CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, March 26, 2018 – 5:30 P.M.
City Council Chambers – First Floor
Lewiston City Building
27 Pine Street, Lewiston, ME

AGENDA

I. ROLL CALL

II. ADJUSTMENTS TO THE AGENDA

III. CORRESPONDENCE

IV. PUBLIC HEARINGS:

An application submitted by Sitelines P.A. on behalf of Federal Distributors, Inc. to construct a 23,612 sf addition to existing building located at 2019 Lisbon Street.

V. OTHER BUSINESS:

a) Recommendation regarding the disposition of 115 Shawmut Street, 175 Stetson Road, 86 Nichols Street, 227 Lincoln Street and 264 Lincoln Street.
b) Pierce Place Parking Update.
c) Any other business Planning Board Members may have relating to the duties of the Lewiston Planning Board.

VI. READING OF THE MINUTES: Motion to adopt the February 26, 2018 draft minutes

VII. ADJOURNMENT

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CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Planning Board**
FROM: **David Hediger, City Planner**
DATE: **March 23, 2018**
RE: **March 26, 2018 Agenda Item IV(a)**

An application submitted by Sitelines P.A. on behalf of Federal Distributors, Inc. to construct a 23,612 sf addition to existing building located at 2019 Lisbon Street.

Siteline P.A. has submitted an application on behalf of Federal Distributors, Inc. to construct a 23,612 sf addition to existing building located at 2019 Lisbon Street. This property of 21.99 acres is located in the Highway Business (HB) district and consists of a 59,900 square foot warehouse and distribution facility which is allowed as a permitted use. The proposed addition will provide additional warehouse and distribution space to meet the current needs of the business.

This project is subject to the development review criteria of Article XIII, Section 4. The project is also being reviewed under the City's delegated review authority from MDEP for a Site Location of Development permit (i.e. Site Law) as the site currently consists of approximately 3.37 acres of impervious area and will be increasing to 4.14 acres. Projects with greater than three acres since 1971 (this site was developed in 1988) but less than seven acres are subject to the city's delegated review and approval. Therefore, the applicant has referenced the applicable criteria of Lewiston's Zoning and Land Use Code as well as the requirements of Site Law. The application and plans address the applicable criteria of each section. Staff notes the following with respect to the application:

1. The proposed improvements meet all of the space and bulk requirements of the HB district.
2. The project will result in approximately 13 additional weekday50 total AM peak hour and 14 weekday/54 PM peak hour trips, falling well below the requirement for a traffic movement permit (i.e. 100 peak hour trips).
3. Approximately 33,204 square feet of additional impervious area will be added to the site consisting of the proposed addition and a fire lane. Stormwater will be handled by a subsurface sand filter. The design has been reviewed to the satisfaction of Public Works. The applicant has agreed to a condition of approval that prior to the issuance of a certificate of occupancy, evidence of a final inspection of the storm water system shall be provided to the city by the designing engineer along with a written statement indicating that the storm water system and all site improvements have been completed in accordance with the approved plans. The applicant has also agreed to a condition per the Stormwater Management Rules, Chapter 500, that the stormwater system must be inspected twice yearly, the structure must be cleaned when necessary to maintain the established efficiency for pollutant removal, and that a 5-year binding maintenance contract is required and to be renewed upon expiration.

4. The proposed development is not altering any wetlands. However, DEP has expressed concerns of a possible vernal pool on site. Any construction activity within 250' of a significant vernal pool requires a Permit By Rule (PBR) from MDEP. The applicant has submitted a PBR application to the state. Staff recommends as a condition of approval no building permits be issued or construction activity occurs until evidence of MDEP approval for activities adjacent to a significant vernal pool has been provided to the city.
5. Portions of the site are located over significant sand and gravel aquifer. Article XI, Section 24(1)(g): *Groundwater Conservation Overlay District* provides additional standards for sites located over aquifers. The applicant has specifically addressed these criteria. This includes limiting the impervious area of the site located over the aquifer not to exceed 25% (as proposed, it will be 9%) and the construction of a subsurface sand filter for stormwater control that will consist of a 30-mil PVC impermeable liner to prevent any infiltration of the stormwater runoff or possible contamination of the groundwater.
6. The site currently provides 56 parking spaces. Based on Article XII, Section 17, the existing and proposed addition require a total of 92 parking spaces. The applicant anticipates that the existing spaces will remain adequate for the site and has requested a waiver from providing additional spaces. Article XII, Section 17(g)(5) notes that the reduced number of spaces must be shown as reserved on the plans. Reserved parking spaces shall not be used for any purpose other than open space, and the reserved area may not be used to meet the minimum open space ratio. If the use changes with respect to the need for the additional spaces, the additional number of spaces shall be constructed in accordance with the applicable design standards within 60 days of the change of use. With only approximately 4.14 acres of a 21.99 acre site being developed, there is obviously plenty of land area for additional parking if deemed necessary by the property owner. Therefore, staff recommends the applicant identify an area on the site plan that is reserved and may utilized for an additional 36 parking spaces with a note stating that the construction of any additional parking is subject to development review approval from the City of Lewiston.

All other review comments from city staff have been addressed to staff's satisfaction with revisions provided by the applicant.

City staff has no additional comments at this time. Staff recommends approval of the proposed project, with the following conditions:

1. A note is added to the cover sheet that prior to any certificate of occupancy being issued that evidence of a final inspection of the stormwater system be provided to the city by the designing engineer along with a written statement indicating that the stormwater system and all site improvements have been completed in accordance with the approved plans.
2. Per the Stormwater Management Rules, Chapter 500, the stormwater system must be inspected twice yearly, the structure must be cleaned when necessary to maintain the established efficiency for pollutant removal, and that a 5-year binding maintenance contract is required and to be renewed upon expiration.
3. No building permits be issued or construction activity occurs until evidence of MDEP approval for activities adjacent to a significant vernal pool has been provided to the city.

4. The applicant identify an area on the site plan that is reserved and may be utilized for an additional 36 parking spaces with a note stating that the construction of any additional parking is subject to development review approval from the City of Lewiston.

ACTION NECESSARY

Make a motion that the application submitted by Sitelines P.A. on behalf of Federal Distributors, Inc. to construct a 23,612 sf addition to existing building located at 2019 Lisbon Street meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, Section 4 of the Zoning and Land Use Code, and that approval be granted (including, if any, specific conditions raised by the Planning Board or staff).

March 20, 2018

2714-9

Mr. David Hediger, Deputy Director
City of Lewiston
27 Pine Street
Lewiston, Maine 04240

Re: Response to Comments #1
Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston, Maine
Map 46 - Lot 12

Dear David:

We have reviewed the comments prepared by David Hediger and Ryan Barnes and have prepared the following responses to address their concerns. The comments are reiterated in italics for reference with our response, in bold, immediately following:

Comments from David Hediger

1. *Prior to the issuance of a certificate of occupancy:*
   a. *Evidence of a final inspection of the storm water system shall be provided to the city by the designing engineer along with a written statement indicating that the storm water system and all site improvements have been completed in accordance with the approved plans.*

      This condition is satisfactory to the applicant. The design engineer will be present during the installation of the stormwater systems and will provide documentation the stormwater system, and all site improvements were constructed as designed.

2. *Cover sheet needs a signature block for the Planning Board's approval.*

   The Cover Sheet has been revised to include a signature block for the Planning Board.

3. *Note must be added to the site plan referencing the plans expiration of approval: see Article XIII, Section 11(a)(1).*

   The Site Plan has been revised to include the requested note.

4. *Application must reference the groundwater conservation overlay provisions: see Article XI, Section 24.*

   The application cover letter has been revised to address the provisions of the Groundwater Conservation Overlay District.

5. *Documentation related to financial capacity needed. See Article XIII, Section 4(t).*

   A letter from Mechanics Savings Bank, indicating the financial capacity of the applicant, is enclosed with this letter.

Comments from Ryan Barnes

1. *Sheet C3 – The invert out of the OCS structure is listed as a 12" stormdrain in the notes, it is shown as an 18" in other locations.*

   The plans and notes have been revised to indicate that this stormdrain is 18".

2. *Sheet C4 – The applicant should consider adding snouts to the Catch basin detail to prevent sediment from entering the subsurface system.*

   Based on the manufacturers' website, the main benefit of the Snout is to prevent floatables and oil from entering the system. As the areas being directed to the system consist of stormwater runoff mainly from roof areas and a fire lane, floatables and oil are not a concern for the system. While the Snout does result in a minor reduction in sediment loading, the benefit, in this instance, does not outweigh the additional cost and maintenance.

3. *The following letters will be needed for the final review:*
   a. *MDIFW (Section 7)*
   b. *MHPC (Section 8)*
   c. *Agriculture, Conservation, and Forestry (Section 9)*

   These letters have been received and forwarded on to the City Planner. The outstanding item related to these letters is a request from MDIFW for a vernal pool survey for the property. Based on discussions with wetlands biologist Tim Forrester with Atlantic Environmental, since the wetlands were delineated outside of the vernal pool survey season, he was not able to determine if there were any significant vernal pools located in the vicinity of the developed site. Based on his observations at the time of the delineation, there is the potential for a significant vernal pool located within the wetlands located southwesterly of the proposed building expansion. As such, we have submitted a NRPA Permit-by-Rule with the MDEP for disturbance with 250-feet of a potential significant vernal pool. A copy of the application has been enclosed with this letter.

4. *The pretreatment row must be installed under the manufacturer's representative supervision.*

   The Construction Oversight Notes detail on Sheet C4 has been revised to include the requested note regarding inspection by the manufacturer's representative during the installation of the pretreatment rows.

5. *Per the Stormwater Management Rules, Chapter 500, the system must be inspected twice yearly, and the structure must be cleaned when necessary to maintain the established efficiency for pollutant removal. A 5-year binding maintenance contract will be required and must be renewed upon expiration.*

   The applicant requests that the maintenance contract be made a Condition of Approval.

6. *How will the flow from the 6" underdrain be controlled if it is determined during testing that the release time is less than 24 hours?*

   Per MDEP requirements, upon completion of the installation of the subsurface chamber system, the contractor will flood the system to the design elevation. If the system drains in less than 24 hours, a 2" plastic ball valve will be utilized to obtain a 24-48 hour release time.

7. *Inspection during and after construction and until the site is stabilized must be performed by the manufacturer's representative.*

   The Construction Oversight Notes detail on Sheet C4 has been revised to include the requested note regarding inspection by the manufacturer's representative during and after construction of the stormwater system.

8. *Maintenance of the system shall include as a minimum:*

   The maintenance of the subsurface sand filter system is identified within the previously submitted "Stormwater Facilities Inspection and Maintenance Plan." As indicated above, the applicant requests that the maintenance contract be made a Condition of Approval.

Very truly yours,

Curtis Y. Neufeld, P.E.
Vice-President

STATE OF MAINE
CURTIS Y. NEUFELD
No. 9779
LICENSED PROFESSIONAL ENGINEER

Enclosures

cc: John Cronin, Federal Distributors, Inc.
David Whitney, Sheridan Corporation

Mechanics Savings Bank

March 19, 2018

City of Lewiston
27 Pine St.
Lewiston, ME 04240

RE: Federal Distributors, Inc. – expansion of Lisbon St. property

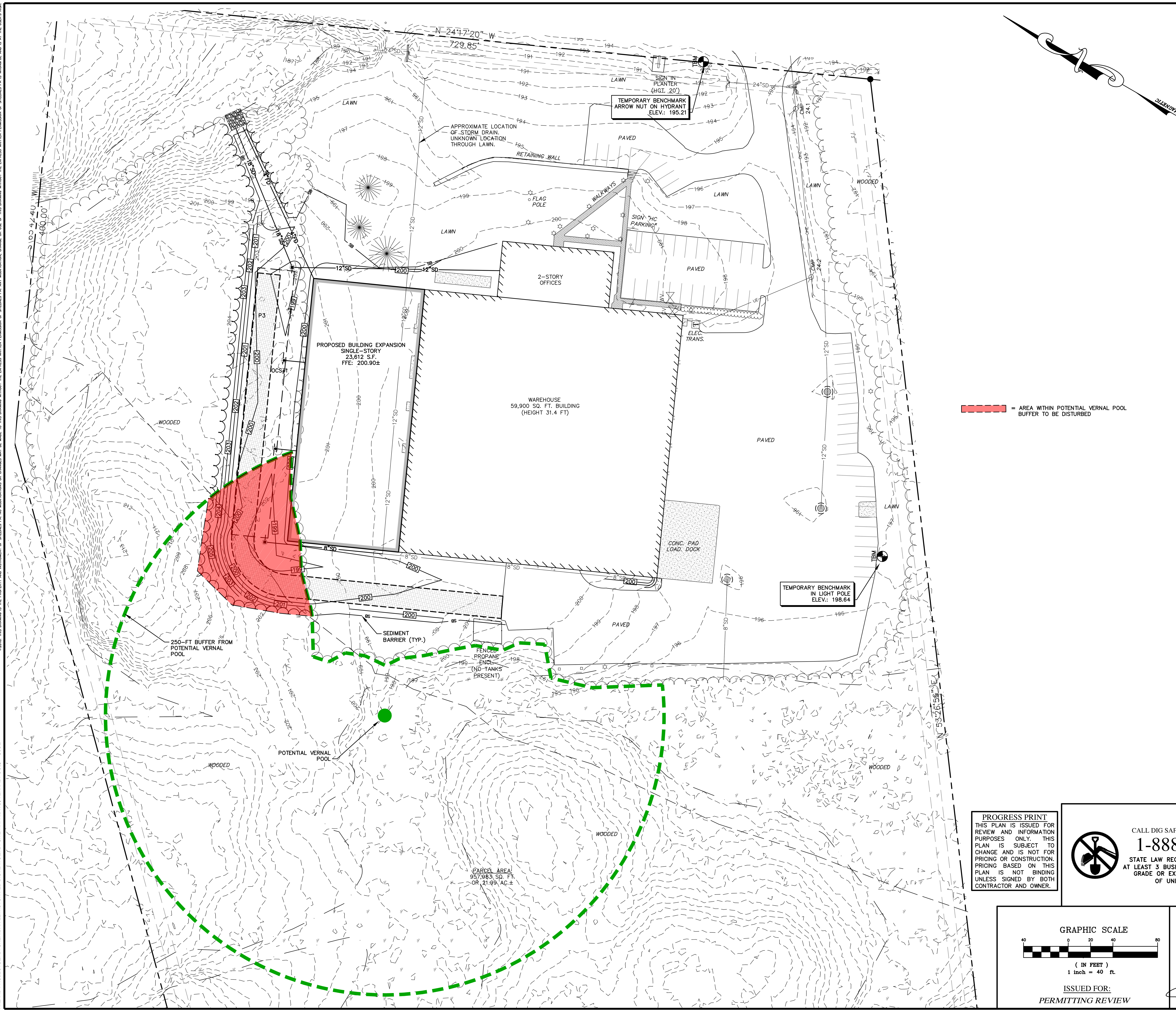
Dear Sir or Madam,

Please accept this letter as a financial reference for John Cronin and Federal Distributors, Inc. All loan and deposit accounts that John and his company have at Mechanics Savings Bank have been handled as agreed, and based on my experience, both have the financial capacity and backing to complete the project.

Please let me know if you need any other information.

Sincerely,

Jeffrey R. Gosselin
Senior Vice President



2.	03-16-18	SUBMITTED TO MDEP FOR NRPA PBR	JJM
1.	03-06-18	SUBMITTED TO CITY OF LEWISTON	JJM

PROGRESS PRINT
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

CALL DIG SAFE — UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

TITLE:
VERNAL POOL BUFFER PLAN

PROJECT:
FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

ISSUED FOR:
PERMITTING REVIEW

STATE OF MAINE — CURTIS Y. NEUFELD — 9779 — LICENSED — PROFESSIONAL ENGINEER
03-16-18

SITELINES, PA
ENGINEERS • PLANNERS • SURVEYORS
8 CUMBERLAND STREET, BRUNSWICK, ME 04011
207.725.1200 www.sitelinespa.com

FIELD WK: MC/CR	SCALE: 1"=40'	SHEET:
DRN BY: JJM	JOB #: 2714	1
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-SITE-NRPA	

March 16, 2018

2714-9

Ms. Dawn Hallowell
Licensing & Compliance Manager
Department of Environmental Protection
17 State House Station
Augusta, Maine 04333

RE: Application for NRPA Permit By Rule
Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston, Maine
Tax Map 46, Lot 12

Dear Dawn:

On behalf of Federal Distributors, Inc., please find enclosed an Application for a Natural Resources Protection Act (NRPA) Permit By Rule (PBR) for an activity within 250-feet of a potential significant vernal pool in Lewiston, Maine. This PBR is intended to permit construction of a building expansion and fire lane partially within a 250-feet buffer around a potential significant vernal pool. The location of the potential significant vernal pool, along with the area to be developed, is shown on the enclosed plans.

This application includes the following.

- This cover letter
- NRPA Permit By Rule Notification Form
- USGS location map
- Site photographs
- Application fee of $78
- It is also understood that photographs of the completed project and affected area will be submitted to the MDEP within 20 days of the activity's completion.

PROPERTY

Federal Distributors, Inc. owns a parcel located at 2019 Lisbon Street (Tax Map 46, Lot 12). The parcel contains approximately 21.99 acres and has frontage on Lisbon Street (Rt. 196). The property is located within the Highway Business (HB) Zoning District and within the Groundwater Conservation (GC) Overlay Zoning District. The existing parcel is currently developed with a large commercial building utilized as a distribution facility and office space.

SITE DESIGN

The applicant is proposing a 23,612 s.f. building expansion to the existing warehouse facility located on the site along with a new fire lane extended around the perimeter of the new building.

As part of the Site Law application process, facilitated through the City of Lewiston per their delegated authority status, letters were sent to multiple agencies for their input, including the Maine Department of Inland Fisheries and Wildlife. As part of their review, they recommended that a vernal pool survey be completed for the property to ensure that there were no adverse impacts to any critical habitat within the

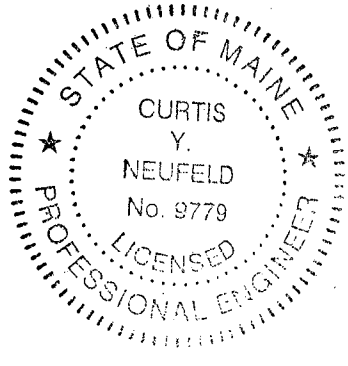
surrounding area. Based on discussions with wetlands biologist Tim Forrester with Atlantic Environmental, since the wetlands were delineated outside of the vernal pool survey season, he was not able to determine if there were any significant vernal pools located in the vicinity of the developed site. Based on his observations at the time of the delineation, there is the potential for a significant vernal pool located within the wetlands located southwesterly of the proposed building expansion.

At this time, the applicant is proposing a worst case scenario that the potential significant vernal pool is located at the wetland located closest to the new developed area. Within the 250-foot buffer from the potential significant vernal pool, there is a substantial area of previously developed area. Per *Chapter 305: Permit By Rule*, existing developed areas that were developed prior to September 1, 2007 are not included within the 250-foot buffer. Excluding the existing developed area, the remaining area within the 250-foot buffer includes 144,063 s.f. of undeveloped wooded area. Of this remaining wooded area, approximately 10,090 s.f., or 7% of the buffer area, will be developed as part of the building expansion and fire lane. Per Section 19(C)(2) of *Chapter 305: Permit by Rule*, a minimum of 75% of the area within a 250-foot radius of the vernal pool depression shall be maintained as unfragmented forest with at least a partly-closed canopy of over story trees to provide shade, deep litter, and woody debris. As indicated above, excluding the previously developed areas, 93% of the wooded area will be maintained as part of the proposed development.

This application is intended to permit construction of the proposed improvements prior to the vernal pool survey season. Tim Forrester with Atlantic Environmental will conduct a vernal pool survey during the season this spring, and the results will be submitted to the Department for their records and future reference.

Please don't hesitate to contact us if you should have any questions or require additional information. Thank you for your assistance with this project.

Very truly yours,



Curtis Y. Neufeld, P.E.
Vice President

Enclosures

cc: John Cronin, Federal Distributors, Inc.
David Whitney, Sheridan Corporation
David Hediger, City of Lewiston

04/06/2017

DEPARTMENT OF ENVIRONMENTAL PROTECTION
PERMIT BY RULE NOTIFICATION FORM

(For use with DEP Regulation, Natural Resouces Protection Act- Permit by Rule Standards, Chapter 305)

PLEASE TYPE OR PRINT IN *BLACK INK ONLY*

APPLICANT INFORMATION (Owner)		AGENT INFORMATION (If Applying on Behalf of Owner)	
Name:	Federal Distributors, Inc.	Name:	Sitelines, PA
Mailing Address:	PO Box 2007	Mailing Address:	8 Cumberland Street
Town:	Lewiston	Town:	Brunswick
State and Zip Code:	ME, 04241	State and Zip Code:	ME, 04011
Daytime Phone #:	N/A	Daytime Phone #:	207-725-1200
Email Address:	jcronin@federaldistributors.com	Email Address:	cneufeld@sitelinespa.com

PROJECT INFORMATION

Part of a larger project? (check one):	☐ Yes ■ No	After the Fact? (check one):	☐ Yes ■ No	Project involves work below mean low water? (check one):	☐ Yes ■ No	Name of waterbody:	
Project Town:	Lewiston	Project Location (Address):	2019 Lisbon St			Map & Lot Number:	46/12
Brief Project Description:	See Cover Letter						
Brief Directions to Site:	Heading North on Lisbon Street, Site is on left after Foss Road intersection.						

PERMIT BY RULE (PBR) SECTIONS (Check at least one): I am filing notice of my intent to carry out work which meets the requirements for Permit By Rule (PBR) under DEP Rules, Chapter 305. **I and my agents, if any, have read and will comply with all of the standards in the Sections checked below.**

- ☐ **Sec. (2) Act. Adj. to Protected Natural Res.**
- ☐ **Sec. (3) Intake Pipes**
- ☐ **Sec. (4) Replacement of Structures**
- ☐ **Sec. (5) REPEALED**
- ☐ **Sec. (6) Movement of Rocks or Vegetation**
- ☐ **Sec. (7) Outfall Pipes**
- ☐ **Sec. (8) Shoreline stabilization**
- ☐ **Sec. (9) Utility Crossing**
- ☐ **Sec.(10) Stream Crossing**
- ☐ **Sec. (11) State Transportation Facil.**
- ☐ **Sec. (12) Restoration of Natural Areas**
- ☐ **Sec. (13) F&W Creation/Enhance/Water Quality Improvement**
- ☐ **Sec. (14) REPEALED**
- ☐ **Sec. (15) Public Boat Ramps**
- ☐ **Sec. (16) Coastal Sand Dune Projects**
- ☐ **Sec. (17) Transfers/Permit Extension**
- ☐ **Sec. (18) Maintenance Dredging**
- ■ **Sec. (19) Activities in/on/over significant vernal pool habitat**
- ☐ **Sec. (20) Activities located in/on/over high or moderate value inland waterfowl & wading bird habitat or shorebird feeding & roosting areas**

NOTE: Municipal permits *may* also be required. Contact your local code enforcement office for more information. Federal permits may be required for stream crossings and for projects involving wetland fill. Contact the Army Corps of Engineers at the Maine Project Office for more information.

