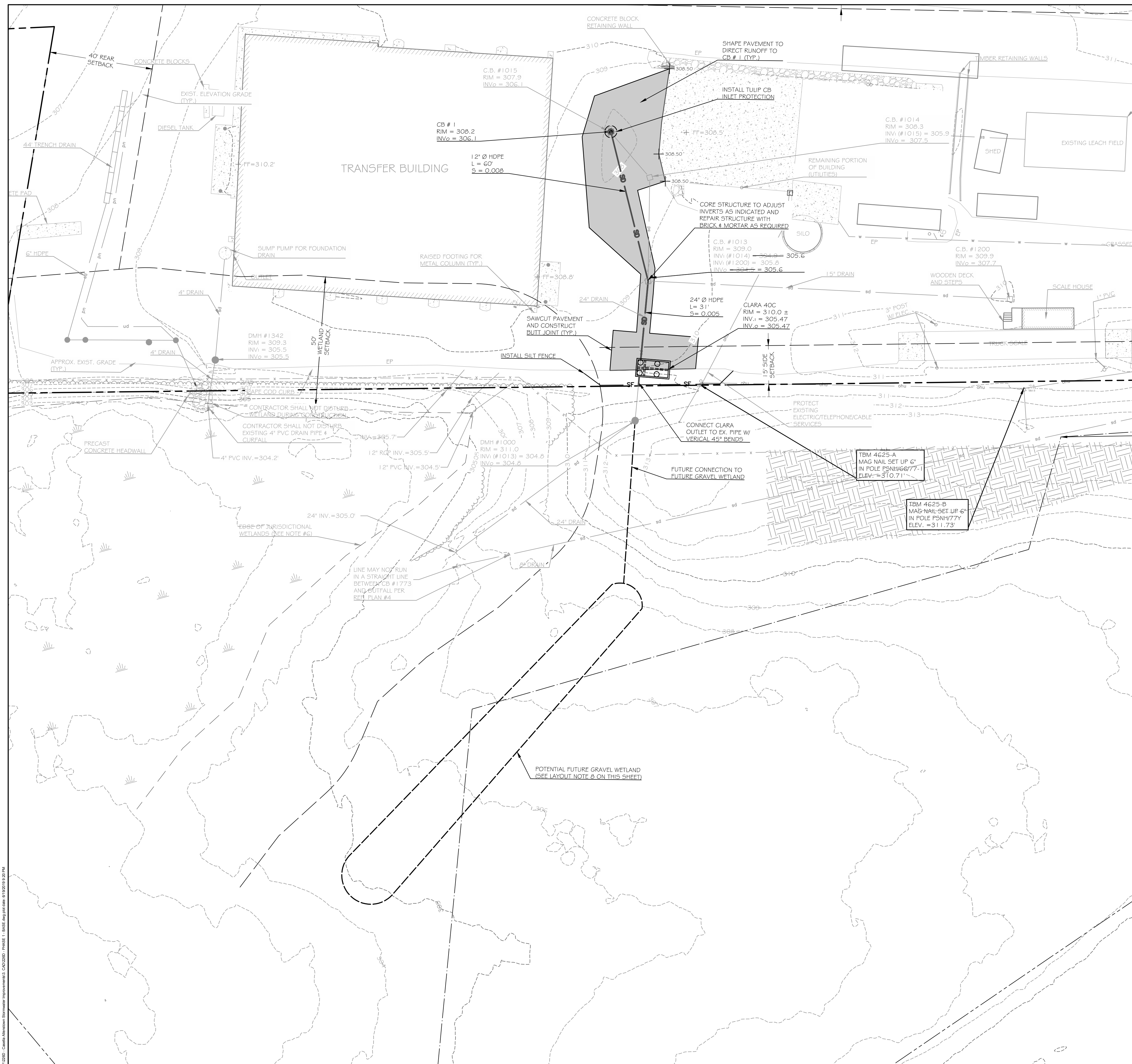
Scale: 1" = 200'

Drawn: AJK/JWG

Checked: SWC

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EXISTING	PROPOSED
⊙	STORM DRAIN MANHOLE
■	STORM DRAIN CATCH BASIN
sd	STORM DRAIN LINE
⊙	SANITARY SEWER MANHOLE
ss	SANITARY SEWER LINE
ssfm	SANITARY FORCE MAIN
●	BOLLARD
▭	BUILDING
—x—x—x—	FENCE METAL
—○—○—○—	RIPRAP
—	EDGE OF PAVEMENT
—	EDGE OF CONCRETE
—	CURB
—	TREELINE
—101—	INTERMEDIATE CONTOUR
—100—	INDEX CONTOUR
—	CL OR THREAD OF STREAM OR BROOK
—	WETLANDS
—	WETLAND BUFFER
—	SILT FENCE
—	EROSION CONTROL BERM
+ 80.00	SPOT GRADE
⊙	CATCH BASIN INLET PROTECTION

LAYOUT, MATERIALS, AND UTILITY NOTES:

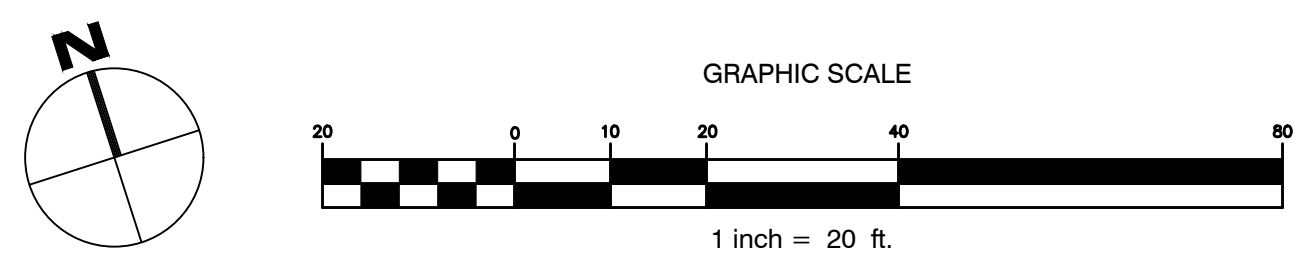
- ALL DIMENSIONS, LOCATIONS AND CONTROLS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
- DO NOT SCALE THE DRAWINGS FOR REQUIRED DIMENSIONS. ANY DISCREPANCIES IN DIMENSIONING SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
- ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE SHOWN.
- ALL LIMITS OF WORK SHALL BE MARKED OUT BY THE CONTRACTOR AND REVIEWED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- THE LONGITUDINAL SLOPE AND CROSS SLOPE OF THE TRENCH DRAIN SHALL MATCH EXISTING PAVEMENT GRADE IN BOTH DIRECTIONS IN ORDER TO MINIMIZE ROCKING OF TRUCKS WHEN THEY DRIVE ACROSS IT.
- PROVIDE A SMOOTH TRANSITION WHERE NEW WORK MEETS EXISTING.
- ALL DISTURBED AREAS NOT OTHERWISE TREATED SHALL BE LOAMED AND SEEDDED.
- FUTURE GRAVEL WETLAND IS NOT INCLUDED WITH THIS SITE PLAN APPLICATION. A SEPARATE APPLICATION WILL BE FILED FOR THE CONSTRUCTION OF THE GRAVEL WETLAND.

GRADING, DRAINAGE AND UTILITIES NOTES:

- PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTRACTOR SHALL VERIFY ALL AFFECTED GRADES. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE OWNER OR OWNER'S REPRESENTATIVE.
- ALL AREAS NOT REQUIRING GRADING SHALL BE LEFT UNDISTURBED. CONTRACTOR SHALL NOT DISTURB THESE AREAS AND PRESERVE EXISTING VEGETATION.
- OWNER AND PROJECT ENGINEER WILL BE CLOSELY MONITORING FINISH GRADING IN THE FIELD. CONTRACTOR SHALL PERFORM FINISH WORK AS DIRECTED BY THE OWNER OR PROJECT ENGINEER TO ACHIEVE THE FINISH GRADE CONDITIONS SHOWN ON THE PLANS.
- ALL EXCAVATED MATERIALS NOT TO BE USED ON SITE SHALL BE DISPOSED OF PROPERLY.
- ALL DRAINAGE PIPES SHALL BE ADS N-12 SMOOTH BORE DOUBLE WALL HDPE OR APPROVED EQUAL.

EROSION CONTROL NOTES:

- THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO CONSTRUCTION. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS.
- THE CONTRACTOR SHALL COMPLY WITH THE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION AS PUBLISHED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES BUREAU OF RESOURCE PROTECTION, DECEMBER 2008 OR LATEST EDITION.
- ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING. ALL DISTURBED AREAS ON SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED, OR BY OTHER METHODS AS REQUIRED BY THE WRITTEN EROSION CONTROL PLAN.
- DISTURBED AREAS SHALL BE LIMITED TO ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION. FOR DISTURBED AREAS THAT ARE NOT UNDER ACTIVE CONSTRUCTION AND THAT CAN NOT YET UNDERGO FINAL GRADING, INSTALL TEMPORARY SEEDING AND MULCHING.
- PERMANENT SEEDING OR STABILIZATION SHALL BE CARRIED OUT IMMEDIATELY AFTER FINAL GRADING IS COMPLETED, OR TEMPORARY MEASURES SHALL BE APPLIED SUCH AS MULCHING OR SEEDING UNTIL PERMANENT STABILIZATION MEASURES ARE IN PLACE.
- ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED AND REPAIRED FOR THE DURATION OF THE PROJECT UNTIL ALL AREAS ARE STABILIZED. REMOVE ACCUMULATED SILT AND SEDIMENT AS NEEDED AND MAINTAIN BMPs IN GOOD, OPERABLE CONDITION.



ISSUED FOR PERMITTING - NOT FOR CONSTRUCTION

Allenstown Transfer Station Stormwater Improvements
104 River Road
Allenstown, NH 03275
Tax Map: 105-38

Casella Waste Management of Massachusetts, Inc.
63 Pelham Road
Salem, New Hampshire, 03079

Rev.	Date	Description	Drawn	Check

Sheet Title:
STORMWATER MANAGEMENT SITE PLAN

Job No.: 226D Sheet No.:
Date: Scale: 1" = 20'
Drawn: AJK/JWG Checked: SWC

C2.0

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EROSION AND SEDIMENTATION CONTROL NOTES:

INTRODUCTION

THE FOLLOWING PLAN FOR CONTROLLING SEDIMENTATION AND EROSION IN THIS PROJECT IS BASED ON CONSERVATION PRACTICES FOUND IN THE NEW HAMPSHIRE EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION, NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES, DECEMBER 2008, OR LATEST EDITION. THE CONTRACTOR WHO IMPLEMENTS THIS PLAN SHALL BE FAMILIAR WITH THIS PUBLICATION AND ADHERE TO IT AND THE PRACTICES PRESENTED HEREIN.

REFERENCE IS MADE TO THE TRANSFER STATION SITE PLAN (C2.0) WITHIN THE PLAN SET, SHOWING THE LOCATIONS AND TYPES OF PROPOSED MEASURES TO BE IMPLEMENTED.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES

THE FOLLOWING IS A LIST OF GENERAL EROSION CONTROL PRACTICES THAT WILL BE USED TO PREVENT EROSION AND SEDIMENTATION BEFORE, DURING AND AFTER THE CONSTRUCTION OF THIS PROJECT. IN ADDITION, SPECIAL CARE SHALL BE USED AT ALL TIMES TO:

- 1) LIMIT DISTURBANCE AND, HENCE, EROSION
- 2) CORRECT ANY EROSION PROBLEMS IMMEDIATELY
- 3) REGULARLY MONITOR THE IMPLEMENTED PRACTICES, ESPECIALLY AFTER EVERY RAINFALL
- 4) REVEGETATE DISTURBED AREAS AS SOON AS POSSIBLE AFTER CONSTRUCTION
- 5) CONFORM TO ALL REQUIREMENTS/STANDARDS OF THE MASSACHUSETTS EROSION AND SEDIMENTATION CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS.

SILT FENCE AND/OR SILT SOCK SEDIMENT BARRIERS

SILT FENCE AND/OR SILT SOCK SEDIMENT BARRIERS WILL BE INSTALLED ALONG THE DOWNGRADE SIDE OF THE PROPOSED GROUND DISTURBANCE AREAS AND STOCKPILE AREAS PRIOR TO ANY CONSTRUCTION ACTIVITIES.

CATCH BASIN PROTECTION

CATCH BASIN PROTECTION WILL BE INSTALLED AT THE FIRST DOWNGRADE CATCH BASIN IN STREET ADJACENT TO ANY CONSTRUCTION ACTIVITIES.

CONSTRUCTION PHASE

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION DURING CONSTRUCTION ON THIS PROJECT:

1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. ONCE CONSTRUCTION OF AN AREA IS COMPLETE, FINAL GRADING, LOAMING AND SEEDING SHALL OCCUR IMMEDIATELY (REFER TO "POST CONSTRUCTION REVEGETATION" SECTION). IF DURING FINAL GRADING, LOAMING AND SEEDING CAN NOT OCCUR IMMEDIATELY, IT SHALL BE DONE PRIOR TO ANY STORM EVENT AND WITHIN 14 DAYS OF COMPLETING CONSTRUCTION IN THE AREA. IF FINAL GRADING, LOAMING AND SEEDING CANNOT OCCUR WITHIN 7 DAYS, OR IF THE AREA IS NOT UNDER ACTIVE CONSTRUCTION FOR A PERIOD LONGER THAN 7 DAYS, SEE ITEM NO. 4 BELOW.
2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SILT FENCING SHALL BE INSTALLED ON DOWNGRADE PORTIONS OF THE SITE AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION.
3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM EXISTING DRAINAGE AREAS AND WETLANDS. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
 - A. TREATED WITH ANCHORED MULCH (WITHIN 5 DAYS OF THE LAST DEPOSIT OF STOCKPILED SOIL).
 - B. SEEDED WITH CONSERVATION MIX AND MULCHED IMMEDIATELY.

STOCKPILES SHALL BE EITHER PLACED UPHILL OF AN EXISTING SEDIMENT BARRIER ON THE SITE OR ENCIRCLED BY A HAY BALE OR SILT FENCE BARRIER THE FIRST DAY THAT STOCKPIILING COMMENCES.