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS

- ■ ***Attach*** **all required submissions for the PBR Section(s) checked above. The required submissions for each PBR Section are outlined in Chapter 305 and may differ depending on the Section you are submitting under.**
- ■ ***Attach*** **a check for the correct fee made payable to: "Treasurer, State of Maine".The current fee for NRPA PBR Notifications can be found at the Department's website: http://www.maine.gov/dep/feesched.pdf**
- ■ ***Attach*** **a location map that clearly identifies the site (U.S.G.S. topo map, Maine Atlas & Gazetteer, or similar).**
- ■ ***Attach Proof of Legal Name*** **if applicant is a corporation, LLC, or other legal entity. Provide a copy of Secretary of State's *registration information* (available at http://icrs.informe.org/nei-sos-icrs/ICRS?MainPage=x) Individuals and municipalities are not required to provide any proof of identity.**

I authorize staff of the Departments of Environmental Protection, Inland Fisheries & Wildlife, and Marine Resources to access the project site for the purpose of determining compliance with the rules.

I also understand that this PBR becomes effective 14 calendar days after receipt by the Department *unless the Department approves or denies the PBR prior to that date.*

By signing this Notification Form, I represent that the project meets all applicability requirements and standards in the rule and that the applicant has sufficient title, right, or interest in the property where the activity takes place.

Signature of Agent or Applicant:	(AGENT)	Date:	3/15/2018

Keep a copy as a record of permit. Send the form with attachments via certified mail or hand deliver to the Maine Dept. of Environmental Protection **at the appropriate regional office listed below**. The DEP will send a copy to the Town Office as evidence of the DEP's receipt of notification. No further authorization by DEP will be issued after receipt of notice. Permits are valid for two years. **Work carried out in violation of any standard is subject to enforcement action.**

AUGUSTA DEP
17 STATE HOUSE STATION
AUGUSTA, ME 04333-0017
(207)287-7688

PORTLAND DEP
312 CANCO ROAD
PORTLAND, ME 04103
(207)822-6300

BANGOR DEP
106 HOGAN ROAD
BANGOR, ME 04401
(207)941-4570

PRESQUE ISLE DEP
1235 CENTRAL DRIVE
PRESQUE ISLE, ME 04769
(207)764-0477

OFFICE USE ONLY	Ck.#		Staff	Staff	
PBR #	FP	Date	Acc. Date	Def. Date	After Photos

February 22, 2018

2714-2

John Cronin
Federal Distributors Inc.
2075 Lisbon Rd.
Lewiston, ME 04241

Re: Designation of Agent Authorization
Federal Distributors, Inc.
Lisbon Road (Route 196), Lewiston, Maine
Tax Map 46, Lot 12

Dear John:

As required by various approval agencies, please indicate by signing below that Sitelines, PA is authorized to act as your agent for the specific purpose of preparation and submission of local permitting applications on your behalf for the proposed building addition for Federal Distributors, Inc. at 2075 Lisbon Road (Route 196), Lewiston, Maine.

Sincerely,

Curtis Y. Neufeld, P.E.
Vice President

The undersigned hereby gives Sitelines, PA the authority to act as agent for Federal Distributors Inc. for the specific purpose of preparation and submission of local and state permitting applications for the project specifically identified above (Sitelines Project Number 2714).

John Cronin — Date: 21 February, 2018

MAINE

Department of the Secretary of State

Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Fri Feb 23 2018 15:28:08. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
FEDERAL DISTRIBUTORS, INC.	19470029 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
03/05/1947	N/A	MAINE

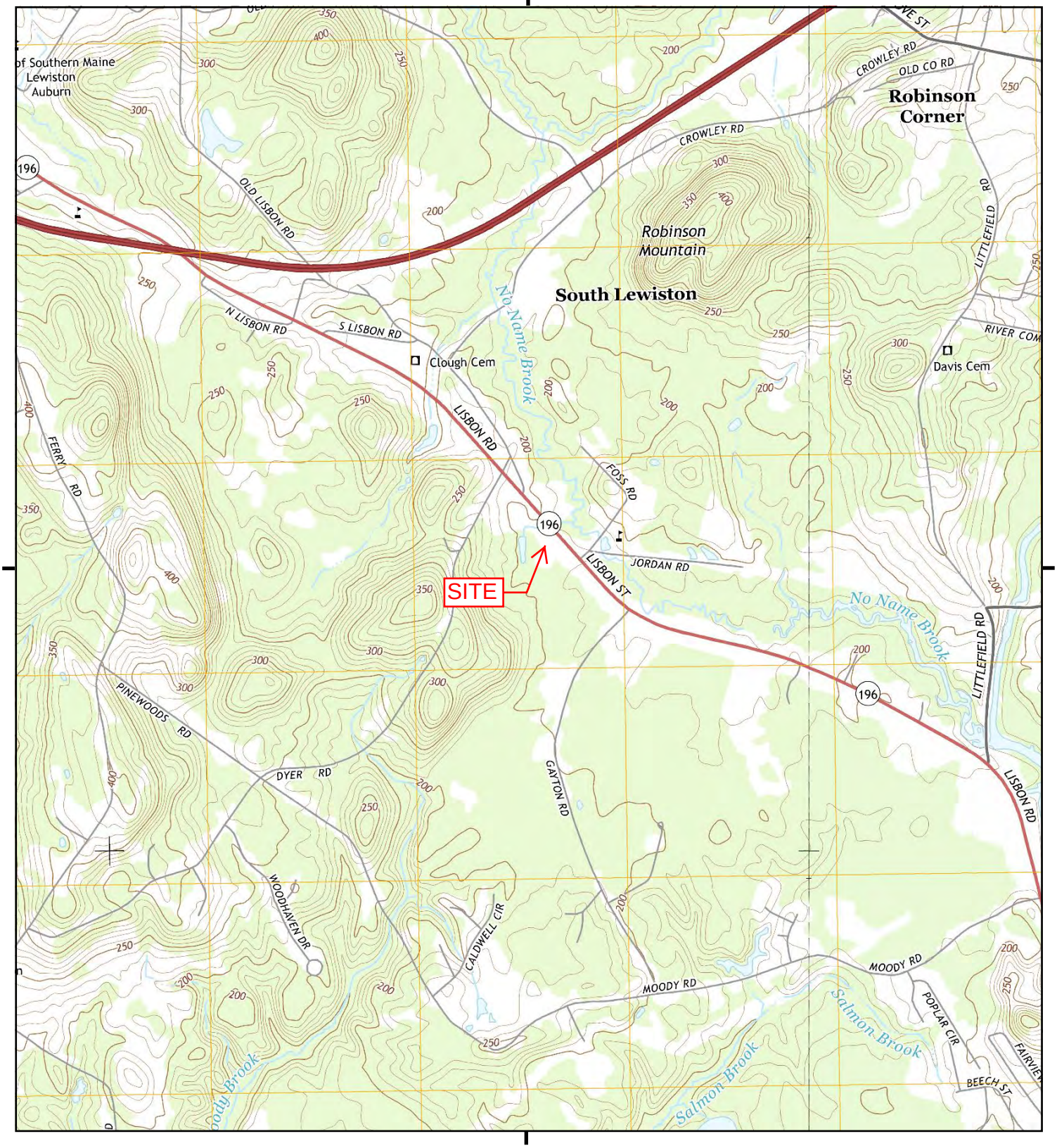
Other Names	(A=Assumed ; F=Former)
NONE	

Clerk/Registered Agent

JOHN E. CRONIN
2075 LISBON RD PO BOX 2007
LEWISTON, ME 04241 2007

Historical Topo Map

2014



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lewiston, 2014, 7.5-minute
E, Lisbon Falls North, 2014, 7.5-minute

SITE NAME: Federal Distributors
ADDRESS: 2019 Lisbon Street
LEWISTON, ME 04240
CLIENT: SITELINES, PA

N

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

1. WESTERN SIDE OF BUILDING – LOCATION OF BUILDING EXPANSION

2. REAR OF BUILDING – LOCATION OF NEW FIRE LANE

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

3. AREA OF POTENTIAL SIGNIFICANT VERNAL POOL

City of Lewiston, Maine

SITE PLAN AMENDMENT
FEDERAL DISTRIBUTORS
BUILDING EXPANSION
2019 Lisbon Street
Lewiston, Maine

Prepared For

Federal Distributors, Inc.
PO Box 2007
Lewiston, Maine 04241

Prepared By

Sitelines P.A.
8 Cumberland Street
Brunswick, Maine 04011

March 6, 2018

Table of Contents

March 20, 2018

2714-7

Mr. David Hediger
Deputy Director
City of Lewiston
27 Pine Street
Lewiston, Maine 04240

Re: Site Plan Amendment
Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston
Map 46 - Lot 12

Dear David:

On behalf of Federal Distributors, Inc., please find enclosed seven (7) copies of a Site Plan Amendment for a proposed building expansion located at 2019 Lisbon Street. This application includes this letter, the application form, the application checklist, and associated drawings and attachments. This letter is intended to summarize the project to facilitate the review process.

PROPERTY

Federal Distributors, Inc. owns a parcel located at 2019 Lisbon Street (Tax Map 46, Lot 12). The parcel contains approximately 21.99 acres and has frontage on Lisbon Street (Rt. 196). The property is located within the Highway Business (HB) Zoning District and within the Groundwater Conservation (GC) Overlay Zoning District. The existing parcel is currently developed with a large commercial building utilized as a distribution facility and office space. The existing development includes approximately 147,012 s.f. (3.37 acres) of impervious area.

SITE DESIGN

The applicant is proposing a 23,612 s.f. building expansion to the existing warehouse facility located on the site along with a new fire lane extended around the perimeter of the new building. The proposed development will result in approximately 180,216 s.f. (4.14 acres) of impervious area, or an increase of 33,204 s.f. (0.76 acres) of impervious area.

The building expansion will be served by internally extending the utilities that serve the existing building. The existing parking areas located on the property provide 56 parking spaces for the building. Per the Lewiston Zoning Ordinance, based on the size of the building, including the proposed expansion, 92 parking spaces is required for the project. Based on the current usage of the property, and the anticipated increase in staffing for the proposed expansion, the owner is satisfied that the 56 parking spaces will provide adequate parking. As such, the applicant requests a waiver from the parking requirements outlined within the Lewiston Zoning Ordinance.

Per discussions with the City, as the existing and proposed impervious areas result in more than three (3) acres of impervious area, the new impervious area will need to meet the requirements of a Site Location of Development Act (SLODA) permit. Since the City has delegated authority from the Maine Department of Environmental Protection (MDEP) for SLODA applications, all permitting for the project will be directed through the City review process.

APPROVAL CRITERIA

To facilitate review of this application, the following issues are summarized in accordance with *Article XIII-Approval Criteria* of the Zoning and Land Use Code:

(a) Utilization of the site: The proposed building expansion is located primarily within previously developed areas. As part of the proposed improvements, environmentally sensitive areas have been preserved to the maximum extent practicable and natural drainage areas have been preserved.

(b) Traffic movement into and out of the development area: The proposed building expansion is entirely warehouse space and is intended to provide additional storage space to meet the current needs of the business. The proposed expansion is not anticipated to result in any increase in employees and is not anticipated to result in any increase in traffic into the site. A Traffic Memorandum has been generated based on ITE trip generation rates indicating that the proposed expansion does not result in 100 or more passenger car equivalents during any peak hour.

(c) Access into the site: The existing development has a full access entrance onto Lisbon Street (Route 196) that provides adequate sight distance, as well as adequate access for their delivery vehicles and any emergency vehicles. No changes are proposed to the existing access entrance.

(d) Internal vehicular circulation: There are no changes proposed to the internal vehicular circulation of the existing site. There is a large maneuvering area adjacent to the existing loading docks that provide adequate space for the delivery vehicles. There is a new fire lane proposed to extend around the rear of the building. This fire lane has been designed to accommodate the turning radius of a fire apparatus.

(e) Pedestrian circulation: There are no changes proposed to the pedestrian circulation of the existing site. There are two parking areas located between the building and Lisbon Street, with walkways provided to the front entrance. As there are no sidewalks along Lisbon Street, and the use of the building does not warrant public access, there are no sidewalks extending from the site to Lisbon Street.

(f) Stormwater management: As part of the project, a subsurface sand filter will be constructed to treat the stormwater runoff from the new fire lane, proposed building expansion, and the existing building. The subsurface sand filter system has been sized to

detain the stormwater runoff to ensure that post-development stormwater peak runoff rates are lower than pre-development stormwater peak runoff rates at the existing culvert beneath Lisbon Street. A Stormwater Management Plan, with associated drawings and stormwater models, has been submitted as part of a separate application addressing the SLODA application requirements from MDEP.

(g) *Erosion control:* The disturbed areas of the site will be isolated through the use of silt sock and other measures to minimize the transport of sediment from the site. The project has been designed to incorporate Best Management Practices as outlined in the Maine Erosion and Sediment Control BMPs as published by the Maine Department of Environmental Control, current edition. Specific provisions for permanent and temporary erosion control features have been provided in the construction drawings. The contractor will be bound to meet the performance standards of the BMPs including erosion control, stabilization, maintenance, and inspection requirements.

(h) *Water supply:* The existing building utilizes water services from the water main within Lisbon Street. The existing water service will be extended internally to serve the building expansion.

(i) *Sewage disposal:* The existing building utilizes a sewer service from the sewer main within Lisbon Street. The existing sewer service will be extended internally to serve the building expansion.

(j) *Utilities:* The existing electrical and telephone services will be extended internally to serve the building expansion.

(k) *Natural features:* The proposed building expansion is located primarily within area that was previously lawn. In order to install the fire lane around the perimeter of the new building, a swath of wooded area will need to be removed on the northern side of the development. None of the landscaping between the existing building and Lisbon Street will need to be removed as part of the proposed improvements. No wetlands will be disturbed as part of the project.

(l) *Groundwater protection:* The existing building and proposed expansion will be served by a sewer service from the sewer main within Lisbon Street. The proposed stormwater management system will be underdrained and discharge stormwater runoff to the existing culvert beneath Lisbon Street. There are no adverse impacts anticipated to the groundwater as a result of the proposed improvements.

(m) *Water and air pollution:* As the project consists of a warehouse for a distribution facility and office space, there is no air pollution anticipated as a result of the development. The stormwater runoff from the new impervious area created as a result of the proposed expansion will be collected and treated in accordance with MDEP standards. As a result, there is no undue water pollution anticipated due to the proposed improvements.

(n) Exterior lighting: There are existing lights located throughout the development. There are no new light fixtures proposed as part of building expansion.

(o) Waste disposal: There is an existing dumpster located at the rear of the existing building. The dumpster will be relocated to avoid any conflicts with the proposed fire lane. As the dumpster is fully screened from Lisbon Street by the existing building, and is not visible from any adjacent parcels, there is no additional screening proposed for the dumpsters.

(p) Lot layout: This criteria is not applicable as the project is not residential.

(q) Landscaping: The existing landscaping located between the building and Lisbon Street is fully mature, and, based on discussions with City staff, meets the intent of the Lewiston Site Plan Review and Design Guidelines. There is no additional landscaping proposed for the development.

(r) Shoreland relationship: There are no water bodies or shoreland within, or adjacent to, the project site.

(s) Open space: This criteria is not applicable as the project is not residential.

(t) Technical and financial capacity: A letter from their funding source indicating funds available and their past banking relationship with the Applicant will be submitted under separate cover.

The design team, led by Sitelines, PA, has extensive experience planning, designing, and gaining approvals for commercial development projects throughout the state, including the Sam's Restaurant and Coastal Orthopedics facility at Cooks Corner in Brunswick.

(u) Buffering: The parcel is located within a commercial/industrial area that has similar uses on the adjacent parcels. The outside storage and dumpster areas are located at the rear of the building and are screened from Lisbon Street and the existing buildings on adjacent parcels.

(v) Compliance with district regulations: The project has been designed to meet the district regulations as outlined within the Ordinance.

(w) Design consistent with performance standards: The project has been designed to meet the performance standards as outlined within the Ordinance.

To facilitate review of this application, the following issues are summarized in accordance with *Article XI-Section 24(1)(g): Additional Standards* of the Zoning and Land Use Code for uses within the Groundwater Conservation Overlay District:

(1) *Timber Harvesting:* As part of the proposed development, a small amount of trees will need to be removed to construct the new fire lane, but the anticipated removal of trees is significantly less than 50 percent of the volume of trees over four inches in diameter on the parcel. There will be no burning of slash on the property.

(2) *Agriculture:* There is no land application of sludge or spray irrigation of industrial wastewater or sewage proposed as part of the development. No manure spreading is proposed as part of the development.

(3) *Animal Husbandry:* There is no animal husbandry proposed as part of the development.

(4) *Impervious Surface:* A portion of the parcel, along the frontage of Lisbon Street, is located within the Groundwater Conservation Overlay District. Based on conversations with City Staff, the requirement for a maximum impervious surface ratio of 0.25 would be applied to the site as whole. As shown on Sheet C2 – Site Layout Plan, the impervious surface coverage for the parcel, including the proposed development, is 0.09. As we are not requesting an impervious surface ratio of greater than 0.25, a groundwater study is not required for the project.

(5) *Industrial and Commercial Uses:* The facility handles any hazardous materials on site in conformance with local, State, and Federal standards. There are no interior floor drains within the existing or proposed building. The dumpsters, which are currently located on the site, are fully enclosed. There is currently an area of temporary storage of wooden pallets located adjacent to the dumpsters. While these pallets are located outside of the enclosed dumpsters, they do not represent a possible source of groundwater contamination.

(6) *Subsurface Wastewater Disposal Systems:* The existing and proposed building expansion is serviced by the public sewer within Lisbon Street and there are no known subsurface wastewater disposal systems located on the parcel.

(7) *Earth Mineral Extraction:* There is no earth mineral extraction proposed as part of the development.

(8) *Pesticides and Herbicides:* There are no pesticides or herbicides utilized as part of the proposed development.

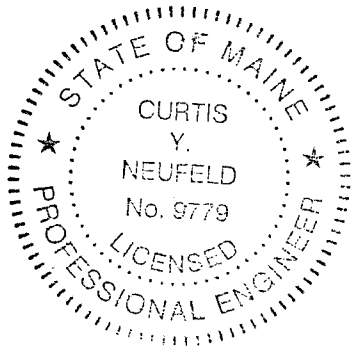
(9) *Development Approval:* Per conversations with the City Planning Department, due to the limited disturbance within the Groundwater Conservation Overlay District, a groundwater protection plan is not warranted for the proposed development. As indicated elsewhere in this letter, all stormwater runoff from the building expansion, fire lane, and the existing building, will be directed to a subsurface sand filter for detention and treatment prior to discharge to the wetland adjacent to the 36-inch culvert directed beneath Lisbon Street. Due to the type of soils and depth of the seasonal high groundwater table, the proposed

subsurface sand filter will be constructed with a 30 mil PVC impermeable liner to prevent any infiltration of the stormwater runoff or possible contamination of the groundwater.

We trust that this information satisfactorily addresses the requirements for Site Plan approval. We look forward to meeting with the Planning Board at their earliest convenience to discuss and approve the project. If you have any questions or require additional information, please do not hesitate to call. Thank you for your assistance with this project.

Very Truly Yours,

Curtis Y. Neufeld, P.E.
Vice-President



Enclosures

cc: John Cronin, Federal Distributors, Inc.
David Whitney, Sheridan Corporation

Attachment A
Application Form & Agent Authorization

A completed copy of the Development Review Application form is enclosed. A letter from the Applicant authorizing Sitelines, PA to act as their agent is also enclosed.

Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

PROJECT NAME: Proposed Building Expansion

PROPOSED DEVELOPMENT ADDRESS: 2019 Lisbon Street

PARCEL ID#: 046/012

REVIEW TYPE: **Site Plan/Special Exception** □ **Site Plan Amendment** ■
Subdivision □ **Subdivision Amendment** □

PROJECT DESCRIPTION: Refer to Cover Letter

CONTACT INFORMATION:

Applicant	**Property Owner**
Name: Federal Distributors, Inc.	**Name:** Same as Applicant
Address: PO Box 2007, Lewiston, ME	**Address:** N/A
Zip Code 04241	**Zip Code** N/A
Work #: N/A	**Work #:** N/A
Cell #: N/A	**Cell #:** N/A
Fax #: N/A	**Fax #:** N/A
Home #: N/A	**Home #:** N/A
Email: jcronin@federaldistributors.com	**Email:** N/A
Project Representative	**Other professional representatives for the project (surveyors, engineers, etc.),**
Name: Sitelines, PA Attn: Curtis Y. Neufeld, P.E.	**Name:** The Sheridan Corporation
Address: 8 Cumberland Street, Brunswick, ME	**Address:** 33 Sheridan Drive, Fairfield, ME
Zip Code 04011	**Zip Code** 04937
Work #: 207-725-1200 Ext. 18	**Work #:** 207-774-6138
Cell #: N/A	**Cell #:** N/A
Fax #: 207-725-1114	**Fax #:** N/A
Home #: N/A	**Home #:** N/A
Email: cneufeld@sitelinespa.com	**Email:** N/A

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	147,012	sq. ft.
Proposed Total Paved Area	96,724	sq. ft.
Proposed Total Impervious Area	180,216	sq. ft.
Proposed Impervious Net Change	33,204	sq. ft.
Impervious surface ratio existing	15.3%	% of lot area
Impervious surface ratio proposed	18.8%	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	59,900	sq. ft.
Proposed Building Footprint	83,512	sq. ft.
Proposed Building Footprint Net change	23,612	sq. ft.
Existing Total Building Floor Area	59,900	sq. ft.
Proposed Total Building Floor Area	83,512	sq. ft.
Proposed Building Floor Area Net Change	23,612	sq. ft
New Building	No (Expansion)	(yes or no)
Building Area/Lot coverage existing	6.3	% of lot area
Building Area/Lot coverage proposed	8.7	% of lot area

ZONING

Existing	Highway Business
Proposed, if applicable	N/A

LAND USE

Existing	Industrial
Proposed	Industrial

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	N/A
Proposed Number of Residential Units	N/A
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	56
Proposed Number of Parking Spaces	56
Required Number of Parking Spaces	92 *Waiver Requested
Number of Handicapped Parking Spaces	1

ESTIMATED COST OF PROJECT

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	147,012	sq. ft.
Proposed Disturbed Area	68,652	sq. ft.
Proposed Impervious Area	180,216	sq. ft.

1. ***If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.***
2. ***If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.***
3. ***If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.***
4. ***If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.***

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 40 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 54 passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the Highway Business (HB) zoning district.
2. Parcel Area: 21.99 acres / 957,983 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	None	21.99 ac
Street Frontage	150'	729.85'
Min Front Yard	15'	46'
Min Rear Yard	10'	625'
Min Side Yard	10'	37'
Max. Building Height	65'	
Use Designation	Warehouse/Office	
Parking Requirement	1 space/ per ____ square feet of floor area	
Total Parking:	92	56
Overlay zoning districts (if any):	Groundwater Protection District	
Urban impaired stream watershed?	YES (NO) If yes, watershed name ____	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each Citys ordinances are available online at their prospective websites:
Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/Zoning Ordinance
Lewiston: http://www.ci.lewiston.me.us/clerk/ordinances.htm. Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review only; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	Date:
	3/20/2018

Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: Proposed Building Expansion

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 2019 Lisbon Street/46-12

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	X			
	Names of Development	X			
	Professionally Prepared Plan	X			
	Tax Map or Street/Parcel Number	X			
	Zoning of Property	X			
	Distance to Property Lines	X			
	Boundaries of Abutting land	X			
	Show Setbacks, Yards and Buffers	X			
	Airport Area of Influence (Auburn only)	N/A			
	Parking Space Calcs	X			
	Drive Openings/Locations	X			
	Subdivision Restrictions	N/A			
	Proposed Use	X			
	PB/BOA/Other Restrictions	X			
	Fire Department Review	X			
	Open Space/Lot Coverage	N/A			
	Lot Layout (Lewiston only)	X			
	Existing Building (s)	X			
	Existing Streets, etc.	X			
	Existing Driveways, etc.	X			
	Proposed Building(s)	X			
	Proposed Driveways	X			
Landscape Plan					
	Greenspace Requirements	N/A			
	Setbacks to Parking	N/A			
	Buffer Requirements	N/A			
	Street Tree Requirements	N/A			
	Screened Dumpsters	N/A			
	Additional Design Guidelines	N/A			

	Planting Schedule	N/A			
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	X			
	Show Existing Surface Drainage	X			
	Direction of Flow	X			
	Location of Catch Basins, etc.	X			
	Drainage Calculations	X			
	Erosion Control Measures	X			
	Maine Construction General Permit	X			
	Bonding and Inspection Fees	X			
	Post-Construction Stormwater Plan	X			
	Inspection/monitoring requirements	X			
	Third Party Inspections (Lewiston only)	X			
Lighting Plan					
	Full cut-off fixtures	N/A			
	Meets Parking Lot Requirements	N/A			
Traffic Information					
	Access Management	X			
	Signage	N/A			
	PCE - Trips in Peak Hour	X			
	Vehicular Movements	X			
	Safety Concerns	N/A			
	Pedestrian Circulation	X			
	Police Traffic	X			
	Engineering Traffic	X			
Utility Plan					
	Water	X			
	Adequacy of Water Supply	N/A			
	Water main extension agreement	N/A			
	Sewer	X			
	Available city capacity	N/A			
	Electric	X			
	Natural Gas	X			
	Cable/Phone	X			
Natural Resources					
	Shoreland Zone	N/A			
	Flood Plain	X			
	Wetlands or Streams	X			
	Urban Impaired Stream	N/A			
	Phosphorus Check	N/A			
	Aquifer/Groundwater Protection	X			
	Applicable State Permits	X			
	No Name Pond Watershed (Lewiston only)	N/A			

	Lake Auburn Watershed (Auburn only)	N/A			
	Taylor Pond Watershed (Auburn only)	N/A			
Right Title or Interest					
	Verify	X			
	Document Existing Easements, Covenants, etc.	X			
Technical & Financial Capacity					
	Cost Est./Financial Capacity	X			
	Performance Guarantee	X			
State Subdivision Law					
	Verify/Check	N/A			
	Covenants/Deed Restrictions	N/A			
	Offers of Conveyance to City	N/A			
	Association Documents	N/A			
	Location of Proposed Streets & Sidewalks	N/A			
	Proposed Lot Lines, etc.	N/A			
	Data to Determine Lots, etc.	N/A			
	Subdivision Lots/Blocks	N/A			
	Specified Dedication of Land	N/A			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)	N/A			
	Multi-Unit Residential Development (Lewiston only)	N/A			
	Mobile Home Parks	N/A			
	Private Commercial or Industrial Subdivisions (Lewiston only)	N/A			
	PUD (Auburn only)	N/A			
A jpeg or pdf of the proposed site plan		X			
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving		X			

February 22, 2018

2714-2

John Cronin
Federal Distributors Inc.
2075 Lisbon Rd.
Lewiston, ME 04241

Re: Designation of Agent Authorization
Federal Distributors, Inc.
Lisbon Road (Route 196), Lewiston, Maine
Tax Map 46, Lot 12

Dear John:

As required by various approval agencies, please indicate by signing below that Sitelines, PA is authorized to act as your agent for the specific purpose of preparation and submission of local permitting applications on your behalf for the proposed building addition for Federal Distributors, Inc. at 2075 Lisbon Road (Route 196), Lewiston, Maine.

Sincerely,

Curtis Y. Neufeld, P.E.
Vice President

The undersigned hereby gives Sitelines, PA the authority to act as agent for Federal Distributors Inc. for the specific purpose of preparation and submission of local and state permitting applications for the project specifically identified above (Sitelines Project Number 2714).

John Cronin — Date: 21 February, 2018

Attachment B
Right, Title, and Interest

A copy of the deed has been enclosed.

Bk 8930 Pg32 #8361
06-16-2014 @ 12:42p

DEED OF SALE BY PERSONAL REPRESENTATIVE
(TESTATE)

PAUL B. CRONIN, duly appointed and acting personal representative of the estate of Joseph S. Cronin, as shown by the probate records of Androscoggin County, Maine, Docket Number 2013-436, and not having given notice to each person succeeding to an interest in the real property described below at least ten (10) days prior to the sale, such notice not being required under the terms of the decedent's will, by the power conferred by the Probate Code, and every other power, for consideration paid grants to **FEDERAL DISTRIBUTORS, INC.**, of Lewiston, Androscoggin County, Maine, two certain lots or parcels of land with the buildings thereon in the City of Lewiston, County of Androscoggin, State of Maine situated on both sides of the Lisbon Road, A.K.A. Route 196, being more particularly described on the attached Exhibit A.

MAINE REAL ESTATE TRANSFER TAX PAID

For source of title see deed from Melvin Newendyke and Roger C. Barton, Personal Representatives of the Estate of Harry G. Crowley to Paulette B. Cronin, as life tenant, and Joseph S. Cronin, as remainderman, dated May 26, 1988 and recorded in the Androscoggin County Registry of Deeds in Book 2260, Page 91. Paulette B. Cronin, the named life tenant, died September 9, 2005.

Title not searched; description not verified.

WITNESS my hand and seal this 11th day of June, 2014.

Witness

Paul B. Cronin, Personal Representative of
Estate of Joseph S. Cronin

STATE OF MAINE
ANDROSCOGGIN, ss.

The foregoing instrument was acknowledged before me this 11th day of June, 2014, by Paul B. Cronin, in his said capacity as personal representative of the estate of Joseph S. Cronin.

Notary Public

SEAL

Jill A. Checkoway
Printed Name of Notary Public
My Commission Expires: 3/5/2016

H:\DOCS\CHECKOWAY\Cronin, Joseph eo\Deed of Sale.doc

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

Attachment C
Abutting Property Owners

A listing of the abutting property owners is included for reference.

ABUTTING PROPERTY OWNERS

MAP-46 LOT-7
BAUER, EDWARD W. III
48 DYER ROAD
LEWISTON, ME 04240

MAP-46 LOT-11
DENTURE VENTURE LLC
319 RIDGE ROAD
WALES, ME 04280

MAP-46 LOT-13
PATHWAY VINEYARD CHURCH
PO BOX 1610
LEWISTON, ME 04241

MAP-46 LOT-23
BUTLER REALTY LP
PO BOX 1375
LEWISTON, ME 04243

Attachment D
Supporting Documents

This attachment includes supporting correspondence including a Traffic Memorandum based on ITE trip generation rates.

Proposed Building Expansion
2019 Lisbon Street, Lewiston, Maine
Traffic Analysis

This memorandum is written to summarize the trip generation analysis for the existing warehouse and distribution facility and the proposed building expansion in Lewiston, Maine. Trip generation calculations were completed for the development according to Maine DOT guidelines.

The trip rates for the existing building were calculated based on the Institute of Traffic Engineers (ITE) "Trip Generation, 7th Edition" data for Land Use Code 150, Warehousing. The greatest number of trips was estimated during the AM and PM peak hours on weekdays.

Existing Traffic Generation – Warehousing (LUC 150)

Time Period	Avg. Rate	Area	Trip-Ends
Weekday AM Peak Hour - Generator	0.57	64.9	36.99
Weekday PM Peak Hour - Generator	0.61	64.9	39.59
Saturday Peak Hour – Generator	0.12	64.9	7.79

The proposed building expansion will consist of 23,612 s.f. of additional warehouse space. Trip generation calculations were completed for according to Maine DOT guidelines. The trip rates for the proposed building expansion were calculated based on the Institute of Traffic Engineers (ITE) "Trip Generation, 7th Edition" data for Land Use Code 150, Warehousing. The greatest number of trips were estimated during the AM and PM peak hours on weekdays.

Proposed Traffic Generation – Warehousing (LUC 150)

Time Period	Avg. Rate	Area	Trip-Ends
Weekday AM Peak Hour - Generator	0.57	88.5	50.45
Weekday PM Peak Hour - Generator	0.61	88.5	53.99
Saturday Peak Hour – Generator	0.12	88.5	10.62

As can be seen, using ITE values, neither the existing building, or proposed building expansion will result in 100 or more passenger car equivalents trips during any peak hour of traffic generation. Thus, no Traffic Movement Permit or other permits are required from the Maine DOT.

Warehousing
(150)

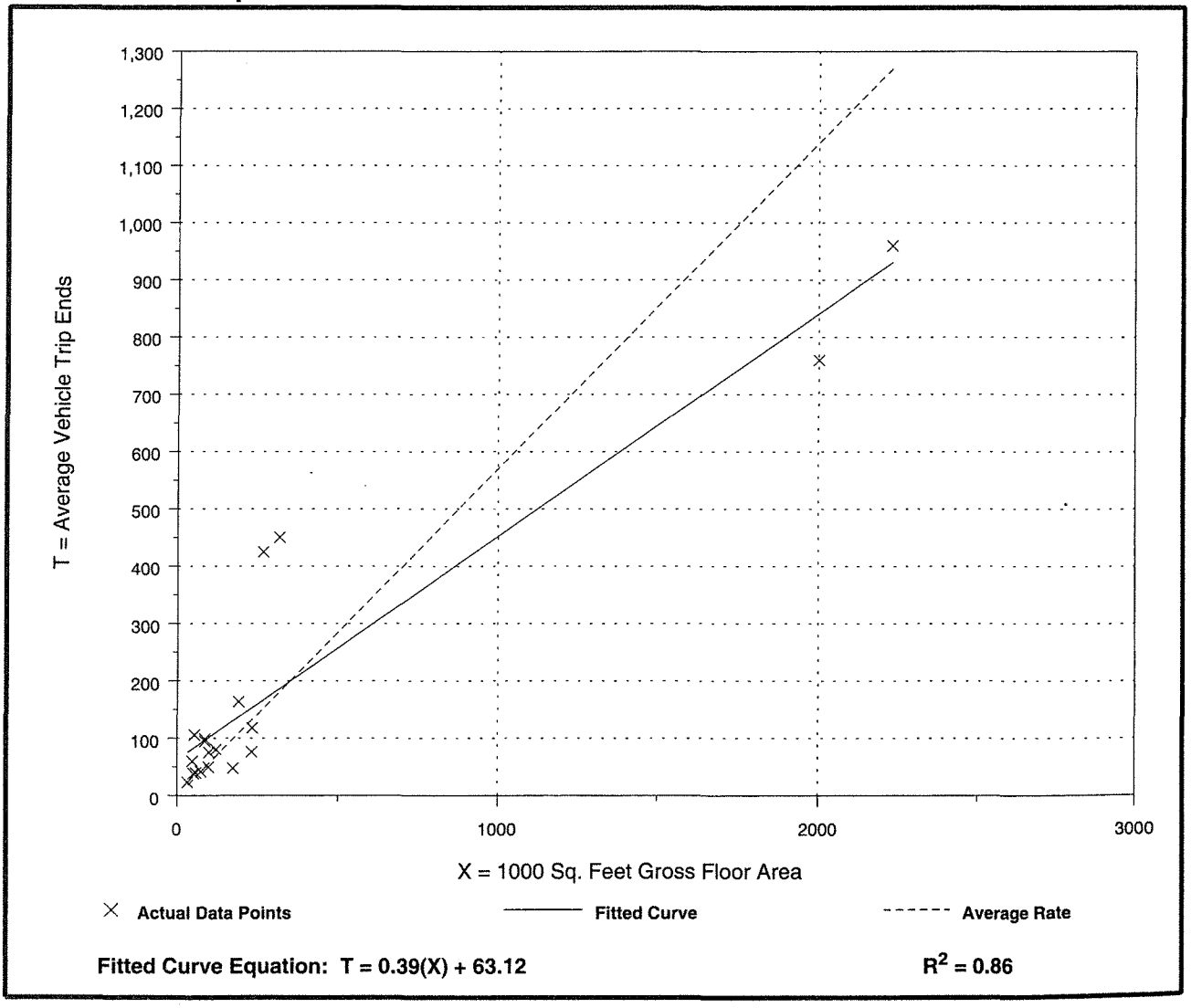
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
A.M. Peak Hour of Generator

Number of Studies: 19
Average 1000 Sq. Feet GFA: 340
Directional Distribution: 59% entering, 41% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.57	0.28 - 1.93	0.84

Data Plot and Equation



Fitted Curve Equation: T = 0.39(X) + 63.12

R^2 = 0.86

Warehousing
(150)

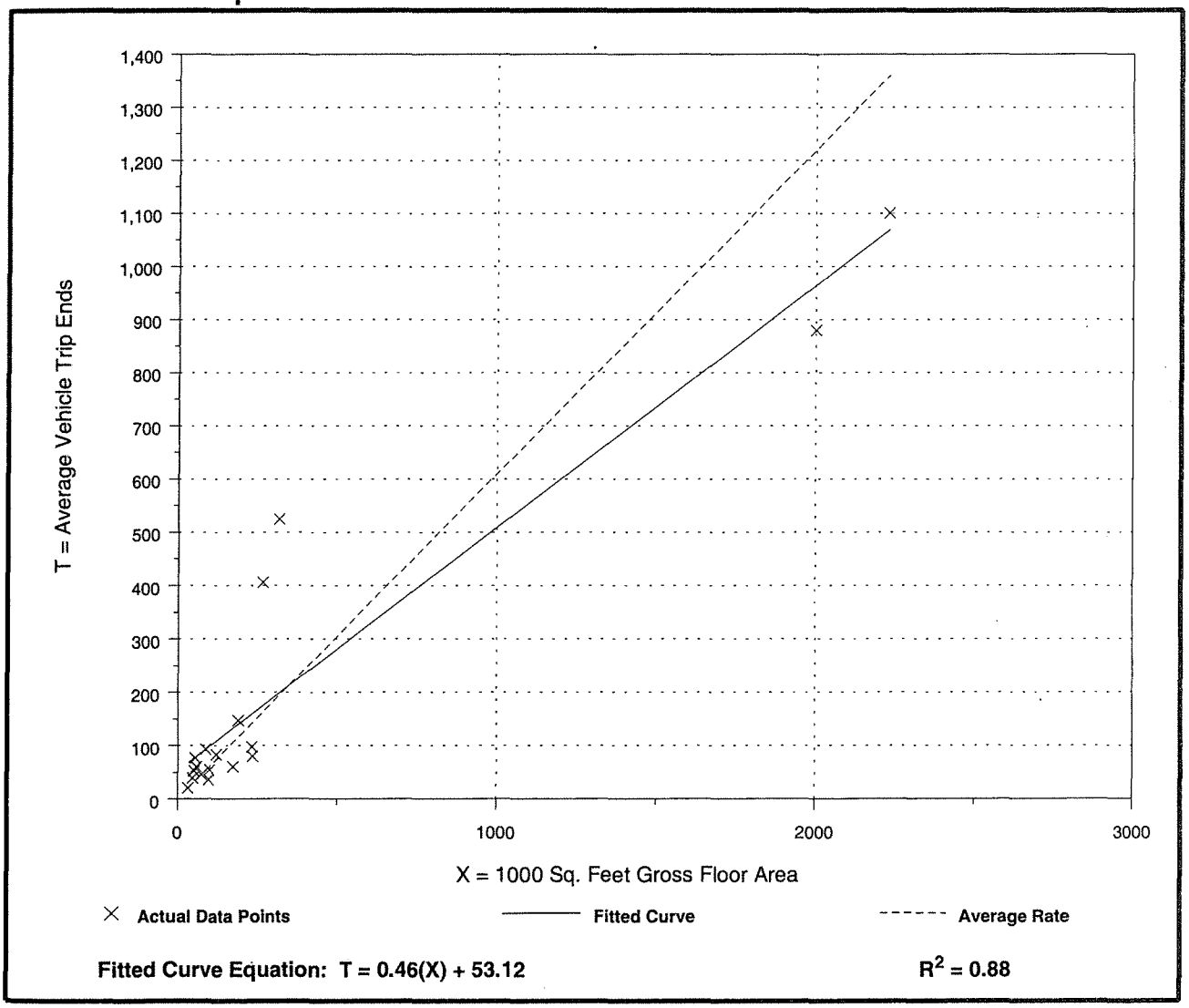
Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 18
Average 1000 Sq. Feet GFA: 354
Directional Distribution: 8 % entering, 92% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.61	0.34 - 1.65	0.85

Data Plot and Equation



Fitted Curve Equation: T = 0.46(X) + 53.12

R^2 = 0.88

Warehousing
(150)

Average Vehicle Trip Ends vs: 1000 Sq. Feet Gross Floor Area
On a: Saturday,
Peak Hour of Generator

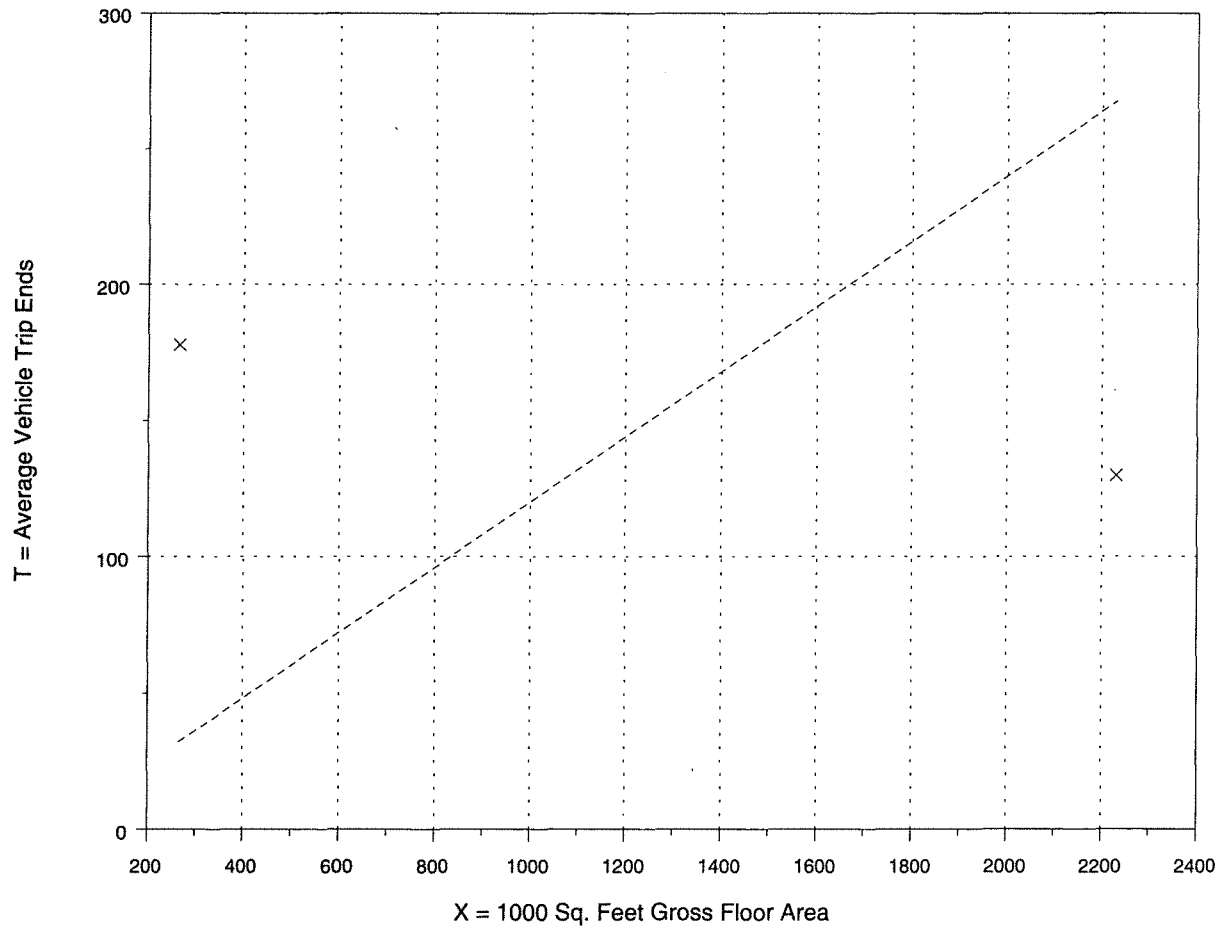
Number of Studies: 2
Average 1000 Sq. Feet GFA: 1,249
Directional Distribution: 64% entering, 36% exiting

Trip Generation per 1000 Sq. Feet Gross Floor Area

Average Rate	Range of Rates	Standard Deviation
0.12	0.06 - 0.67	*

Data Plot and Equation

Caution - Use Carefully - Small Sample Size



Fitted Curve Equation: Not given

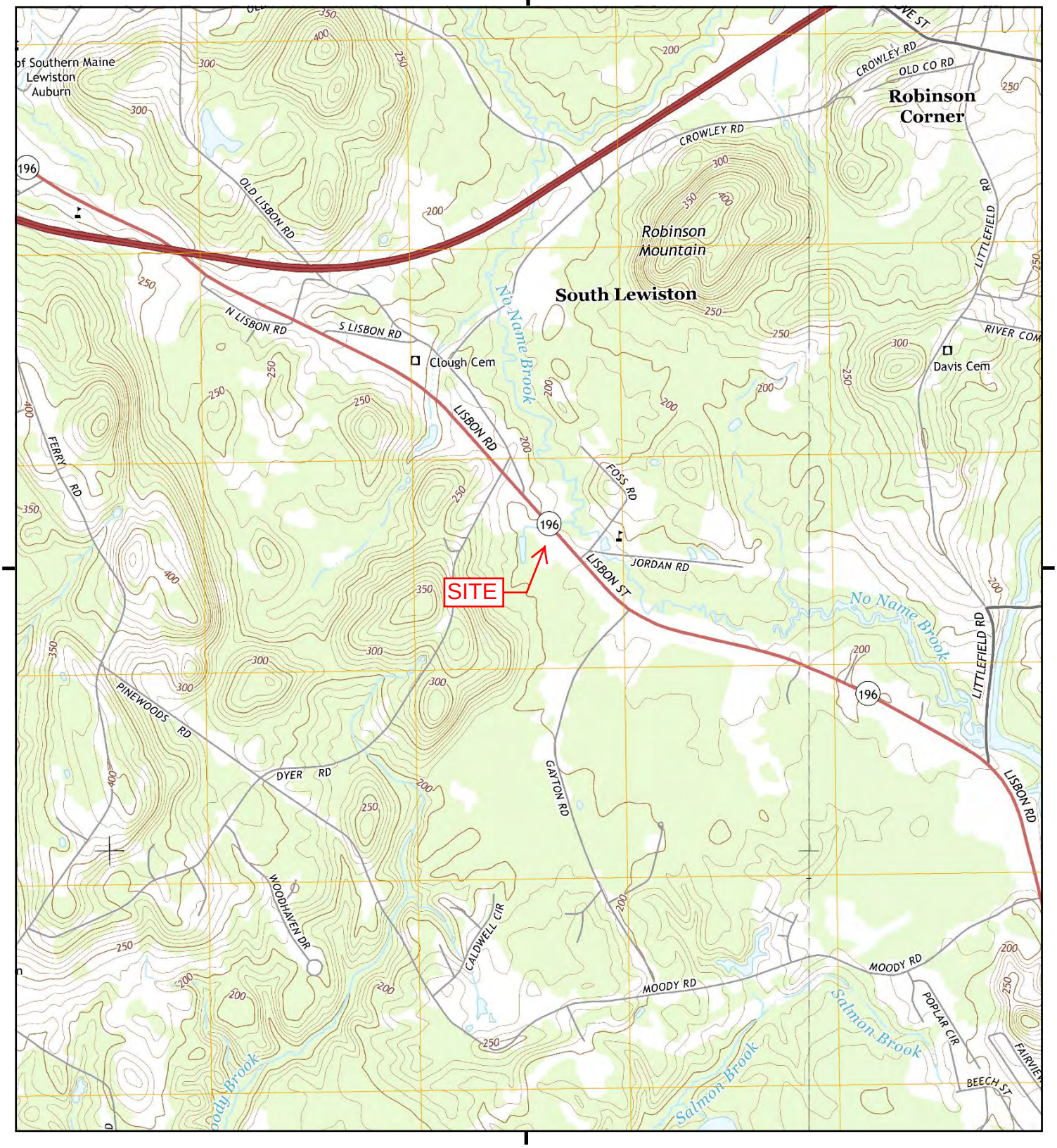
R^2 = ****

Attachment E
Supporting Graphics

This attachment includes supporting materials and graphics for the application. This includes an excerpt of the applicable USGS 7.5 minute quadrangle map, an excerpt of the FEMA flood rate insurance map (FIRM), a reduced size copy of the tax map, a NRCS soils map, and an excerpt of the applicable sand and gravel aquifer map.