4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 7 DAYS SHALL BE:
 - A. TREATED WITH STRAW AT A RATE OF 70-90 LBS. PER 1,000 SQUARE FEET FROM 4/16 TO 1/0/1, OR AT A RATE OF 150-200 LBS. PER 1,000 SQUARE FEET FROM 1/0/1 TO 4/1/5.
 - B. SEEDED WITH CONSERVATION MIX OF PERENNIAL RYE GRASS (1.0 LBS/1,000 SQ. FT.) AND MULCHED IMMEDIATELY. FROM 1/0/1 TO 4/1/5, FOLLOW THE SEEDING RATES AS OUTLINED BELOW IN SECTION 5 OF THE "POST CONSTRUCTION REVEGETATION" SECTION.
 - C. MONITORED EVERY TWO WEEKS UNTIL SEEDING CAN OCCUR AND REMULCHED AS NEEDED TO PROTECT SLOPES.
5. ALL GRADING WILL BE HELD TO A MAXIMUM 3:1 SLOPE WHERE PRACTICAL. GREATER SLOPES MAY BE USED WHERE THE BANKS ARE PROTECTED WITH SOFT ARMOUR MATTING, EROSION CONTROL MATTING, OR RIPRAP. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY AFTER FINAL GRADING IS COMPLETE. (IT IS UNDERSTOOD THAT IMMEDIATELY MEANS WITHIN 5 DAYS OF THE COMPLETION OF WORK. SEE POST-CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)
6. CONSTRUCTION TRAFFIC WILL BE DIRECTED OVER THE EXISTING SITE ENTRANCE. THE ROAD SHALL BE SWEEPED DAILY SHOULD SEDIMENT BE TRACKED ONTO IT.

DEWATERING

ALL DEWATERING DISCHARGE LOCATIONS SHALL BE LOCATED ON RELATIVELY FLAT GROUND AT LEAST 100' FROM STREAMS AND WETLANDS. THE CONTRACTOR SHALL UTILIZE DIRTBAGS, EROSION CONTROL MIX BERMS, OR SIMILAR METHODS FOR FILTRATION OF DEWATERING. THE FLOW FROM DEWATERING PUMPS SHALL BE DISCHARGED TO A FILTER BAG OR EQUIVALENT DEVICE AS APPROVED BY THE OWNER OR ENGINEER. ALL WORK WILL BE IN COMPLIANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS INCLUDING BUT NOT LIMITED TO THE U.S. EPA DEWATERING GENERAL PERMIT.

POST CONSTRUCTION REVEGETATION

THE FOLLOWING GENERAL PRACTICES WILL BE IMPLEMENTED TO PREVENT EROSION AS SOON AS AN AREA IS READY TO UNDERGO FINAL GRADING:

1. A MINIMUM OF 6" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND GRADED TO A UNIFORM DEPTH AND NATURAL APPEARANCE.
2. LAWN AREAS: REFER TO SEED MIXTURES FOR PERMANENT COVER, DRY CONDITIONS MIX, NEW HAMPSHIRE EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION, OR APPROVED EQUAL.
3. MULCH SHALL BE HAY OR STRAW MULCHES THAT ARE DRY AND FREE FROM UNDESIRABLE SEEDS AND COARSE MATERIALS.
 - A. APPLICATION RATE MUST BE 2 BALES (70-90 LBS.) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE.
 - B. DRIVE OVER WITH TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
 - C. BLANKET WITH TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING ON GRADES GREATER THAN 5%.
4. HYDRO-MULCH SHALL CONSIST OF A MIXTURE OF ASPHALT, WOOD FIBRE OR PAPER FIBRE AND WATER, WHICH IS SPRAYED OVER A SEEDED AREA. HYDRO-MULCH SHALL NOT BE USED BETWEEN 1/0/1 AND 4/1/5.
5. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN OCTOBER 1ST AND APRIL 15TH. SHOULD SEEDING BE NECESSARY BETWEEN THESE DATES, THE FOLLOWING PROCEDURE SHALL BE FOLLOWED:
 - A. ONLY UNFROZEN LOAM SHALL BE USED.
 - B. LOAMING, SEEDING AND MULCHING WILL NOT BE DONE OVER SNOW OR ICE COVER. IF SNOW EXISTS, IT MUST BE REMOVED PRIOR TO PLACEMENT OF SEED.
 - C. WHERE PERMANENT SEEDING IS NECESSARY, ANNUAL WINTER RYE (1.2 LBS/1,000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
 - D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.5 LBS/1,000 S.F.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
 - E. FERTILIZING, SEEDING AND MULCHING SHALL BE DONE ON LOAM THE DAY THE LOAM IS SPREAD.
 - F. HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE. WINTER MULCHING RATES, AS SPECIFIED ABOVE IN SUBSECTION 5.A. OF THE "CONSTRUCTION PHASE" SECTION, SHOULD BE APPLIED DURING THIS PERIOD.
6. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 80% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE DESIGN PROFESSIONAL THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING, MONITORING, MAINTAINING, REPAIRING, REPLACING AND REMOVING ALL OF THE EROSION AND SEDIMENTATION CONTROLS OR APPOINTING A QUALIFIED SUBCONTRACTOR TO DO SO.

MAINTENANCE MEASURES WILL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION CYCLE. IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL (0.5" OR GREATER), AND AT LEAST ONCE A WEEK, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. SILT FENCE SHALL BE INSPECTED AND REPAIRED. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING.