Historical Topo Map

2014



This report includes information from the following map sheet(s).

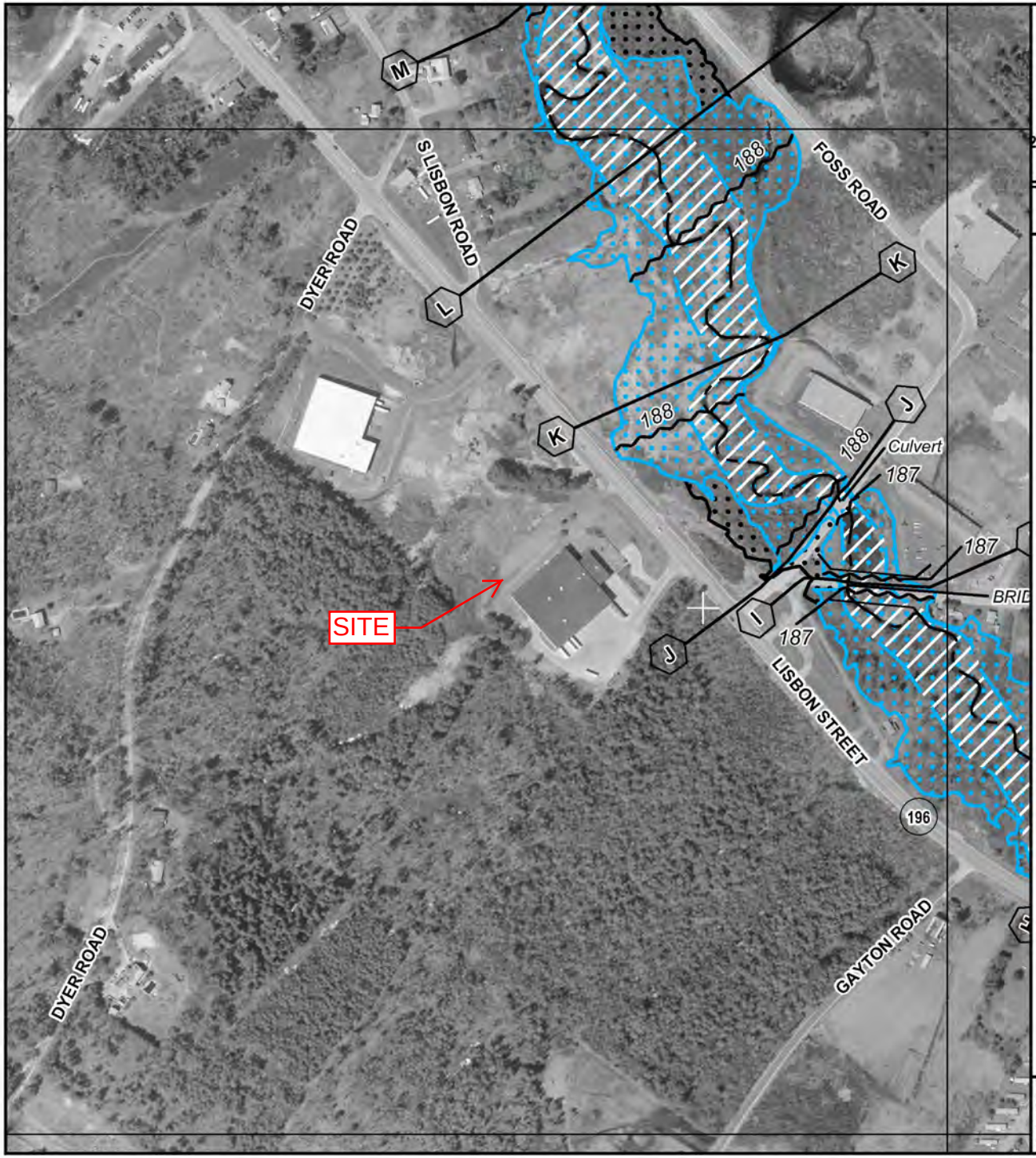
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lewiston, 2014, 7.5-minute
E, Lisbon Falls North, 2014, 7.5-minute

SITE NAME: Federal Distributors
ADDRESS: 2019 Lisbon Street
LEWISTON, ME 04240
CLIENT: SITELINES, PA

N



MAP SCALE 1" = 500'

250 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0342E

FIRM

FLOOD INSURANCE RATE MAP

ANDROSCOGGIN COUNTY, MAINE (ALL JURISDICTIONS)

PANEL 342 OF 470

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

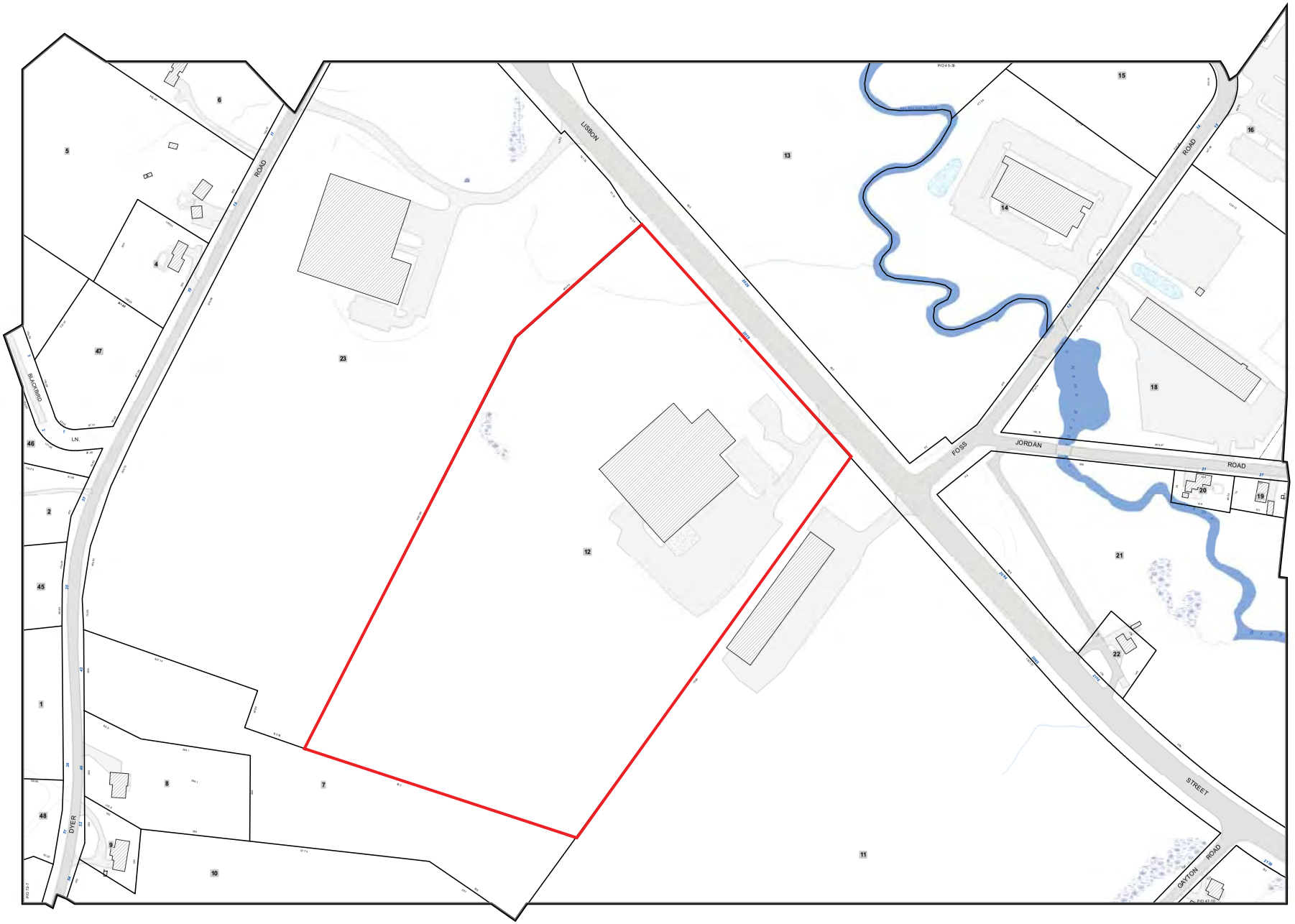
COMMUNITY	NUMBER	PANEL	SUFFIX
LEWISTON, CITY OF	230004	0342	E
LISBON, TOWN OF	230005	0342	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
23001C0342E

EFFECTIVE DATE
JULY 8, 2013

Federal Emergency Management Agency



This Map is provided by the City of Lewiston, Maine. Planimetric mapping shown on this map is for general reference and was compiled at a scale of 1" = 100' from aerial photography performed April 30, 2013, by Woolpert, Inc. of Dayton Ohio. In addition planimetric features are also periodically updated by city staff and may or may not reflect actual field conditions to coincide with the applicable tax year or any given parcel. The City of Lewiston shall not be held liable for damages due to discrepancies, and makes no warranty of accuracy of map. Field verification is required.

Tax Map Index Indicator

Legend

- City Limits
- Parcel Line
- ROW
- Easement
- Misc. or Mobile Home Lot
- Proposed Subdivison
- 22 Street Address
- 48 Tax Map Lot No.
- 99.9 Lot Dimension
- Utility ROW

Planimetric Legend:

- Building, General
- Mobile Home
- Foundation
- Deck
- Patio
- Railroad
- Dam
- Roads, Parking, Walks
- A Athletic Courts, Fields
- P Swimming Pool
- Lake or Pond; River; Canal
- Swamp or Apparent Wetland
- Stormwater Detention Pond
- Brooks, Streams

0 50 100 200

Scale: 1" = 100'

** see note at bottom of page

Cadastral mapping which is displayed here is intended for assessment purposes only. It is not considered a substitution for a proper boundary survey. Do not use for description, delineation, or transfer of property.

Tax Map

Effective April 1, 2017 to March 31, 2018

70	45	26
71	**46**	27
72	47	28

** Scale noted above is approximate assuming the map is printed at full size 25"x36" layout as intended. The black outline title frame immediately above which all measure exactly .27"h x 3"w as a hard copy.

City of Lewiston, Maine 8/30/2017

Map Scale: 1:3,470 if printed on A portrait (8.5" x 11") sheet.

N

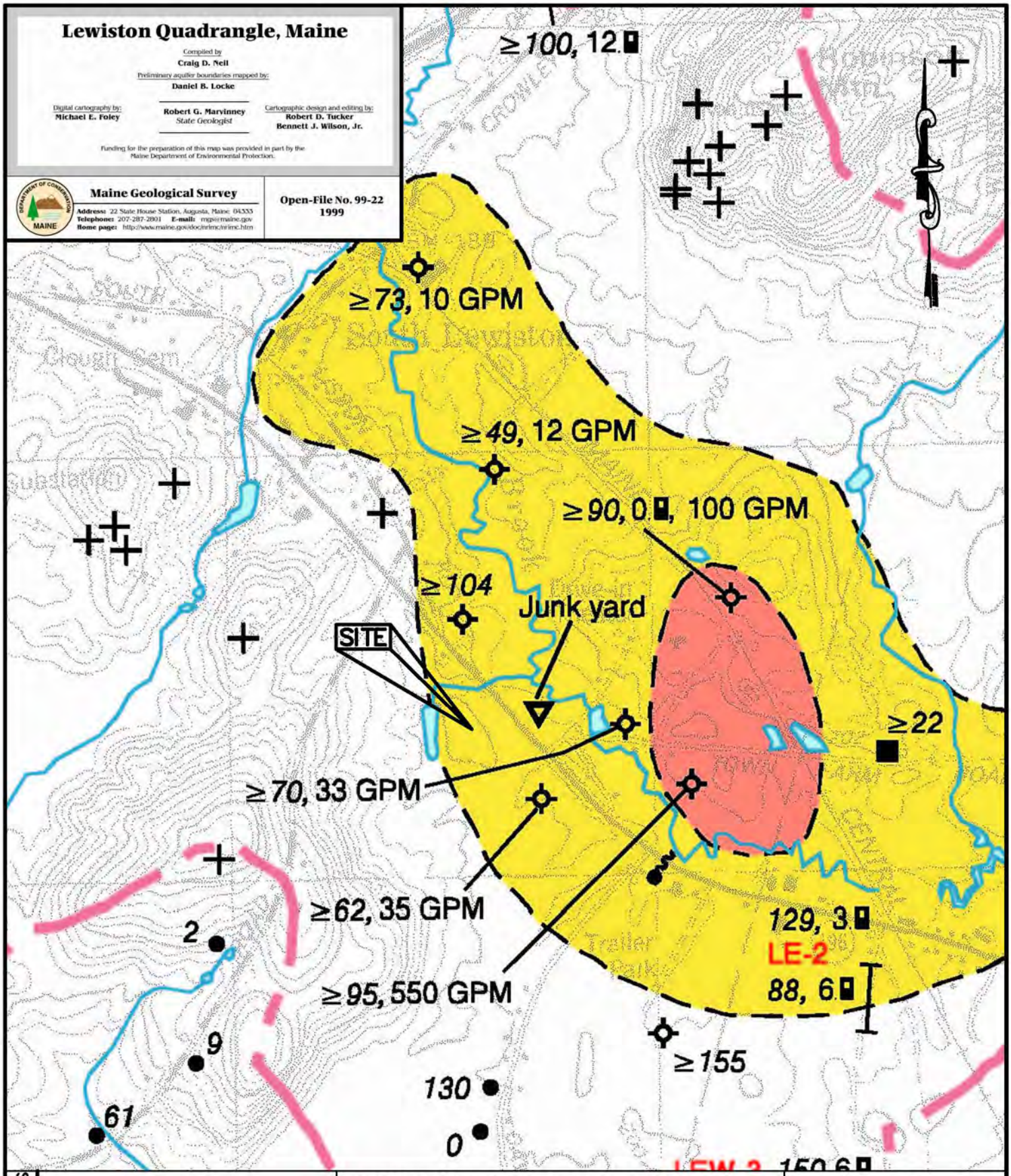
Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	1.0	3.9%
AaC	Adams loamy sand, 8 to 15 percent slopes	5.3	20.8%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	0.0	0.0%
EmB	Elmwood fine sandy loam, 2 to 8 percent slopes	6.8	26.8%
EmC2	Elmwood fine sandy loam, 8 to 15 percent slopes, eroded	1.2	4.8%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	3.2	12.4%
ScA	Scantic silt loam, 0 to 3 percent slopes	8.0	31.3%
Totals for Area of Interest		**25.5**	**100.0%**



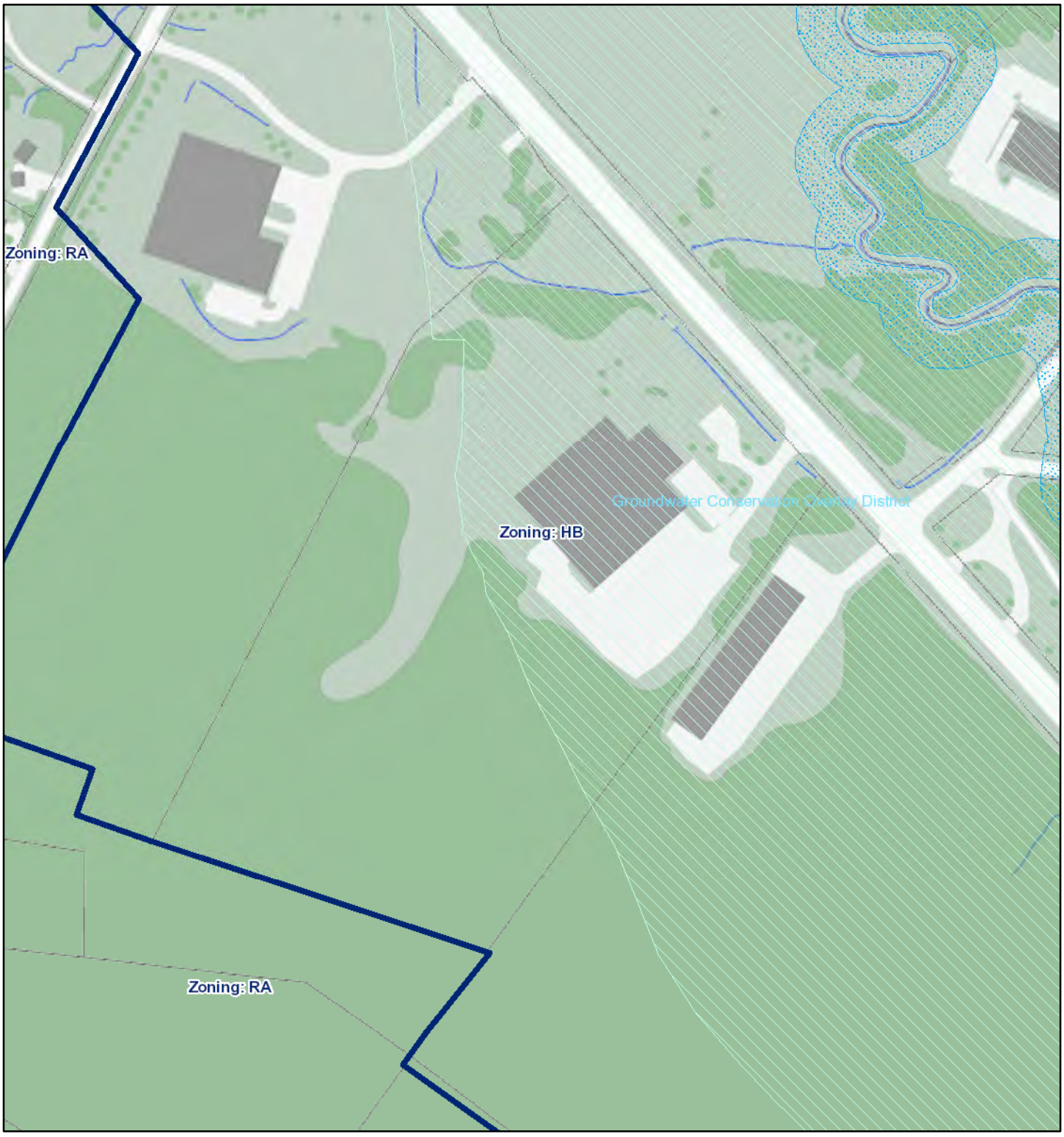
SHEET: 1 OF 1

SITELINES
ENGINEERS PLANNERS
8 CUMBERLAND ST. BRUNSWICK, ME 04011
(207) 725-1200 FAX 725-1114

SIGNIFICANT SAND & GRAVEL AQUIFER MAP
PROPOSED BUILDING EXPANSION
2019 LISBON STREET
LEWISTON, MAINE

DATE: 02-17-18
SCALE: 1"=1000'
JOB: 2714
FILE: 2714-MAPS

Viewer Map



January 22, 2018

1:4,514

0 0.035 0.07 0.14 mi

0 0.0425 0.085 0.17 km

- parcels
- Zoning - Conditional
- Zoning - Mobile HomeOverlay
- Zoning Districts
- Groundwater conservation overlay district
- No Name Pond Lake Conservation Overlay District
- Shoreland Zoning

Lewiston, Maine
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Attachment F
Financial and Technical Capability

This attachment includes a Certificate of Good Standing from the Department of the Secretary of the State and a letter from a financial institution indicating their willingness to provide funding for the project.

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Fri Feb 23 2018 15:28:08. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
FEDERAL DISTRIBUTORS, INC.	19470029 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
03/05/1947	N/A	MAINE

Other Names	(A=Assumed ; F=Former)
NONE	

Clerk/Registered Agent

JOHN E. CRONIN
2075 LISBON RD PO BOX 2007
LEWISTON, ME 04241 2007

Attachment G
Photographs

Photographs of the project area are included for reference.

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

1. FRONT OF BUILDING

2. WESTERN SIDE OF BUILDING

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

3. REAR OF BUILDING

4. EASTERN SIDE OF BUILDING

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

5. FRONT PORTION OF SITE FROM BUILDING TO LISBON STREET

6. PAD MOUNTED COOLING UNITS ADJACENT TO BUILDING

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

7. CHAIN LINK FENCE ENCLOSURE

8. DUMPSTER ENCLOSURES

PROPOSED BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, MAINE
EXISTING CONDITIONS

9. PALLETS STACKED ADJACENT TO DUMPSTER ENCLOSURES

Attachment H
Geotechnical Report

The Geotechnical Report from Summit Geoengineering Services is enclosed for reference.

The key to success starts with a solid foundation.
ENGINEERING | EXPLORATION | EXPERIENCE

Geotechnical Report

Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston, Maine

Sitelines PA

8 Cumberland Street, Brunswick, Maine

2/12/2018

SUMMIT GEOENGINEERING SERVICES

PIN 18022

SUMMIT
GEOENGINEERING SERVICES

145 Lisbon Street (PO Box 7216) Lewiston, Maine 04243 | (207) 576-3313
173 Pleasant Street Rockland, Maine 04841 | (207) 318-7761
www.summitgeoeng.com

February 12, 2018
Summit #18022

Curtis Y. Neufeld, P.E.
Sitelines, PA
8 Cumberland Street
Brunswick, Maine 04011

Reference: Geotechnical Engineering Services
Federal Distributors Building Expansion – 2019 Lisbon Street, Lewiston, Maine

Dear Mr. Neufeld;

We have completed our geotechnical investigation for a planned building expansion at Federal Distributors in Lewiston, Maine. Our scope of services included performing subsurface explorations at the site and preparing this report summarizing our findings and geotechnical recommendations.