STANDARDS FOR STABILIZING SITES FOR THE WINTER

THE FOLLOWING STANDARDS AND METHODOLOGIES SHALL BE USED FOR STABILIZING THE SITE DURING THE WINTER CONSTRUCTION PERIOD

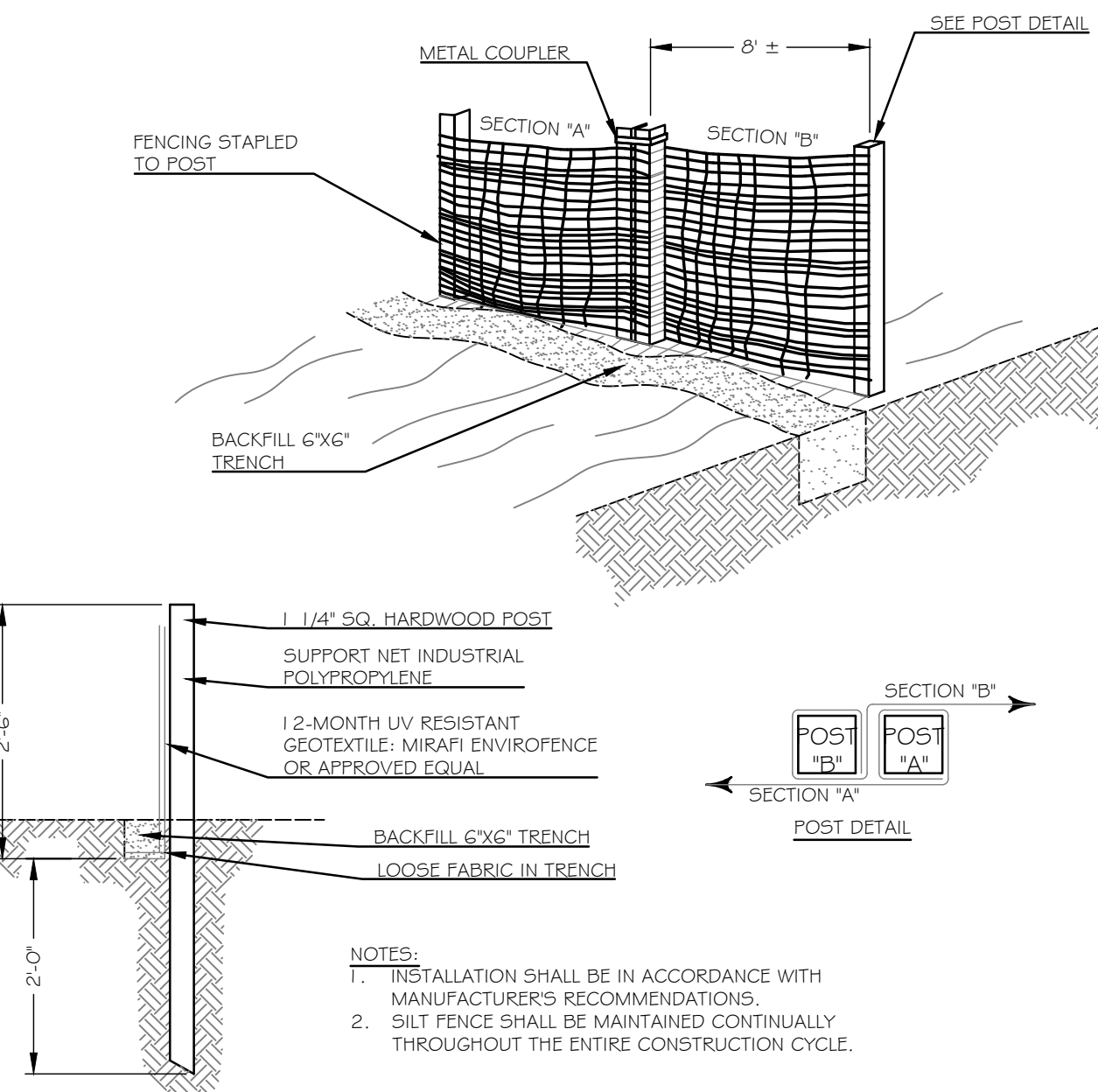
1. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES (ANY AREA HAVING A GRADE GREATER THAN 25%) - THE CONTRACTOR WILL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15TH. IF THE CONTRACTOR FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15TH, THEN THE CONTRACTOR WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.
 - A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS - BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED HAY MULCH OVER THE SEEDING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS.
 - B. STABILIZE THE SLOPE WITH WOOD-WASTE COMPOST - THE CONTRACTOR WILL PLACE A SIX-INCH LAYER OF WOOD-WASTE COMPOST ON THE SLOPE BY NOVEMBER 15TH. THE CONTRACTOR WILL NOT USE WOOD-WASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
 - C. STABILIZE THE SLOPE WITH STONE RIPRAP - THE CONTRACTOR WILL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. THE DEVELOPER'S OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.
2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS - BY SEPTEMBER 15TH THE CONTRACTOR WILL SEED AND MULCH ALL DISTURBED SOILS ON THE SITE. IF THE CONTRACTOR FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE CONTRACTOR WILL TAKE ON OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
 - A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION - BY OCTOBER 1ST THE CONTRACTOR WILL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET. LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1,000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE CONTRACTOR WILL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1, THEN THE CONTRACTOR WILL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
 - B. STABILIZE THE SOIL WITH SOD - THE CONTRACTOR WILL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
 - C. STABILIZE THE SOIL WITH MULCH - BY NOVEMBER 15TH THE CONTRACTOR WILL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1,000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, THE CONTRACTOR WILL ANCHOR THE MULCH WITH NETTING OR OTHER METHOD TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.
3. INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE EVERY MONTH UNDER FROZEN CONDITIONS.

EROSION CONTROL REMOVAL

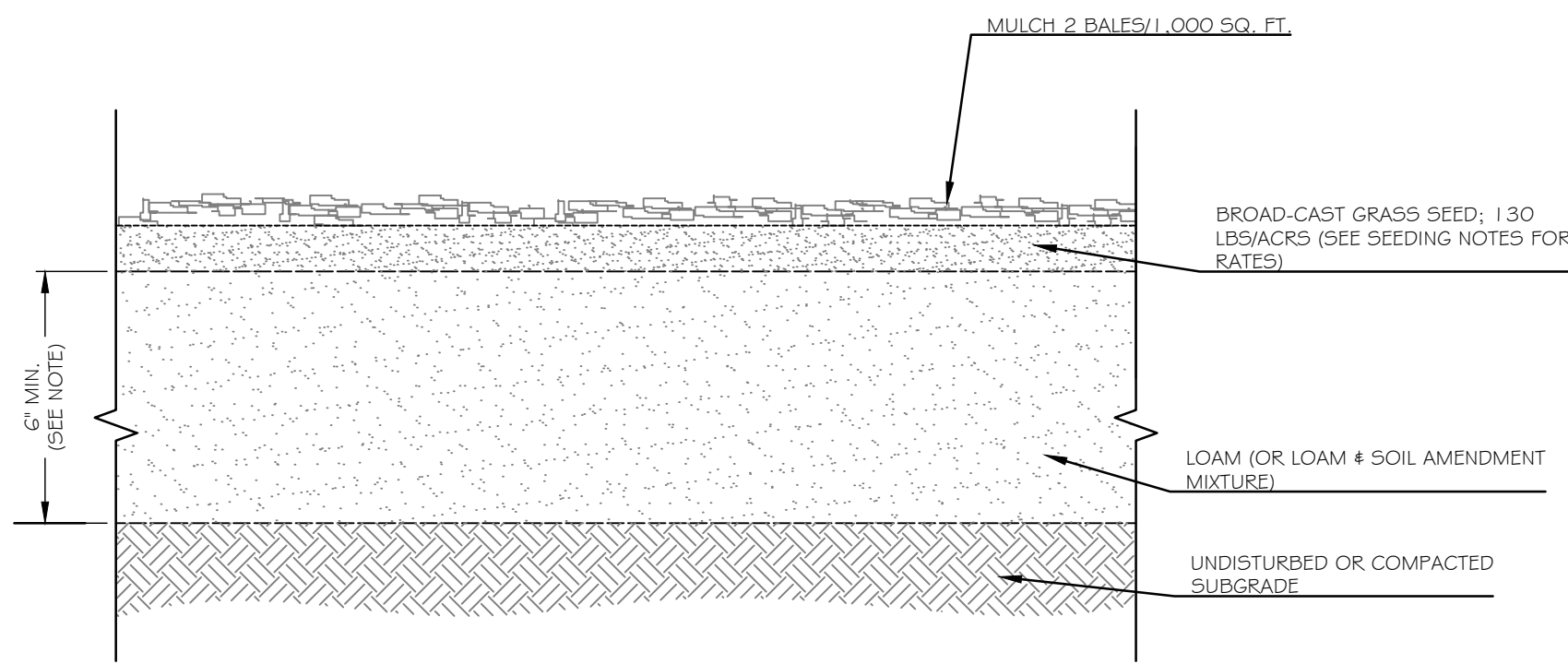
AN AREA IS CONSIDERED STABLE IF IT IS PAVED OR IF 80% GROWTH OF PLANTED SEEDS IS ESTABLISHED. ONCE AN AREA IS CONSIDERED STABLE, THE EROSION CONTROL MEASURES CAN BE REMOVED AS FOLLOWS:

1. SILT FENCE/BERM
SILT FENCE SHALL BE DISPOSED OF LEGALLY AND PROPERLY OFF-SITE. ALL SEDIMENT TRAPPED BEHIND THESE CONTROLS SHALL BE DISTRIBUTED TO AN AREA UNDERGOING FINAL GRADING OR REMOVED AND RELOCATED OFF-SITE.
2. CATCH BASIN PROTECTION
CATCH BASIN INLET PROTECTION SHALL BE REMOVED FOLLOWING PERMANENT STABILIZATION OF UPGRADIENT AREAS. SEDIMENT SHALL BE REMOVED FROM THE SACK AND LEGALLY DISPOSED. SEDIMENT SHALL NOT BE WASHED INTO THE CATCH BASIN.
3. MISCELLANEOUS
ONCE ALL THE TRAPPED SEDIMENTS HAVE BEEN REMOVED FROM THE TEMPORARY SEDIMENTATION DEVICES THE DISTURBED AREAS MUST BE REGRADED IN AN AESTHETIC MANNER TO CONFORM TO THE SURROUNDING TOPOGRAPHY. ONCE GRADED THESE DISTURBED AREAS MUST BE LOAMED (IF NECESSARY), FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THE RATES PREVIOUSLY STATED.
4. THOROUGHLY CLEAN AND REMOVE SEDIMENT FROM ALL NEWLY INSTALLED STORM DRAINAGE STRUCTURES PRIOR TO DEMOBILIZATION FROM THE SITE.

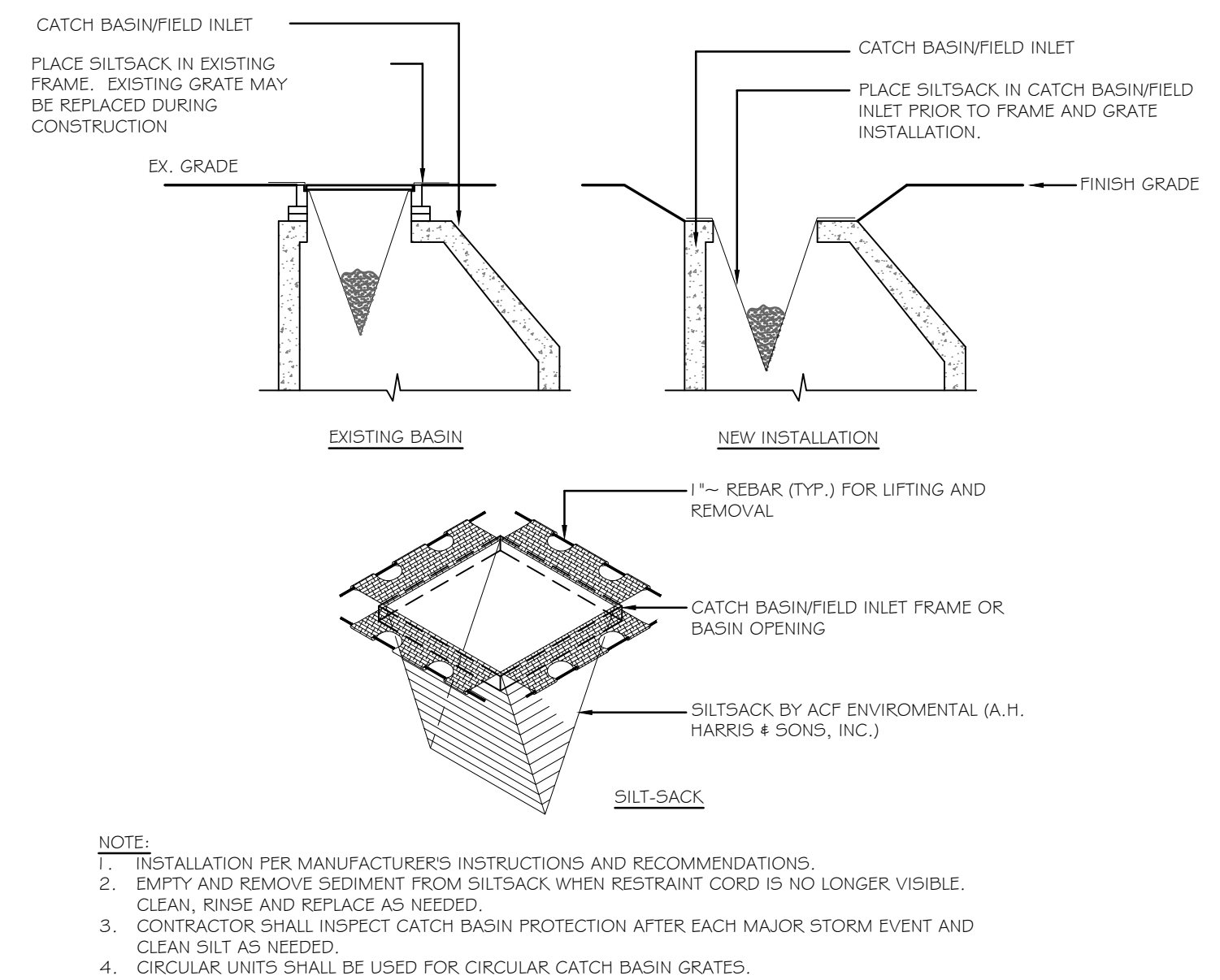
THE ABOVE EROSION CONTROLS MUST BE REMOVED WITHIN 30 DAYS OF FINAL STABILIZATION OF THE SITE. CONFORMANCE WITH THIS PLAN AND FOLLOWING THESE PRACTICES WILL RESULT IN A PROJECT THAT COMPLIES WITH THE STATE REGULATIONS, AND WILL PROTECT WATER QUALITY IN AREAS DOWNSTREAM FROM THE PROJECT.



1
C3.0 **PREFABRICATED SILT FENCE**
NOT TO SCALE



2
C3.0 **LOAM AND SEED DETAIL**
NOT TO SCALE



3
C3.0 **CATCH BASIN PROTECTION DETAIL**
NOT TO SCALE

WALSH
ENGINEERING ASSOCIATES, INC.
One Karen Dr., Suite 2A | Westbrook, Maine 04092
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104 River Road
Allenstown, NH 03275
Tax Map: 105-38
Casella Waste Management of Massachusetts, Inc.
53 Pelham Road
Salem, New Hampshire, 03079

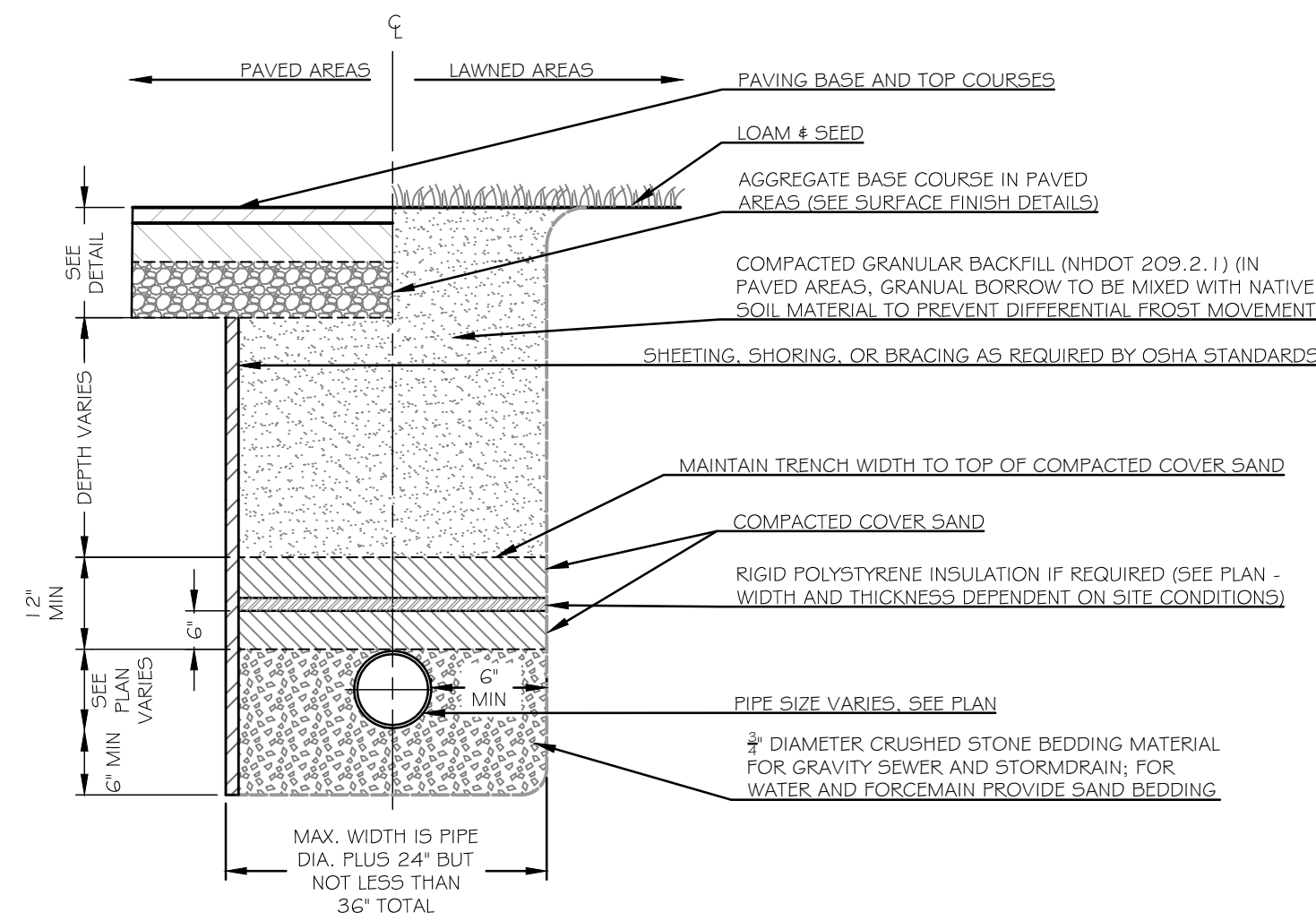
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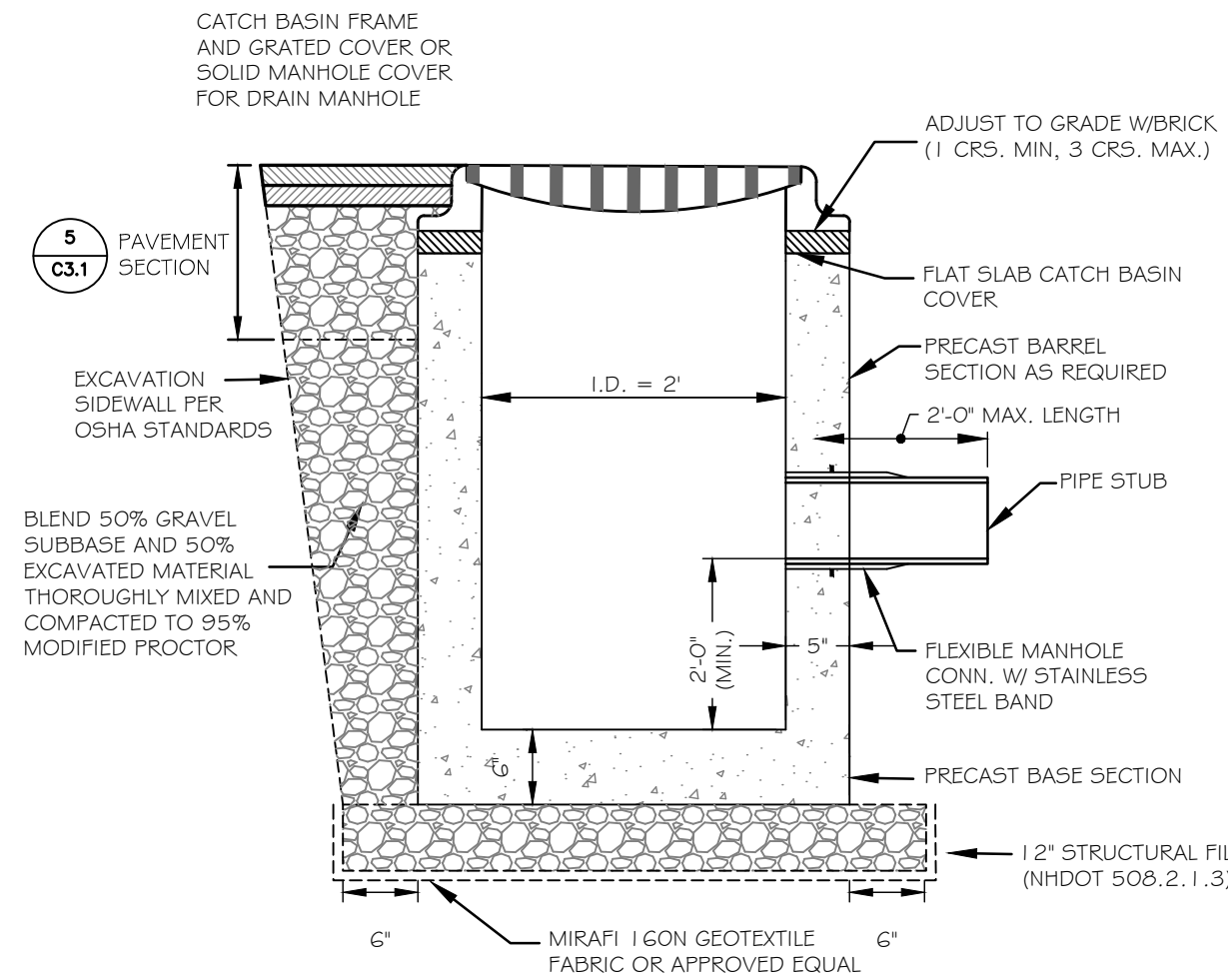
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Date: Scale: N.T.S.
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C3.0