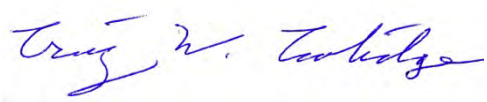
Subgrade beneath the expansion footprint is comprised of marine regressive consisting of sand-silt to glaciomarine (Presumpscot formation) consisting of silt-clay overlying presumed bedrock or dense stratum at a depth of 60 feet below ground surface. The geotechnical considerations identified for site development include:

- The presence of sand-silt-clay within excavations for foundation footings
- The potential of groundwater within excavations for foundation footings
- The presence of glaciomarine and its ability to support foundation loads
- The presence of glaciomarine and its influence for seismic design

Discussion and geotechnical recommendations for the above considerations are included in this report for the design and construction of the expansion foundation and associated earthwork.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

Sincerely yours,
Summit Geoengineering Services



Craig W. Coolidge, P.E.
Vice President
Principal Engineer

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TABLE OF CONTENTS

1.0 Project and Site Description

Summit Geoengineering Services (SGS) was asked to perform a geotechnical investigation for a planned building expansion at Federal Distributors located at 2019 Lisbon Street in Lewiston, Maine. The building expansion is planned as having a footprint of 23,612 ft^2. A new fire lane and subsurface storm water system are planned as part of development. The expansion footprint is positioned north of the existing building structure and west of Lisbon Street.

Site Facing West Showing Planned Expansion Footprint

The existing site topography, the planned expansion footprint, and associated structures used for our engineering design are shown on the Exploration Location Plan in Appendix A. In general, site topography is relatively flat within the expansion footprint at or near elevation 200 to 201 feet. The site is presently an open lawn within the expansion footprint with densely wooded softwood within the fire lane and storm water pond. Existing grades for the fire lane and storm water pond are elevated slightly from elevations of 201 to 204 feet.

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2.0 Site Investigation

Summit Geoengineering Services (SGS) conducted a site investigation to include the following:

- Review of available published geologic mapping for the site
- Test borings to include SPT split spoon sampling and field vane shear tests
- Cone penetration test with shear wave velocity tests
- Observation of test pits performed by others
- Soils laboratory testing using samples obtained from the test borings

2.1 Geologic Mapping

Copies of the geologic maps of the site by the Marine Geological Survey are included in Appendix B and summarized below.

Surficial geology is mapped as marine regressive sand deposit (Pmrs) described as sand, silt, and minor gravel as observed within the upper portions of the site. Results of the subsurface investigation further determined the marine regressive sand deposit is underlain by glaciomarine Presumpscot formation (Pp) described as silt, clay, and sand. This formation is mapped locally downstream and east of the site.

Surficial materials mapping near the site indicates an overburden thickness of 62 to 104 feet or greater consisting of clay overlying sand and gravel. Depth to refusal (bedrock or dense strata) from the subsurface explorations conducted onsite occurred at 60 feet which shows good agreement with the available mapping.

Bedrock is mapped as part of the Sangerville Formation (Sstp) consisting of dark gray quartz-plagioclase-biotite-hornbende granofels, and quartz-plagioclase-biotite granofels, salt and pepper-textured amphibolite, and thinly-bedded calc-silicate granofels.

2.2 Subsurface Explorations

The subsurface conditions were explored by the drilling of 2 test borings and 1 cone penetration tests on January 29, 2018. Explorations were performed by Summit Geoengineering Services (SGS) using a rubber track mounted AMS Power Probe 9500 VTR.

Test borings were advanced using 3.5-inch direct push casing to depths of 22 to 36 feet below ground surface. Test borings were conducted with standard penetration tests (SPT-N) using split spoon samplers and field vane shear tests. Soils were visually classified in the field by a geotechnical engineer using the Unified Soil Classification System (USCS).

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SPT Sampling with Auto-Drop Hammer

Cone penetration test (CPT-1) was performed with shear wave velocity to push refusal (dense stratum) encountered at a depth of 60 feet below ground surface. CPT was advanced using a rubber track mounted PowerProbe 9500 VTR with a Vertek 5-ton digital cone. Anchoring was conducted using a single point hollow anchor with start of test depth at 5 feet below ground surface. Parameters obtained include cone resistance (q_c), sleeve friction (f_s), piezocone pore pressure (u_2), and shear wave velocity (V_s).

Cone Penetration Testing with Shear Wave Velocity

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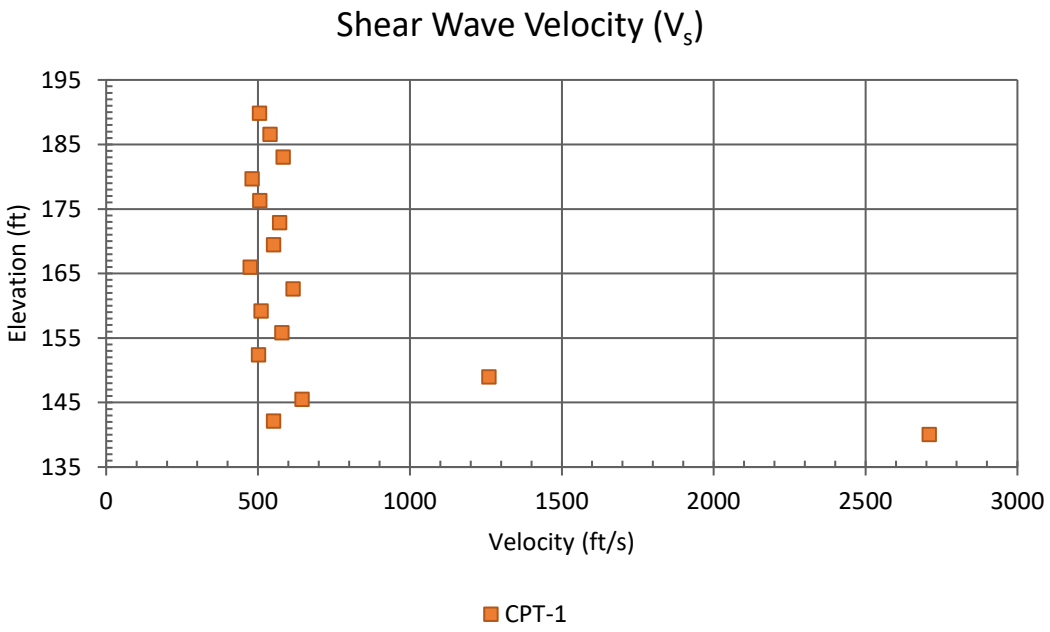
During the performance of piezocone penetration tests (CPTu), shear wave velocity tests (V_s) were conducted at approximate 1-meter depth intervals (rod breaks). Results of the shear wave velocity tests are show on the graph below:



Additionally, SGS observed and logged the excavation of 3 test pits performed by St. Laurent & Sons Excavation, Inc. under separate contract to others. Test pits were excavated to depths of 12 to 14 feet below ground surface using a Caterpillar 308E rubber track excavator.

Excavation of Test Pits by St. Laurent & Sons Excavation, Inc.

Exploration locations are shown on the Exploration Location Plan in Appendix A. Logs of the explorations are provided in Appendix B. The explorations were field located by SGS by taping from existing site features.

2.4 Laboratory Testing

Laboratory testing was conducted by Summit Geoengineering Services (SGS) for soil samples collected onsite during the subsurface exploration as follows:

- Moisture Content (ASTM D2216)
- Atterberg Limits (ASTM D4318)
- Grain Size Analysis (ASTM D6913)

Reports of the laboratory tests are in Appendix C. Seven samples of the glaciomarine were tested for moisture content ranging from 22.6% to 38.2%. One sample of the glaciomarine from boring B-1, depth of 15 to 17 feet, was tested for Atterberg limits with results as follows:

- Moisture Content (MC) = 38.2%
- Liquid Limit (LL) = 36
- Plastic Limit (PL) = 23
- Plastic Index (PI) = 13

Grain size analysis was conducted for a sample of the upper marine regressive deposits from boring B-2 at a depth of 5 to 7 feet.

3.0 Subsurface Conditions

Results of the site investigation indicate the subsurface conditions consist of the following:

- ***Topsoil*** (Silt, Rootlets)
- ***Marine Regressive Sand*** (Sand, Silt, minor Gravel)
- ***Glaciomarine*** (Clay, Silt, minor Sand)
- ***Bedrock*** (Granofels)

3.1 Soil

Topsoil is described as loose dark brown silt with rootlets and classifies as ML in accordance with the Unified Soil Classification System (USCS).

Marine Regressive Sand is descibed as compact to loose light brown to olive-brown and mottled silt with variable sand and classifies as ML to SM-ML in accordance with the USCS.

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Topsoil to Marine Regressive Sandy Silt (Boring B-2, 0'-2')

Glaciomarine *(Presumpscot Formation)* consists of 2 subunits. The upper subunit is described as firm olive brown and mottled silty clay and classifies as CL in accordance with the USCS. The lower subunit is described as soft gray clay and classifies as CL in accordance with the USCS.

Glaciomarine Firm Silty Clay (Test Pit TP-1, 7'-12')

3.2 Bedrock

Bedrock refusal, estimated from cone penetration test (CPT-1) push refusal during the site investigation, was encountered at a depth of 60 feet, elevation 140 feet, located near the center of the building expansion. The recorded tip resistance achieved a maximum pressure of 8,420 psi prior to anchor refusal abruptly beneath the marine deposit suggesting refusal upon bedrock or dense stratum.

3.3 Groundwater

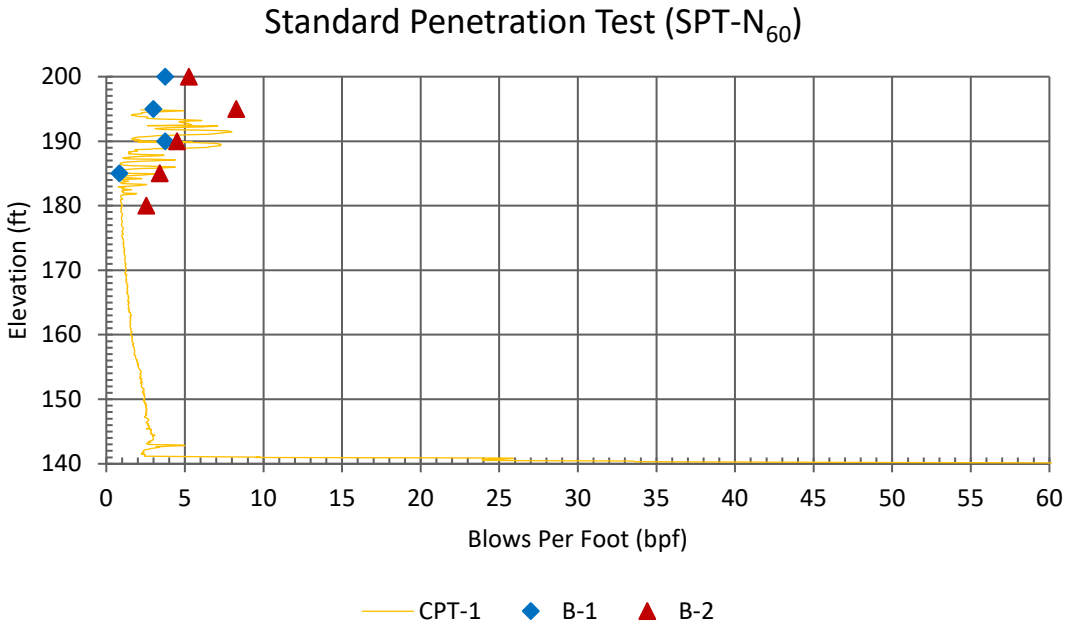
Groundwater was observed at a depth range of 2 to 12 feet below ground surface, elevations 198 to 190 feet, during the exploration. Groundwater appears to fluctuate within the upper marine regressive sand and glacial marine stiff silty clay. Mottling within this depth range suggests fluctuation of groundwater during wet and dry periods through accumulation of rain and snow melt.

4.0 Geotechnical Evaluation

Geotechnical engineering properties are estimated from results of the test borings, cone penetration testing, and laboratory testing, along with engineering judgement. The engineering properties are used for geotechnical analyses of bearing pressure, settlement, and seismic design provided within this report. Interpretation of the engineering properties used for our analyses are shown below for the following parameters:

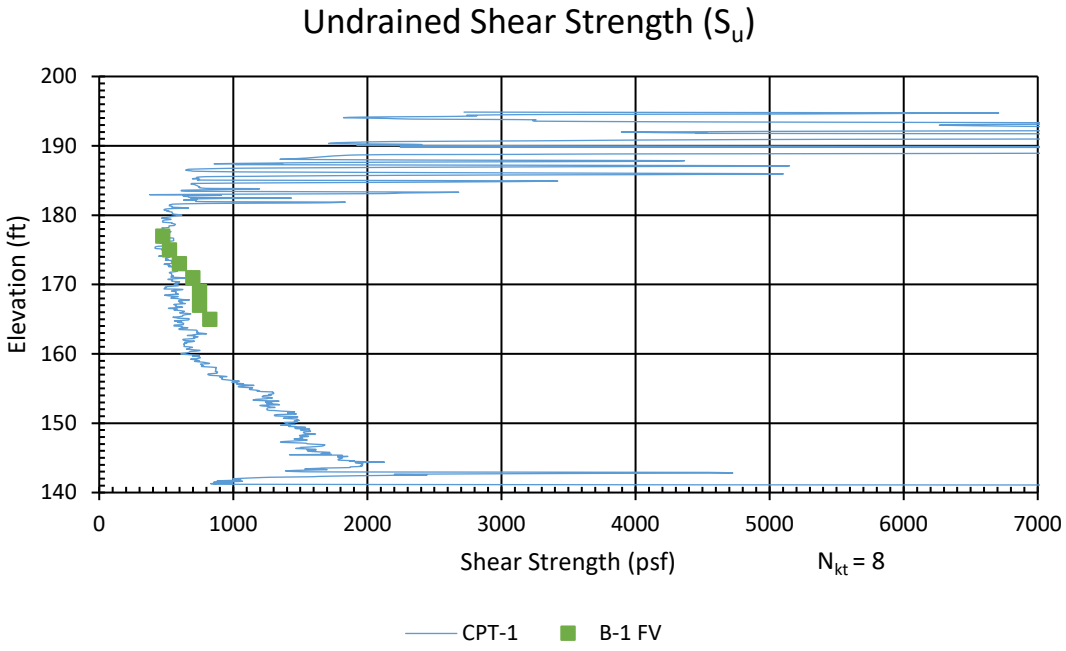
- Corrected SPT-N_{60} values
- Undrained shear strength (S_u)
- Over consolidation ratio (OCR)

Graphic representation of corrected SPT-N_{60} values is presented below:



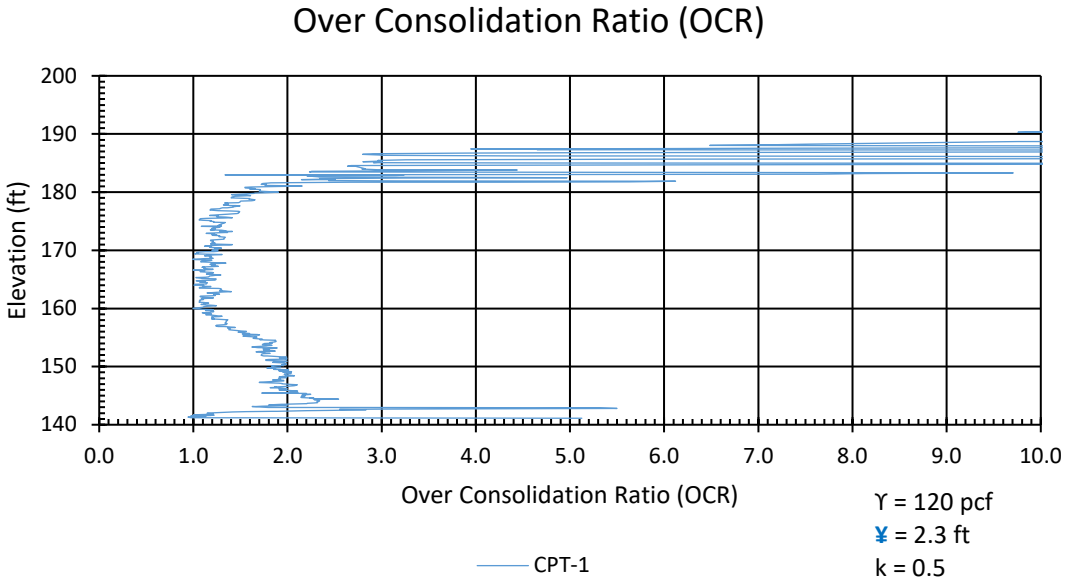
The lower SPT N_{60} values represent lower glaciomarine (soft clay) and higher SPT N_{60} values represent upper marine regressive (sandy silt) and upper glaciomarine (firm clay). The large spike at elevation 140 feet, depth of 60 feet, typically represent impact (refusal) upon bedrock or dense strata during cone penetration testing.

Graphic representation of the undrained shear strength (S_u) is presented below:



The undrained shear strength (S_u) is estimated from interpretation of cone penetration resistance using an N_{kt} correction factor of 8 and field vane shear tests during test borings. Results indicate an undrained shear strength of approximately 500 to 900 psf increasing with depth for the lower soft clay. Spikes typically represent silt or sand seams.

Graphic representation of over consolidation ratio (OCR) is presented below:



OCR is estimated from interpretation of cone penetration resistance using a correction factor k of 0.5, in-situ soil unit weight of 120 pcf, and a groundwater depth of 2 feet below grade. In general, the OCR ranges from 1.0 to 2.0 indicating normal to slightly over-consolidated state.

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This undrained shear strength (S_u) and over consolidation ratio (OCR) were checked using the normalized undrained shear strength ratio referred to as:

$$(S_u/\sigma'_v) = (0.23 +/- 0.04)\ OCR^{0.8}$$ *(Jamiolkowski et al., 1985)*

The mean ratio using estimated undrained shear strength and OCR is 0.27 +/- which is in agreement.

The factor of safety used to determine the allowable bearing pressure is 3. Where bearing upon marine regressive sandy silt, between elevations 200 to 193 feet, the calculated allowable bearing capacity is 3,000 psf using an effective friction angle (ϕ') of 33°, a soil unit weight (Υ_t) of 120 pcf, with a minimum embedment depth of 2.5 feet and minimum footing width of 2.5 feet.

To reduce the effects of consolidation settlement, recommendations are provided in Section 5.0 to limit foundation loads which establish footing dimensions that dissipate within the upper marine regressive sandy silt and firm glaciomarine clay. Based on the relatively flat site and anticipated finish floor to match at or near existing building, import fill is anticipated to be minimal (within 1 foot) reducing the effects of import fill to generate consolidation settlement.

Elastic settlement for a maximum column load of 125 kips with a bearing pressure of 3,000 psf is estimated at 1 inch or less. Differential settlement between column loads is recommended to be at or less than a deflection of 1/300. We recommend Summit Geoengineering Services (SGS) be made available to review final structural plans and column loads to evaluate the potential for excessive differential settlement.

5.0 Geotechnical Recommendations

The building expansion can be supported using conventional spread footings with proper site preparation and the following foundation limitations:

- Building expansion finish floor elevation of 200 feet +/- 1 ft
- Maximum total column load of 125 kips
- Maximum continuous strip footing load of 10 kips/ft
- Minimum footing depth of 2.5 ft and maximum footing depth of 4.5 ft
- Minimum column footing width of 2.5 ft and strip footing width of 1.5 ft

The geotechnical recommendations provided in this report are based on the results of our site investigation and the design limitations summarized above. Unanticipated changes in site conditions or design modification to the project should be reviewed by Summit Geoengineering Services to evaluate possible implications to the recommendations provided in this report.

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5.1 Bearing Capacity & Settlement

We anticipate subgrade soils for the building expansion foundations will consist of firm silt-clay with minor sand. Based on this, we recommend the foundation elements be proportioned using an allowable net bearing pressure of 3,000 psf. We recommend SGS be made available to review final structural plans and column loads to verify its conformance to our geotechnical recommendations and settlement estimates provided in Section 4.0.

The bearing pressure and associated settlements are based on the following conditions:

- All existing topsoil is removed from the building footprint prior to placing fill or constructing footings.
- Foundation footings are constructed on competent subgrade. We recommend granular subgrade be proof-rolled prior to placing fill or constructing footings. Proof rolling should consist of a minimum of five passes in a north-south direction and then five passes in an east-west direction using a vibratory roller or plate compactor.
- New foundations are structurally isolated from existing foundations and are constructed near the same elevation as existing foundations to prevent undermining during construction. New foundations should be constructed at a minimum of 1.5H:1V setback where adjacent to existing foundation elements.
- Excavations near existing foundations are inspected by the geotechnical engineer to evaluate bearing stability. If unsuitable conditions are encountered, localized stabilization may be deemed appropriate.
- Subgrade soils that become softened or disturbed in the base of excavations are over excavated and stabilized using 12 inches of crushed stone. Crushed stone should be tamped to lock the structure together.

5.2 Backfill Recommendations

We recommend all fill placed within the building expansion footprint consist of Foundation Backfill. Foundation Backfill should have a maximum particle size limited to 6 inches and the portion passing a 3-inch sieve should meet the following gradation specification:

FOUNDATION BACKFILL	
Sieve Size	**Percent Passing**
½ inch	35 to 80
¼ inch	25 to 65
No. 40	0 to 30
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type D (2014)

Foundation Backfill should be placed in 6 to 12 inch lifts and compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

The following soil parameters can be used for foundation design of lateral loads:

Foundation Design Parameters

- Active Earth Pressure Coefficient (K_A): 0.28
- At Rest Earth Pressure Coefficient (K_o): 0.44
- Passive Earth Pressure Coefficient (K_p): 3.54
- Total Unit Weight (γ_t): 130 pcf
- Effective Friction Angle (ϕ'): 34°

5.3 Frost Protection

Exterior footings should be constructed at a minimum depth of 4.5 feet below finished grade for frost protection based on a design air-freezing index of 1,400 F-degree days for the Lewiston area. We recommend exterior and interior portions of foundation walls and footings are backfilled with Foundation Backfill. The Foundation Backfill should be compacted to 95 percent of its maximum dry density in accordance with ASTM D1557.

5.4 Building Slabs

We recommend the building expansion slabs be constructed on a minimum 12-inch thick layer of Foundation Backfill. The coefficient of subgrade reaction, k (per 12-inch plate) applies to the design of reinforced concrete foundations over soil. For the conditions described above, the slab can be designed using a coefficient of subgrade reaction 100 tons/ft^3.

Due to the potential for capillary rise from groundwater we recommend a vapor barrier be used beneath the building addition slabs. The vapor barrier should be installed in accordance with the latest ACI specifications (ACI 302.1R-96).

5.5 Groundwater Control

Groundwater was encountered at a depth range of 2 to 12 feet (elevation 198 to 190 feet). Based on this, the bottom of foundation footings is expected above anticipated groundwater. To provide drainage of seasonal groundwater and/or runoff, perimeter underdrains may be installed along the base of exterior footings. Additionally, we recommend exterior grades slope away from the building expansion footprint to reduce runoff water from infiltrating the foundation backfill soils.

Perimeter underdrains should consist of 4-inch rigid perforated PVC placed adjacent to the exterior footings and surrounded by a minimum of 6 inches of Crushed Stone. Crushed Stone should be wrapped in filter fabric (Mirafi 140N or similar) to prevent clogging from the migration of the fine soil particles in the backfill soils.

5.6 Seismic Design

Based on the results for shear wave velocity Site Class D is recommended in accordance with ASCE 7-10. The seismic profile was evaluated using data from cone penetration test (CPT-1) conducted with shear wave velocity as follows:

- Average Shear Wave Velocity (V_s) for Soil Profile = 550 ft/s (0 to 60 feet)
- Estimated Shear Wave Velocity (V_s) for Rock Profile = 2,700 ft/s (60 to 100 feet)

Plasticity index of the underlying clay is 13 with moisture content of 38.2%. Based on the results of the laboratory testing the clay does not meet the requirements for Site Class E. Based on this, the following seismic site coefficients should be used:

SUBGRADE SITE SEISMIC DESIGN COEFFICIENTS – ASCE 7-10	
Seismic Coefficient	**Site Class D**
Short period spectral response (S_S)	0.245
1 second spectral response (S_1)	0.081
Maximum short period spectral response (S_{MS})	0.391
Maximum 1 second spectral response (S_{M1})	0.193
Design short period spectral response (S_{DS})	0.261
Design 1 second spectral response (S_{D1})	0.129

The marine regressive (sand-silt) and glaciomarine (silt-clay) were evaluated for liquefaction during earthquake based on penetration resistance obtained from the CPT-1 and seismic mapping by the United States Geological Survey (USGS). The maximum considered earthquake peak ground acceleration for the site determined by ASCE 7-10, Chapter 21.5 are as follows:

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173 Pleasant Street Rockland, Maine 04841 | (207) 318-7761
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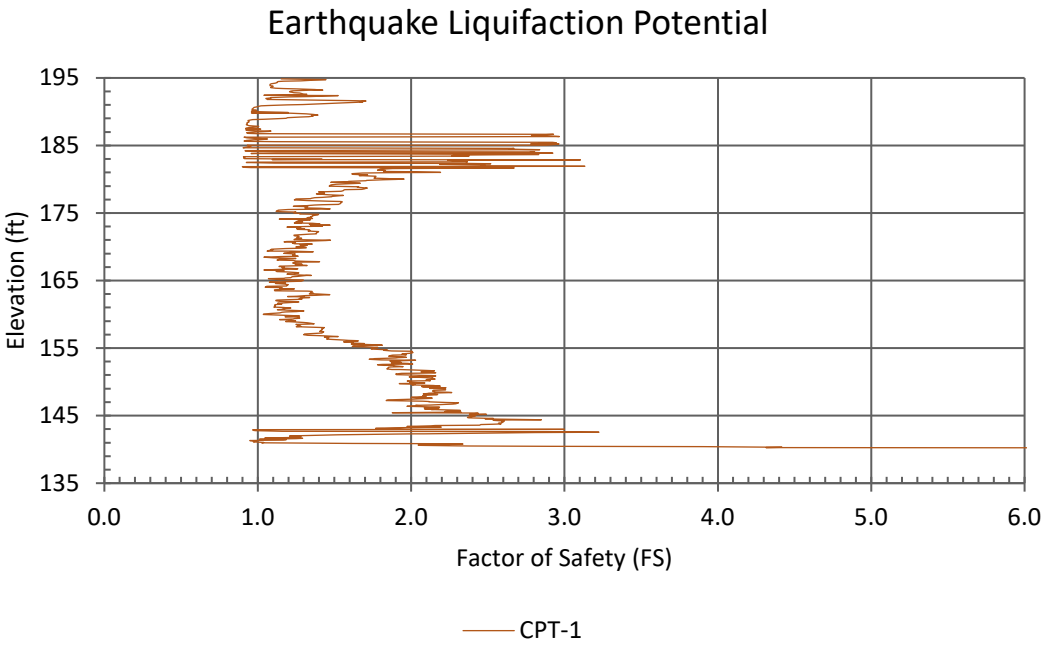
- Probabilistic MCE_G Peak Ground Acceleration PGA (2% in 50-yr) = 0.178
- Deterministic MCE_G Peak Ground Acceleration PGA_M (84^{th} Percentile) = 0.203
- Site-Specific MCE_G Peak Ground Acceleration PGA_M = 0.178
- Mean Moment Magnitude (Unified Hazard Mapping 2014) = 5.56

The factor of safety for liquefaction resistance by earthquake magnitude 5.56 is as follows:



Based on the results, the mean factor of safety against liquefaction for the upper sand-silt (elevations 195 to 182 feet) is 1.1 and for the complete deposit (elevations 195 to 140 feet) is 1.6. In summary, the subgrade is considered resistant to widespread liquefaction.

6.0 Earthwork Considerations

We recommend the geotechnical engineer be retained to observe excavation and subgrade preparation to confirm that soil conditions and construction methods are consistent with this report. We further recommend that a qualified geotechnical consultant be retained to monitor and test soil materials used during construction to ensure proper material type and placement. Soil materials testing reports should be made available to the geotechnical engineer for review.

Foundation Backfill should be compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

We recommend granular subgrade be proof-rolled prior to placement of import fill. Proof rolling should consist of a minimum of five passes in a north-south direction and then five

passes in an east-west direction using a vibratory roller. Proof rolling is not recommended for glaciomarine clay subgrade or below groundwater due to its potential for softening.

Dewatering is anticipated to construction portions of the foundations. We believe that shallow sumps and conventional submersible pumps will be sufficient to control groundwater and infiltrating water during construction. Diversion and control of surface water and/or groundwater should be performed to prevent water flow from upslope cuts.

We recommend excavations within glaciomarine soils that becomes softened or disturbed during construction, be over-excavated and replaced with 12 inches of Crushed Stone. Crushed Stone should be tamped to lock the stone structure together and meet the following gradation:

CRUSHED STONE ¾ INCH	
Sieve Size	**Percent finer**
1 inch	100
¾ inch	90 to 100
½ inch	20 to 55
⅜ inch	0 to 15
No. 4	0 to 5

Reference: MDOT Specification 703.13, Crushed Stone ¾-Inch (2014)

Utility trenching and general excavations below 4 feet should be sloped no greater than 1H to 1V (OHSA type B) for firm clay and 1.5H to 1V (OSHA type C) for granular soils and/or below groundwater. These slopes are based on the current OSHA Excavation Guidelines.

7.0 Closure

Our recommendations are based on professional judgment and generally accepted principles of geotechnical engineering and project information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially from those described in this report, SGS should be notified so that we can re-evaluate our recommendations.

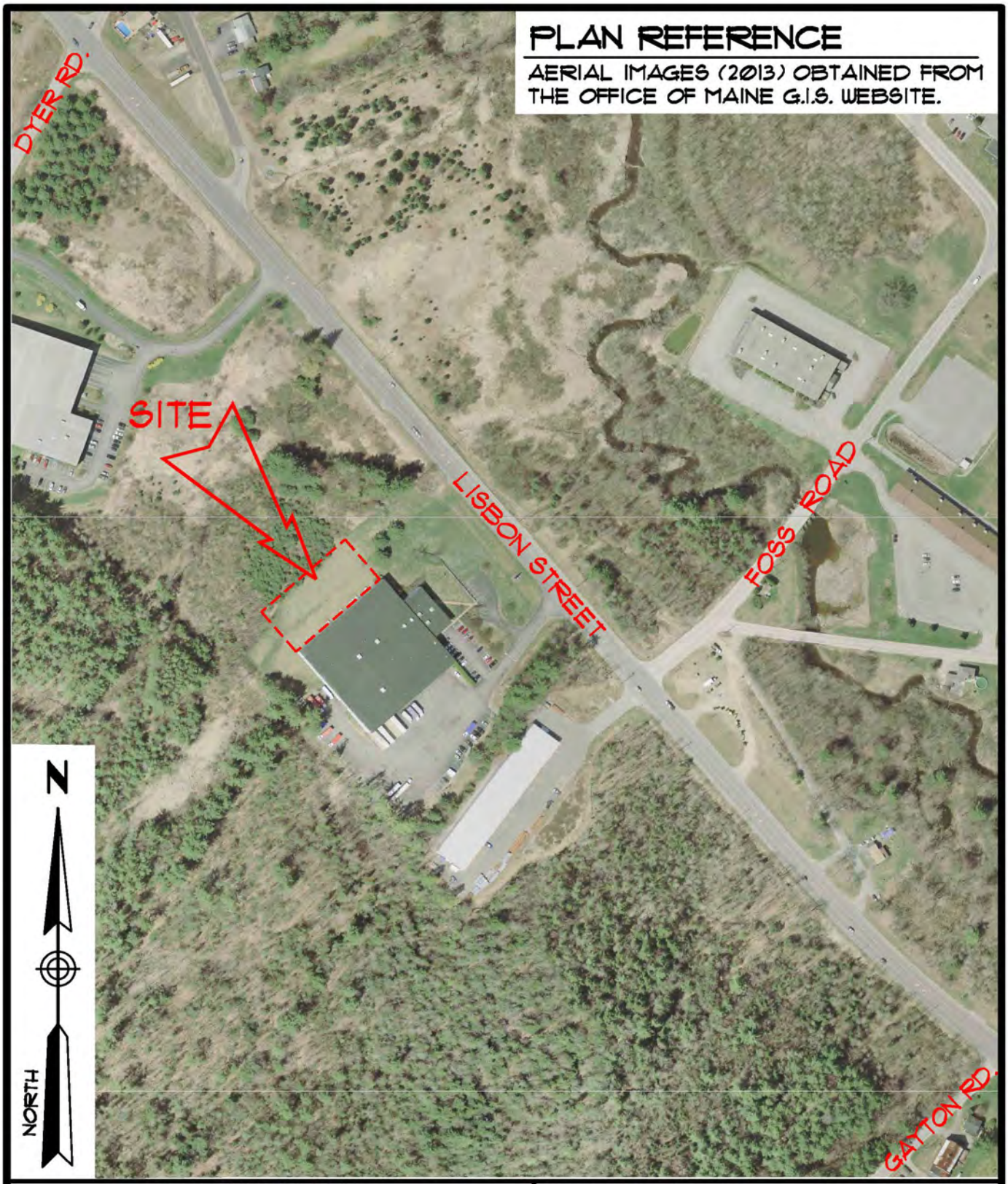
It is recommended that this report be made available in its entirety to contractors for informational purposes and be incorporated in the construction Contract Documents. We recommend that SGS be retained to review final construction documents relevant to the recommendations in this report.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

APPENDIX A

LOCATION MAP

EXPLORATION LOCATION PLAN



LOCATION MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 300'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

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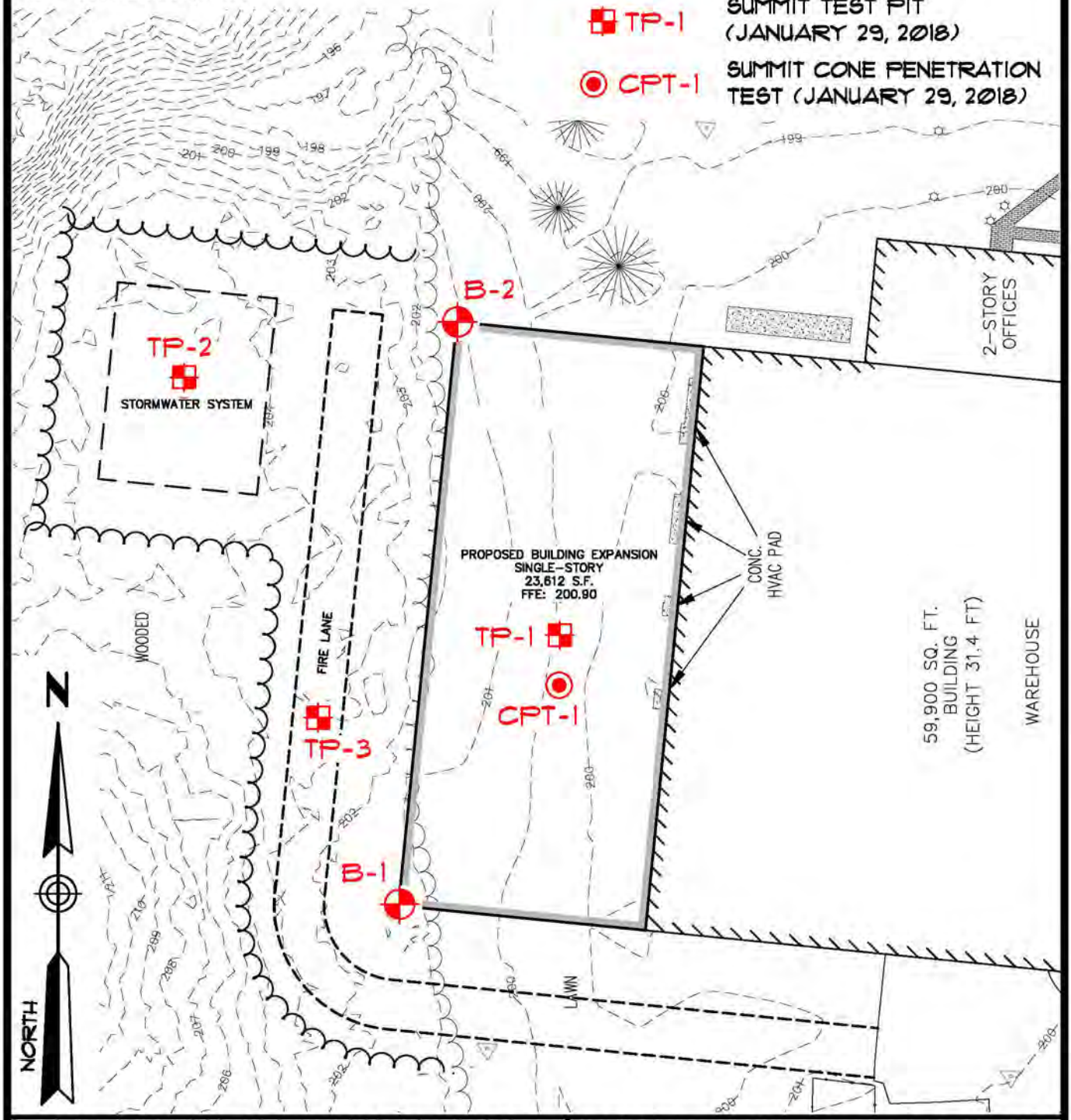
PLAN REFERENCE

"GRADING PLAN, BUILDING EXPANSION", DATED JANUARY 17, 2018, PREPARED BY SITELINES, PA.

LEGEND

- B-1 — SUMMIT TEST BORING (JANUARY 29, 2018)
- TP-1 — SUMMIT TEST PIT (JANUARY 29, 2018)
- CPT-1 — SUMMIT CONE PENETRATION TEST (JANUARY 29, 2018)



EXPLORATION LOCATION PLAN
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 60'	FILE: 18022 MAPS

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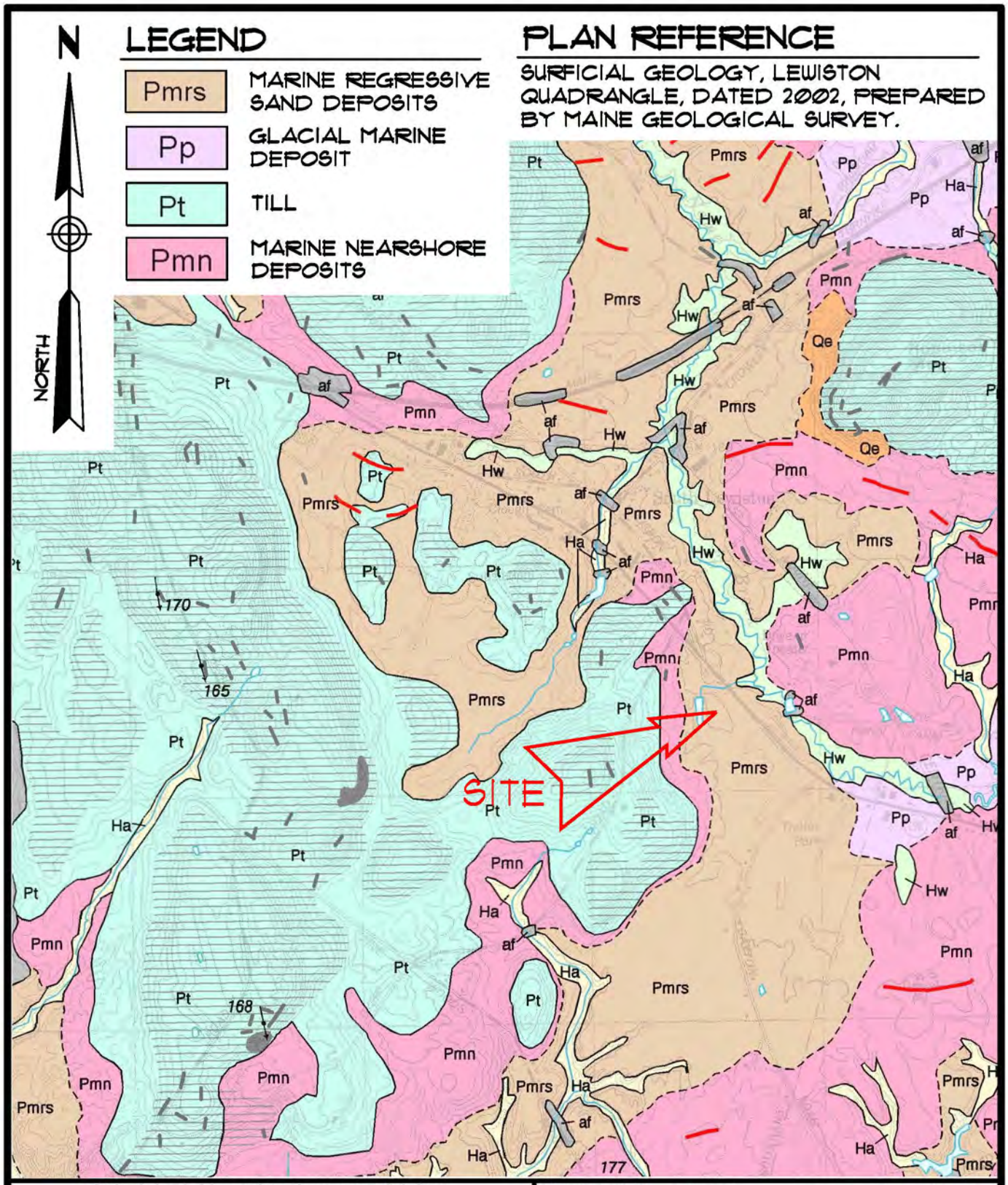
APPENDIX B

GEOLOGICAL MAPPING

EXPLORATION LOGS



SURFICIAL GEOLOGY MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" =2000'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 701
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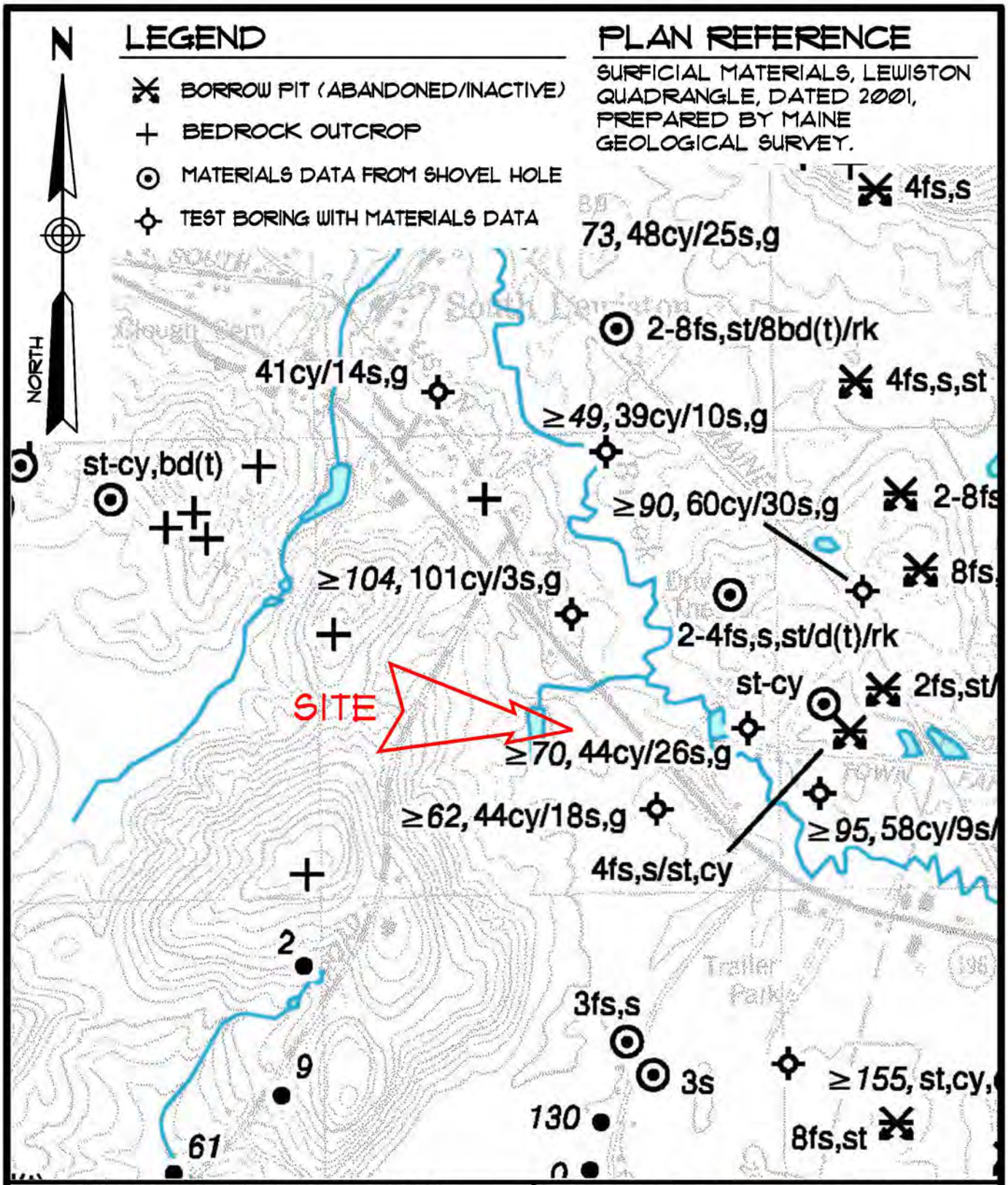

SURFICIAL MATERIALS MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 1000'	FILE: 18022 MAPS