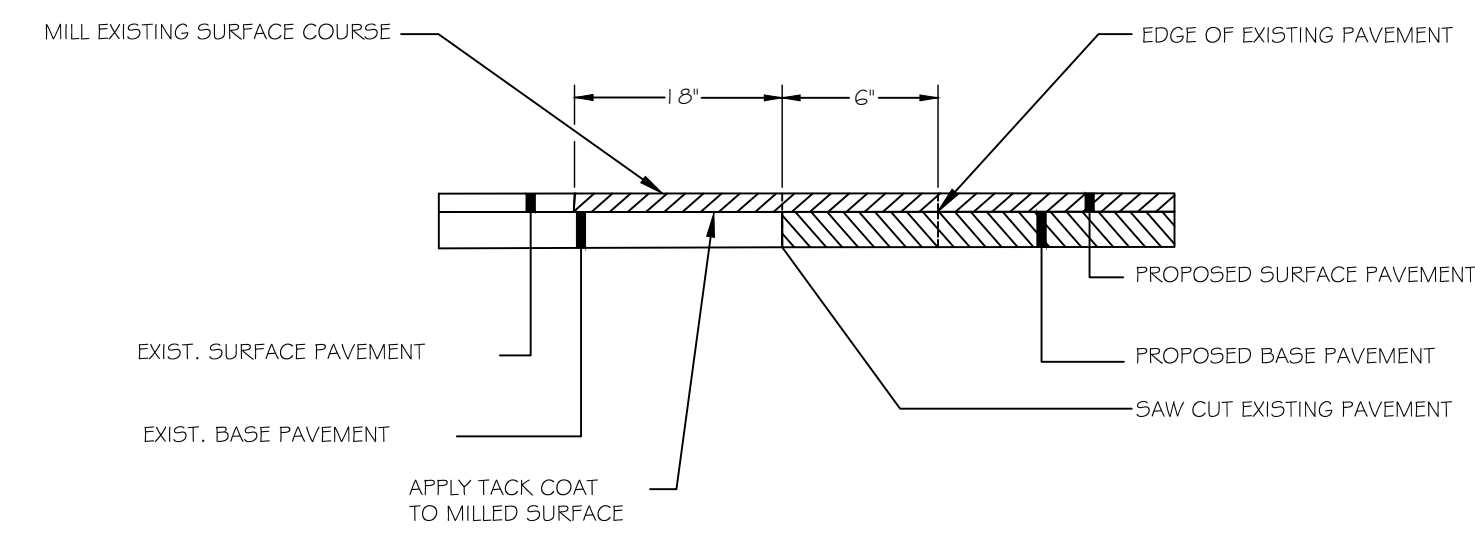
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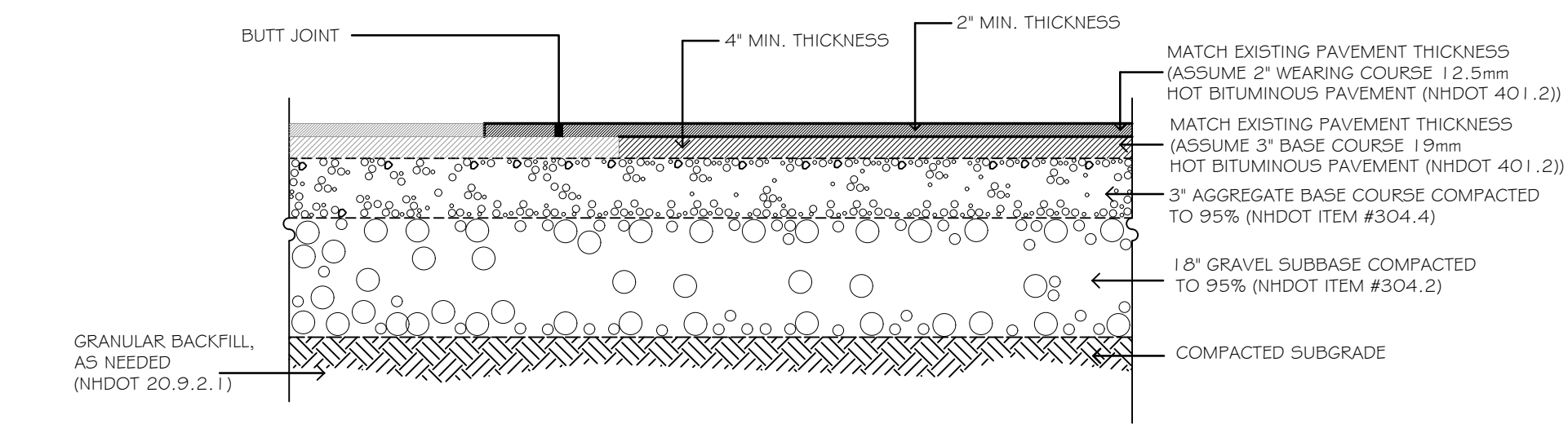
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C3.1 **TYPICAL PIPE TRENCHING DETAIL**
NOT TO SCALE