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LEGEND

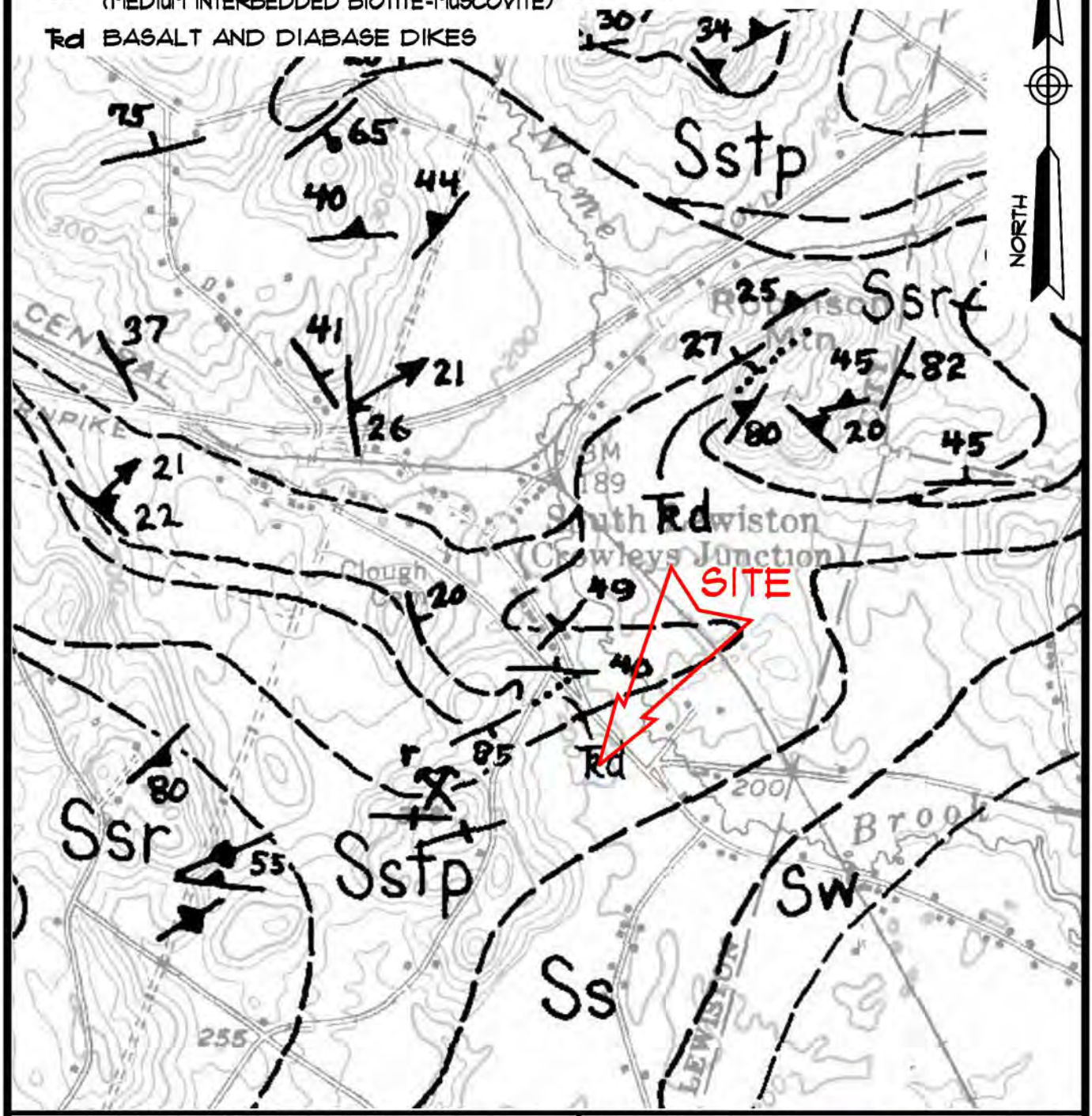
Sstp SANGERVILLE FORMATION (TAYLOR POND MEMBER)

Ss SANGERVILLE FORMATION (MEDIUM INTERBEDDED BIOTITE-MUSCOVITE)

Trd BASALT AND DIABASE DIKES

PLAN REFERENCE

BEDROCK GEOLOGY, LEWISTON QUADRANGLE, DATED 1983, PREPARED BY MAINE GEOLOGICAL SURVEY.



BEDROCK GEOLOGY MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" =2000'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 701
LEWISTON, ME 04240
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173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

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EXPLORATION COVER SHEET

The exploration logs are prepared by the geotechnical engineer from both field and laboratory data. Soil descriptions are based upon the Unified Soil Classification System (USCS) per ASTM D2487 and/or ASTM D2488 as applicable. Supplemental descriptive terms for estimated particle percentage, color, density, moisture condition, and bedrock may also be included to further describe conditions.

Drilling and Sampling Symbols:

SS = Split Spoon Sample
UT = Thin Wall Shelby Tube
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RW = Rotary Wash
SV = Shear Vane
PP = Pocket Penetrometer
RC = Rock Core Sample
FV = Field Vane Shear Test
PS = Concrete Punch Sample
Hyd = Hydraulic Advancement of Drilling Rods
Push = Direct Push of Drilling Rods
WOH = Weight of Hammer
WOR = Weight of Rod
PI = Plasticity Index
LL = Liquid Limit
W = Natural Water Content
USCS = Unified Soil Classification System
Su = Undrained Shear Strength
Su(r) = Remolded Shear Strength

Water Level Measurements:

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable groundwater levels. In impervious soils, the accurate determination of groundwater elevations may not be possible, even after several days of observations. Groundwater monitoring wells may be required to record accurate depths and fluctuation.

Gradation Description and Terminology:

Boulders:	Over 12 inches	Trace:	Less than 5%
Cobbles:	12 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 30%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 30%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

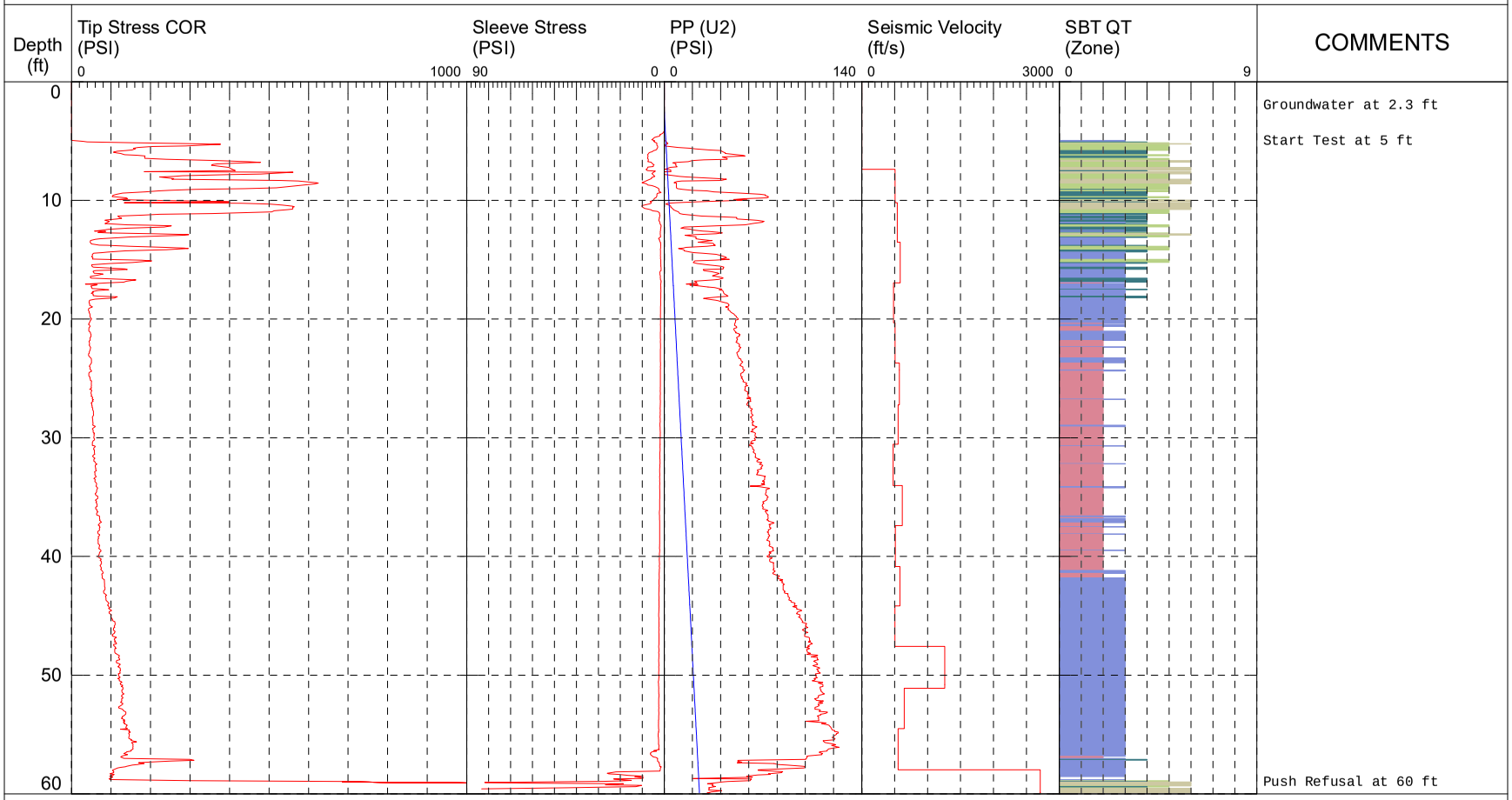
Density of Granular Soils and Consistency of Cohesive Soils:

CONSISTENCY OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS	
SPT N-value blows/ft	**Consistency**	**SPT N-value blows/ft**	**Relative Density**
0 to 2	Very Soft	0 to 4	Very Loose
2 to 4	Soft	5 to 10	Loose
5 to 8	Firm	11 to 30	Compact
9 to 15	Stiff	31 to 50	Dense
16 to 30	Very Stiff	>50	Very Dense
>30	Hard		

CPT-1

COMPANY: Summit Geoengineering Services
OPERATOR: C. Coolidge, P.E.
CREW: E. Stewart, P.E.
CLIENT: Sitelines
CLIENT REP: Curt Neufeld

TEST DATE: Mon 29/Jan/2018
TEST ID: CPT-1
PROJECT: 18022
SITE: 2075 S. Lisbon Street
LOCATION: Lewiston, Maine



COMMENTS

Groundwater at 2.3 ft

Start Test at 5 ft

Push Refusal at 60 ft

TOTAL DEPTH: 60.022 ft

1 Sensitive, fine grained
2 Organic soils - peats
3 Clays - clay to silty clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to sand
8 Very stiff sand to clayey sand **
9 Very stiff, fine grained **

*SBT: Robertson 1990; **Overconsolidated or Cemented; *SBT/SPT CORRELATION: UBC-1983

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-1**

Project:	Federal Distributors Building Expansion	Project #:	18022
Location:	2019 Lisbon Street	Sheet:	1 of 2
City, State:	Lewiston, Maine	Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	10 ft +/-	191 ft +/-	Observed moisture content

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/10	0 - 2	WOH		Dark brown SILT, rootlets, soft, moist, ML		TOPSOIL
1				1	200.9	Olive brown to gray and mottled fine SAND-SILT,		0.1'
				4		trace organics, compact/stiff, damp, SM-ML		MARINE REGRESSIVE
2				8				SAND DEPOSIT
3								
4								
5								
	S-2	24/18	5 - 7	1		Olive brown to gray SILT, some fine Sand, little Clay,	PP = 4,000 to	
6				2		pockets of brown organics, loose/firm, damp, ML	6,000 psf	
				2			MC = 22.6%	
7				9				
8								
					193.0			8'+/-
9								GLACIAL MARINE
								DEPOSIT
10								(Presumpscot
	S-3	24/24	10 - 12	2		Olive brown and mottled Silty CLAY, occasional fine	PP = 2,000 to	Formation)
11				2		Sand/Silt lenses, firm, moist, CL	3,000 psf	
				3			MC = 24.3%	
12				3				
13								
14								
15								
	S-4	24/24	15 - 17	WOH		Gray Silty CLAY, very soft, wet, CL	PP = 500 to	
16				WOH			1,000 psf	
				1			MC = 38.2%	
17				1			LL = 36	
	FIELD VANES						PI = 13	
18			Tip of Vane					
	FV-1		18			S_U = 675 psf, $S_{U(r)}$ = 125 psf		
19								
20								
	FV-2		20			S_U = 450 psf, $S_{U(r)}$ = 50 psf		
21								
22								
	FV-3		22			S_U = 375 psf, $S_{U(r)}$ = 100 psf		

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
SP = Direct push sample (Gravel punch)
S = Split spoon sample

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Federal Distributors Building Expansion	Boring #:	B-1
Location:	2019 Lisbon Street	Project #:	18022
City, State:	Lewiston, Maine	Sheet:	2 of 2
		Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	10 ft +/-	191 ft +/-	Observed moisture content

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
23								GLACIAL MARINE DEPOSIT (Presumpscot Formation)
	FIELD VANES							
24			Tip of Vane					
	FV-4		24			S_U = 475 psf, $S_{U(r)}$ = 125 psf		
25								
26								
	FV-5		20			S_U = 525 psf, $S_{U(r)}$ = 175 psf		
27								
28								
	FV-6		22			S_U = 600 psf, $S_{U(r)}$ = 150 psf		
29								
30								
	FV-7		30			S_U = 700 psf, $S_{U(r)}$ = 150 psf		
31								
32								
	FV-8		32			S_U = 750 psf, $S_{U(r)}$ = 175 psf		
33								
34								
	FV-9		34			S_U = 750 psf, $S_{U(r)}$ = 175 psf		
35								
36								
	FV-10		36			S_U = 825 psf, $S_{U(r)}$ = 200 psf		
37					165.0	End of Exploration at 36', No Refusal		36'
38								
39								
40								
41								
42								
43								
44								

Granular Soils		Cohesive Soils	
Blows/ft.	Density	Blows/ft.	Consistency
0-4	V. Loose	<2	V. soft
5-10	Loose	2-4	Soft
11-30	Compact	5-8	Firm
31-50	Dense	9-15	Stiff
>50	V. Dense	16-30	V. Stiff
		>30	Hard

% Composition ASTM D2487
< 5% Trace
5-15% Little
15-30% Some
> 30% With

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
$(S_u)_{fv}$ = Peak / Remolded Undrained Shear Strength

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Federal Distributors Building Expansion	Boring #:	**B-2**
Location:	2019 Lisbon Street	Project #:	18022
City, State:	Lewiston, Maine	Sheet:	1 of 1
		Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	5 ft +/-	196 ft +/-	Observed moisture content
1/29/2018	Caved at 3 ft	198 ft	Measured in open borehole

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/18	0 - 2	3		Dark brown SILT, rootlets, firm, frozen to damp, ML		TOPSOIL
1				3	200.8	Light brown fine SAND-SILT, loose, damp, SM-ML		0.2' MARINE REGRESSIVE SAND DEPOSIT
				4				
2				5				
3								
4								
5								
	S-2	24/18	5 - 7	4		Olive brown and mottled SILT, some fine Sand,	MC = 22.2%	
6				6		loose to compact, wet, ML	Gravel = 0.0%	
				5			Sand = 22.3%	
7				6			Fines = 77.7%	
8								
					193.0			8'+/- GLACIAL MARINE DEPOSIT (Presumpscot Formation)
9								
10								
	S-3	24/24	10 - 12	1		Olive brown and slightly mottled Silty CLAY, some	PP = 2,000 to	
11				3		fine Sand and Sand lenses, firm, wet, CL	4,000 psf	
				3			MC = 27.9%	
12				3				
13								
14								
15								
	S-4	24/24	15 - 17	WOH		Olive brown Silty CLAY, frequent fine Sand-Silt	PP = 500 to	
16				2		seams, firm to soft, wet, CL	2,500 psf	
				2			MC = 27.5%	
17				3				
18								
19								
20								
	S-5	24/24	20 - 22	1		Gray Silty CLAY, frequent fine Sand seams, soft,	PP = 500 to	
21				2		wet, CL	1,000 psf	
				1			MC = 25.5%*	
22				1				
						End of Exploration at 22', No Refusal		22'

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES:
PP = Pocket Penetrometer, MC = Moisture Content
SP = Direct push sample (Gravel punch)
S = Split spoon sample
*Sample was previously frozen and thawed, which may affect moisture content.

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-1**
	Project: Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine		Project #: 18022 Groundwater: 10 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location: Middle of Building Addition		
Equipment: CAT 308E	Elevation & Reference: 200 ft, Grading Plan provided by Sitelines, PA		
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive brown and mottled fine SAND-SILT, trace Clay	0.5'
2	and Gravel, loose/firm to compact/stiff, damp, SM-ML	MARINE REGRESSIVE SAND DEPOSIT
3		
4		
5		
6		
7		
8	Olive brown and mottled Silty CLAY, stiff, damp to wet	7'+/-
9	w/ depth, CL	GLACIAL MARINE DEPOSIT
10		
11		
12		
	Gray Silty CLAY, soft, wet, CL	12'+/-
13		
14		
15	End of Exploration at 14', No Refusal	14' (Elevation 186'+/-)
16		
17		
18		
19		

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-2**
	Project:	Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine	Project #: 18022 Groundwater: 12 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location:	Stormwater Pond	
Equipment: CAT 308E	Elevation & Reference:	204 ft, Grading Plan provided by Sitelines, PA	
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive to light brown and mottled Silty fine SAND,	0.3'
2	loose to compact, frozen to damp, SM	MARINE REGRESSIVE SAND DEPOSIT
3		
4		
5		
6		
7		
8	Olive brown and mottled SILT-CLAY, some fine Sand,	7'+/-
	little Clay, occasional Sand seams, firm, moist to wet,	GLACIAL MARINE DEPOSIT
9	ML-CL	
10		
11		
12		Groundwater pooling at base of test pit
13	End of Exploration at 12', No Refusal	12' (Elevation 192'+/-)
14		
15		
16		
17		
18		
19		

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-3**
	Project:	Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine	Project #: 18022 Groundwater: 10 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location:	Fire Lane NW of Building	
Equipment: CAT 308E	Elevation & Reference:	203 ft, Grading Plan provided by Sitelines, PA	
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive to and mottled SILT, some fine Sand, little Clay, firm, damp to moist, ML	0.3' MARINE REGRESSIVE SAND DEPOSIT
2		
3		
4	Gray SILT-SAND layer at 3'-4'	
5		
6		
7		
8	Olive brown to gray and mottled Silty CLAY, fine Sand lenses, firm to stiff, moist to wet, CL	7'+/- GLACIAL MARINE DEPOSIT
9		
10		
11	Gray Silty CLAY, fine Sand lenses, soft, wet, CL	10.5'
12	End of Exploration at 11.5', No Refusal	11.5' (Elevation 191.5'+/-)
13		
14		
15		
16		
17		
18		
19		

SUMMIT
GEOENGINEERING SERVICES

GRAIN SIZE ANALYSIS - ASTM D6913

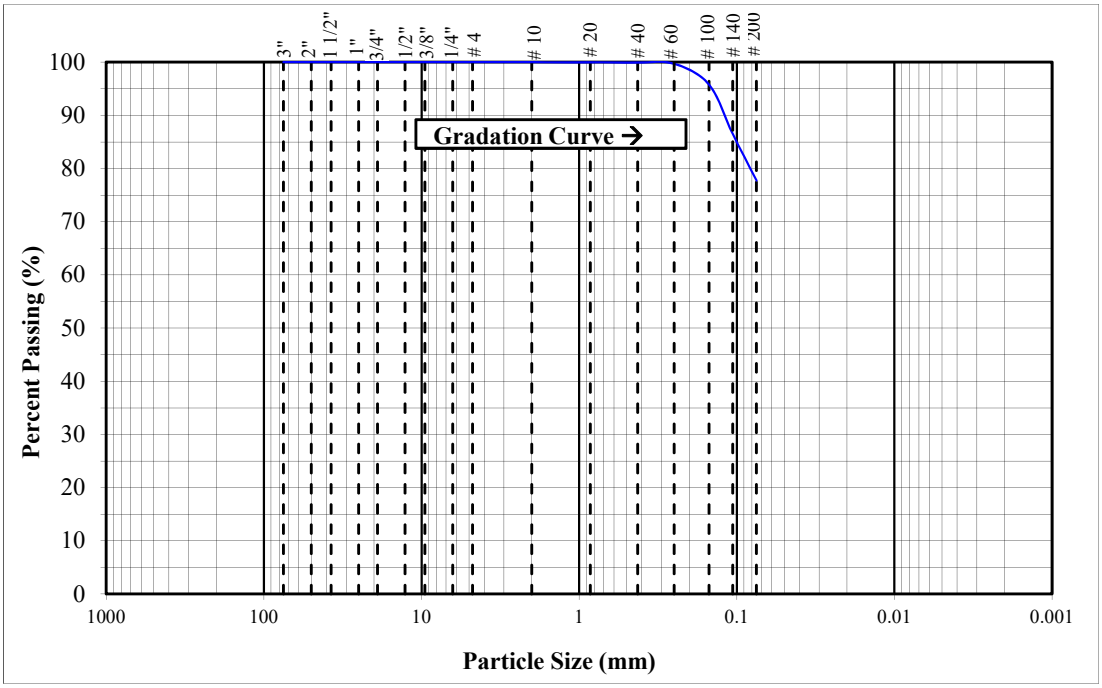
PROJECT NAME:	Federal Distributors Building Expansion	PROJECT #:	18022
PROJECT LOCATION:	2019 Lisbon Street	EXPLORATION #:	B-2
CLIENT:	Sitelines, PA	SAMPLE #:	S-2
TECHNICIAN:	Erika Stewart, P.E.	SAMPLE DEPTH:	5' - 7'
SOIL DESCRIPTION:	SILT, some fine Sand, ML	TEST DATE:	2/12/2018

TEST PROCEDURE

Sample Source: Split Spoon	**Sieve Stack:** Single	**Specimen Procedure:** Moist
Test Method: Method B	**Separating Sieve(s):** 3/8 Inch	**Dispersion Type:** (NaPO3)6

DATA

STANDARD SIEVE DESIGNATION (mm)	ALTERNATIVE SIEVE DESIGNATION (in)	PERCENT PASSING (%)
75	(3 in)	100.0
50	(2 in)	100.0
37.5	(1-1/2 in)	100.0
25.0	(1 in)	100.0
19.0	(3/4 in)	100.0
12.7	(1/2 in)	100.0
9.5	(3/8 in)	100.0
6.35	(1/4 in)	100.0
4.75	(No. 4)	100.0
2.00	(No. 10)	100.0
0.850	(No. 20)	100.0
0.425	(No. 40)	99.9
0.250	(No. 60)	99.7
0.150	(No. 100)	95.8
0.106	(No. 140)	86.5
0.075	(No. 200)	77.7



REMARKS: Moisture Content = 22.5%.