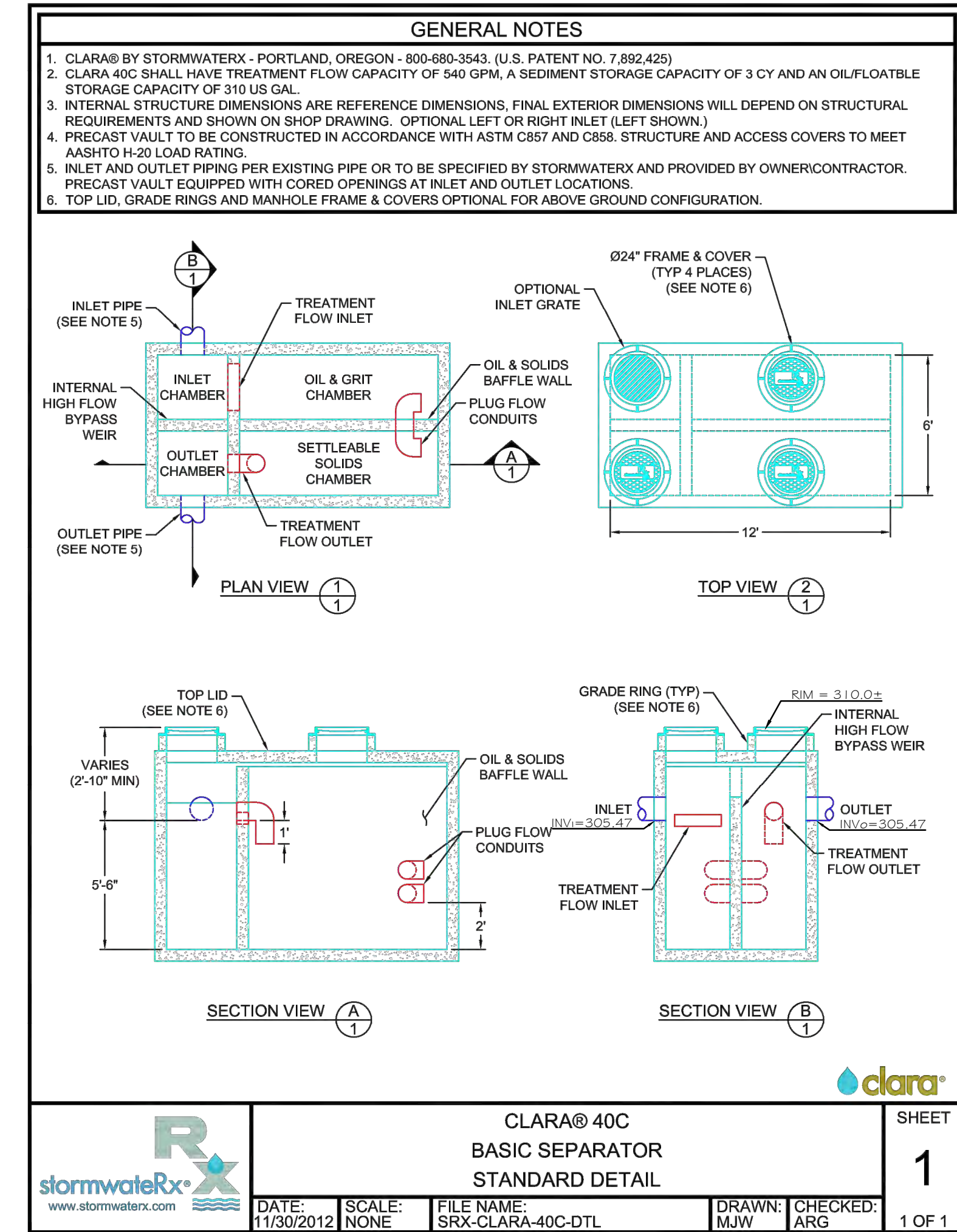
2
C3.1 **PRECAST CONCRETE 2' DIAMETER CATCH BASIN**
NOT TO SCALE



3
C3.1 **PAVEMENT BUTT JOINT**
NOT TO SCALE



4
C3.1 **REPLACEMENT PAVEMENT SECTION**
NOT TO SCALE



5
C3.1 **STORMWATERX - CLARA 40C DETAIL**
NOT TO SCALE

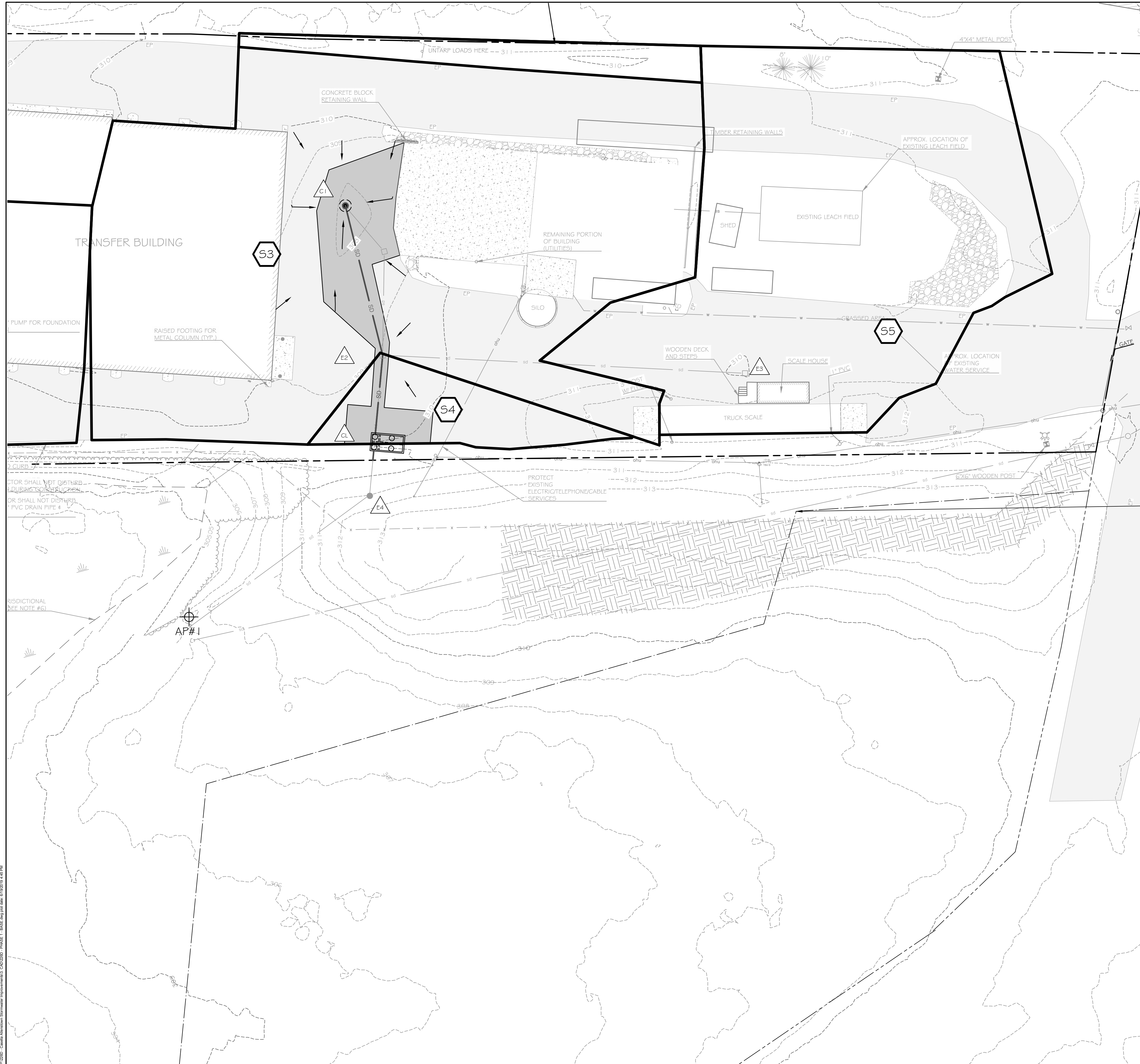
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Checked:	WRW		

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LEGEND

EXISTING		PROPOSED
○	STORM DRAIN MANHOLE	— SD —
■	STORM DRAIN CATCH BASIN	
— SD —	STORM DRAIN LINE	
○	SANITARY SEWER MANHOLE	
— SS —	SANITARY SEWER LINE	
— ssm —	SANITARY FORCE MAIN	
●	BOLLARD	
▭	BUILDING	
— x —	FENCE METAL	
— x —	RIPRAP	
— x —	EDGE OF PAVEMENT	
— x —	EDGE OF CONCRETE	
— x —	CURB	
— x —	TREELINE	
- - - 101 - - -	INTERMEDIATE CONTOUR	- - - 101 - - -
- - - 100 - - -	INDEX CONTOUR	- - - 100 - - -
—	CL OR THREAD OF STREAM OR BROOK	
—	WETLANDS	
—	WETLAND BUFFER	
+ 80.00	SPOT GRADE	+ 80.00

DRAINAGE LEGEND

—	SUBCATCHMENT BOUNDARY
— I —	SUBCATCHMENT DESIGNATION
⊕	ANALYSIS POINT
△	POND TEXT

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Allentown Transfer Station Stormwater Improvements

104 River Road
Allentown, NH 03275
Tax Map: 105-38

Casella Waste Management of Massachusetts, Inc.

53 Pelham Road
Salem, New Hampshire, 03079

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Drainage Plan

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Checked: SWC	

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