SUMMIT
GEOENGINEERING SERVICES

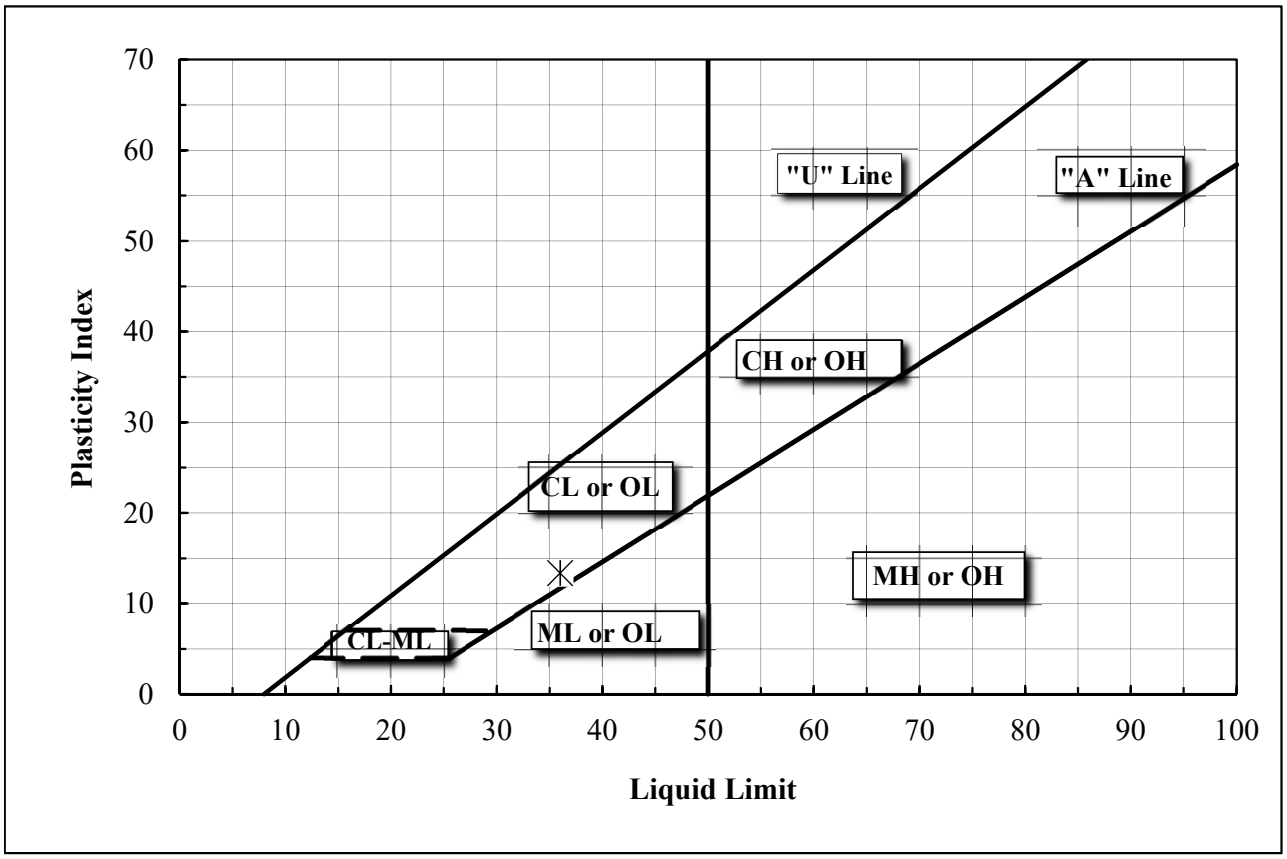
ATTERBERG LIMIT TEST - ASTM D4318

Method "A" (Multi-point)

PROJECT NAME:	Federal Distributors Building Expansion	PROJECT NUMBER:	18022
CLIENT:	Sitelines, PA	SAMPLE NUMBER:	S-4
SOURCE:	Boring B-1	DEPTH:	15' - 17'
TEST DATE:	1/29/2018	TECHNICIAN:	Erika Stewart, P.E.

DATA

Source	Depth	LL	PL	PI	Classification
B-1	15' - 17'	36	23	13	Gray Silty CLAY, frequent fine Sand seams, CL



Notes: Moisture Content = 38.2%

APPENDIX C

LABORATORY TEST RESULTS

SUMMIT
GEOENGINEERING SERVICES

Laboratory Determination of Water (Moisture) Content of Soil ASTM D2216

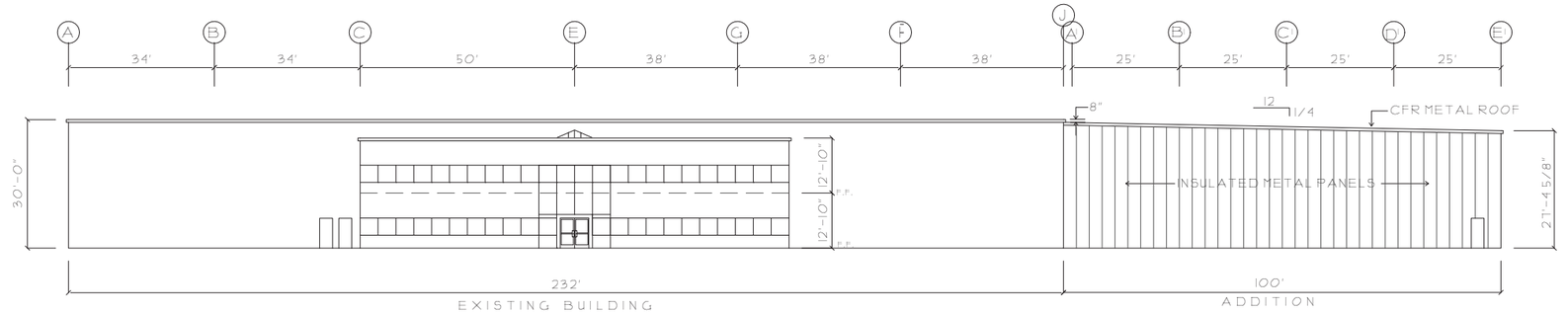
PROJECT NAME:	Federal Distributors Building Expansion	PROJECT #:	18022
PROJECT LOCATION:	2019 Lisbon Street, Lewiston, ME	DRYING METHOD:	Oven Dried
CLIENT:	Sitelines, PA	DESCRIPTION:	Glacial Marine
SOURCE:	Test Borings	TECHNICIAN:	Erika Stewart, P.E.
COLLECTION DATE:	01/29/18	TESTING DATE:	02/02/18

Location	Sample No.	Depth	Moisture Content	Remarks
B-1	S-2	5' - 7'	22.6%	Silt-sand
B-1	S-3	10' - 12'	24.3%	Olive clay w/sand
B-1	S-4	15' - 17'	38.2%	Gray clay
B-2	S-2	5' - 7'	22.2%	Silt-sand
B-2	S-3	10' - 12'	27.9%	Olive clay w/sand
B-2	S-4	15' - 17'	27.5%	Olive clay w/sand
B-2	S-5	20' - 22'	25.5%	Gray clay w/ sand*

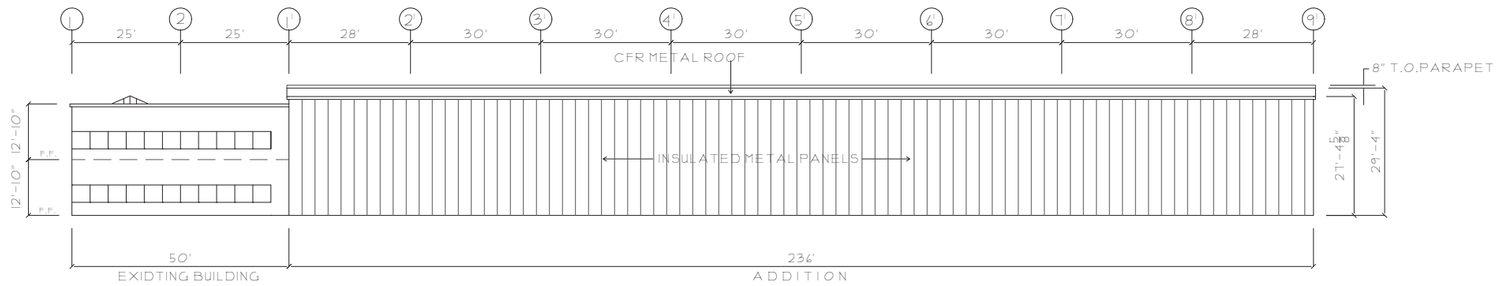
REMARKS: *Sample was previously frozen and thawed, which may affect moisture content.

Attachment I
Architecture

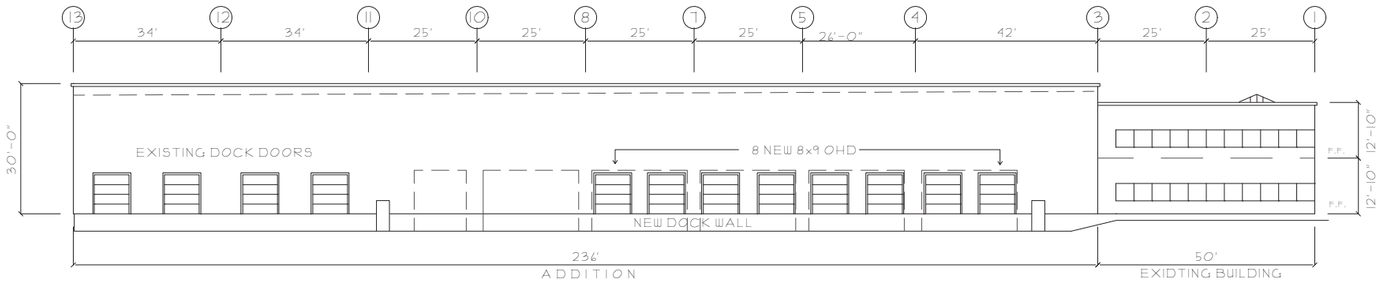
This attachment includes architectural elevations of the proposed building.



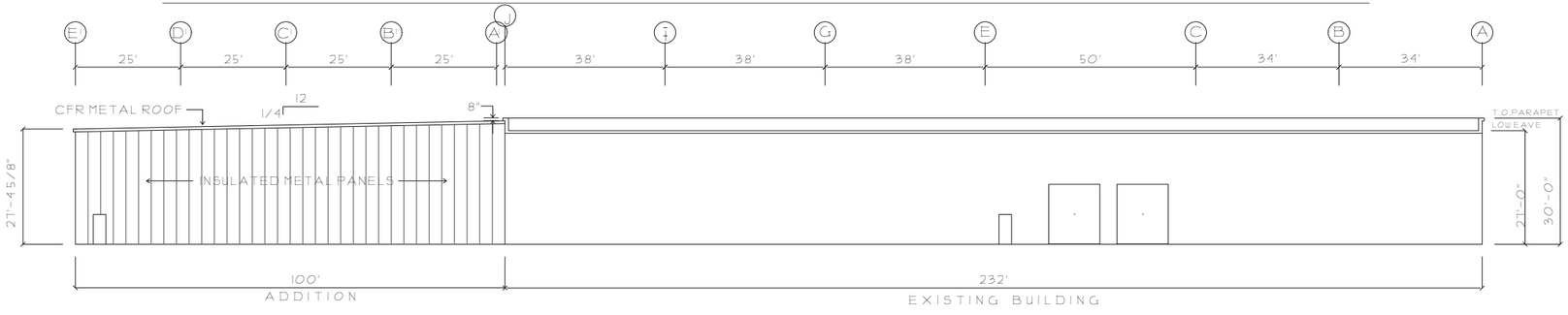
EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION

General Notes:

Sheridan
www.sheridancorp.com
FAIRFIELD
PORTLAND
MAINE

STATE OF MAINE
MICHAEL M. LEPAGE
No. 10265
LICENSED ARCHITECT
2/20/2018

Engineering Designs For:

Federal Dist.

2075 Lisbon Rd.
Lewiston, ME

Revision	DATE
A – Issued for Permitting	2/20/18

Sheet Title:

BUILDING
ELEVATIONS

Scale: 1/16"=1'

Drawn by: RP

Checked by: MML

Project No: 170008

Date: 12/20/17

Sheet No:

D-200-0A

Attachment J
Site Plans

The project site plans are included for review as a separate plan set of full site documents.

Site Location of Development Law
38 M.R.S.A. § 481-490

PERMIT APPLICATION
Federal Distributors
Building Expansion
2019 Lisbon Street
Lewiston, Maine

Prepared For

Federal Distributors, Inc.
PO Box 2007
Lewiston, Maine 04241

Prepared By

Sitelines P.A.
8 Cumberland Street
Brunswick, Maine 04011

March 6, 2018

Department of Envionmental Protection
Bureau of Land & Water Quality
17 State House Station
Augusta, Maine 04333
Telephone: 207-287-3901

FOR DEP USE
ATS #_____
L-_____
Total Fees: _____
Date: Received _____

FORM A PAGE 1 **04/08**

****

SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION 38 M.R.SA. §§481-490

PLEASE TYPE OR PRINT IN *INK ONLY*

This application is for: (CHECK THE ONE THAT APPLIES)	☐ **20 acre development** ☐ **Planning Permit** ☐ **Metallic Mining**	☐ **Marine Oil Terminal** ☒ **Structure** ☐ **Subdivision**	☐ **Major Amendment** ☐ **Minor Amendment**

1. Name of Applicant:	**Federal Distributors, Inc. Attn: John Cronin**	**6. Name of Agent: (if applicable)**	**Sitelines, PA Attn: Curtis Y. Neufeld, P.E.**
2. Applicant's Mailing Address:	**PO Box 2007 Lewiston, ME 04241**	**7. Agent's Mailing Address:**	**8 Cumberland Street Brunswick, ME 04011**
3. Applicant's Daytime Phone #:	**N/A**	**8. Agent's Daytime Phone # :**	**(207) 725-1200**
4. Applicant's Fax #: (if available)	**N/A**	**9. Agent's Fax # and e-mail address:**	**(207) 725-1114**
5. Applicant's *e-mail address*: (REQUIRED -license will be sent via: e-mail):	**jcronin@federaldistributors.com**	**10. Agent's *e-mail address* (REQUIRED - license will be sent via e-mail):**	**cneufeld@sitelinespa.com**

PROJECT INFORMATION

11. Name of Development:	**Federal Distributors Building Expansion**						
12. Map and Lot #'s:	**Map #:46**	**Lot #: 12**	**13. Deed Reference #'s:**	**Book #: 8930**	**Page #: 32**		
14. Location of Project City/Town:	**Lewiston**	**15. County:**	**Androscoggin**	**16. UTM Northing**	**4878537 (Zone 19)**	**17. UTM Easting**	**408618 (Zone 19)**
18. Brief Description of Project including total parcel size:	**The applicant is proposing to construct a 23,612 s.f. building expansion to an existing warehouse and distribution facility and a new fire lane around the perimeter of the building.**						

19. Type of Direct Watershed: (Check all that apply)

☐ Lake not most at risk ☐ River, stream or brook ☐ Coastal wetland
☐ Lake most at risk ☐ Urban impaired stream ☐ Wellhead or public water
☐ Lake most at risk, severely blooming ☐ Freshwater wetland

19. Name of Waterbody Project Site drains to:	**Forested Wetland/Natural Drainage Channel**		
21. Amount of Developed Area:	Total acres**: 7.02 ac**	Existing Developed area: **6.40 ac**	New Developed area: **0.62 ac**
22. Amount of Impervious Area:	Total acres**: 4.14 ac**	Existing Impervious areas: **3.37 ac**	New Impervious area: **0.76 ac**

23. Development started prior to obtaining a license?:	☐ **Yes** ☒ **No**			
24. Development or any portion of the site subject to enforcement action?	☐ **Yes** ☒ **No**	**If yes**, name of enforcement staff involved?		
25. Common scheme of development?:	☐ **Yes** ☒ **No**	**26. Title, Right or Interest:**	☒ **own** ☐ **lease**	☐ **purchase option** ☐ **written agreement**
27. Natural Resources Protection Act permit required?:	☐ **Yes** ☒ **No**	**If yes:**	☐ **PBR**	☐ **Tier 1** ☐ **Full Permit** ☐ **Tier 2**
28. Existing DEP Permit number (if applicable):				
29. Names of DEP staff person(s) present at the pre-application meeting:	**None, subject to Delegated Authority for City of Lewiston**			
30. Does agent have an interest in project? If yes, what is the interest?	☐ **Yes** ☒ **No**			

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

CERTIFICATIONS / SIGNATURES

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

Further, I herby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the electronic address located on the front page of this application (see #5 for the applicant and #10 for the agent)"..

Signed: [signature] **Title** AGENT **Date:** 3/6/2018

Notice of Intent to Comply with Maine Construction General Permit	**With this Site Law application form and my signature, I am filing notice of my intent to carry out work which meets the requirements of the Maine Construction General Permit (MCGP). I have read and will comply with all of the MCGP standards.** **If this form is not being signed by the landowner or lessee of the property, attach documentation showing authorization to sign.** **Signed** [signature] (AGENT) **Date:** 3/6/2018

NOTE: You must file a MCGP Notice of Termination (Form K) within 20 days of completing permanent stabilization of the project site.

CERTIFICATION

The person responsible for preparing this application and/or attaching pertinent site and design information hereto, by signing below, certifies that the application for development approval is complete and accurate to the best of his/her knowledge.

Signature: [signature]

Name (print): Curtis Y. Neufeld, P.E.

Date: 3/6/2018

Re/Cert/Lic No.:
Engineer 9779
Geologist
Soil Scientist
Land Surveyor 2137
Site Evaluator
Active Member of the Maine Bar
Professional Landscape Architect
Other

February 22, 2018

2714-2

John Cronin
Federal Distributors Inc.
2075 Lisbon Rd.
Lewiston, ME 04241

Re: Designation of Agent Authorization
Federal Distributors, Inc.
Lisbon Road (Route 196), Lewiston, Maine
Tax Map 46, Lot 12

Dear John:

As required by various approval agencies, please indicate by signing below that Sitelines, PA is authorized to act as your agent for the specific purpose of preparation and submission of local permitting applications on your behalf for the proposed building addition for Federal Distributors, Inc. at 2075 Lisbon Road (Route 196), Lewiston, Maine.

Sincerely,

Curtis Y. Neufeld, P.E.
Vice President

The undersigned hereby gives Sitelines, PA the authority to act as agent for Federal Distributors Inc. for the specific purpose of preparation and submission of local and state permitting applications for the project specifically identified above (Sitelines Project Number 2714).

John Cronin

21 February, 2018
Date

FORM D 08/08

SUBMISSIONS CHECKLIST

If a provision is not applicable, put "NA"

Section 1. Development description

A. Narrative

_x__ 1. Objectives and details

_x__ 2. Existing facilities (with dates of construction)

B. Topographic map

_x__ 1. Location of development boundaries

_x__ 2. Quadrangle name

C. Construction plan

_x__ 1. Outline of construction sequence (major aspects)

_x__ 2. Dates

D. Drawings

_x__ 1. Development facilities

_x__ a. Location, function and ground area

_x__ b. Length/cross-sections for roads

_x__ 2. Site work (nature and extent)

_x__ 3. Existing facilities (location, function ground area and floor area)

4. Topography

_x__ a. Pre- and post-development (contours 2 ft or less)

_x__ b. Previous construction, facilities and lot lines

_x__ **Section 2. Title, right or interest** (copy of document)

Section 3. Financial capacity

_x__ A. Estimated costs

_x__ B. Financing

_x__ 1. Letter of commitment to fund

N/A_ 2. Self-financing

a. Annual report

b. Bank statement

N/A_ 3. Other

a. Cash equity commitment

b. Financial plan

c. Letter

N/A_ 4. Affordable housing information

Section 4. Technical ability (description)

_x__ A. Prior experience (statement)

_x__ B. Personnel (documents)

Section 5. Noise

_x__ A. Developments producing a minor noise impact (statement)

N/A_ 1. Residential developments

N/A_ 2. Certain non-residential subdivisions

N/A_ 3. Schools and hospitals

_x__ 4. Other developments

_x__ a. Type, source and location of noise

_x__ b. Uses, zoning and plans

_x__ c. Protected locations

_x__ d. Minor nature of impact

_x__ e. Demonstration

N/A_ B. Developments producing a major noise impact (full noise study)

N/A 1. Baseline
N/A a. Uses, zoning and plans
N/A b. Protected locations
N/A c. Quiet area
N/A 2. Noise generated by the development
N/A a. Type, source and location of noise
N/A b. Sound levels
N/A c. Control measures
N/A d. Comparison with regulatory limits
N/A e. Comparison with local limits

_x__ **Section 6. Visual quality and scenic character**(narrative, description, visual impact analysis)

_x__ **Section 7. Wildlife and fisheries** (narrative)

_x__ **Section 8. Historic sites** (narrative)

_x__ **Section 9. Unusual natural areas** (narrative)

Section 10. Buffers
_x__ A. Site plan and narrative

Section 11. Soils
_x__ A. Soil survey map and report
_x__ 1. Soil investigation narrative
_x__ 2. Soil survey map
_x__ B. Soil survey intensity level by development type
N/A 1. Class A (High Intensity) Soil Survey
N/A 2. Class B (High Intensity) Soil Survey
N/A 3. Class C (Medium High-Intensity) Soil Survey
_x__ 4. Class D (Medium Intensity) Soil Survey
_x__ C. Geotechnical Investigation
_x__ D. Hydric soils mapping

Section 12. Stormwater management
_x__ A. Narrative
_x__ 1. Development location
_x__ 2. Surface water on or abutting the site
N/A 3. Downstream ponds and lakes
_x__ 4. General topography
_x__ 5. Flooding
_x__ 6. Alterations to natural drainage ways
_x__ 7. Alterations to land cover
_x__ 8. Modeling assumptions
_x__ 9. Basic standard
_x__ 10. Flooding standard
_x__ 11. General standard
_x__ 12. Parcel size
_x__ 13. Developed area
_x__ 14. Disturbed area
_x__ 15. Impervious area
_x__ B. Maps
_x__ 1. U.S.G.S. map with site boundaries
_x__ 2. S.C.S. soils map with site boundaries
_x__ C. Drainage Plans (a pre-development plan and a post-development plan)
_x__ 1. Contours
_x__ 2. Plan elements
_x__ 3. Land cover types and boundaries
_x__ 4. Soil group boundaries

x 5. Stormwater quantity subwatershed boundaries
x 6. Stormwater quality subwatershed boundaries
x 7. Watershed analysis points
x 8. Hydrologic flow lines (w/flow types and flow lengths labeled)
x 9. Runoff storage areas
x 10. Roads and drives
x 11. Buildings, parking lots, and other facilities
x 12. Drainage system layout for storm drains, catch basins, and culverts
x 13. Natural and man-made open drainage channels
x 14. Wetlands
x 15. Flooded areas
x 16. Benchmark
x 17. Stormwater detention, retention, and infiltration facilities
x 18. Stormwater treatment facilities
x 19. Drainage easements
N/A 20. Identify reaches, ponds, and subwatersheds matching stormwater model
x 21. Buffers
x D. Runoff analysis (pre-development and post development)
x 1. Curve number computations
x 2. Time of concentration calculations
x 3. Travel time calculations
x 4. Peak discharge calculations
x 5. Reservoir routing calculations
x E. Flooding Standard
N/A 1. Variance submissions (if applicable)
N/A a. Submissions for discharge to the ocean, great pond, or major river
i. Map
ii. Drainage plan
iii. Drainage system design
iv. Outfall design
v. Easements
N/A b. Insignificant increase
i. Downstream impacts
N/A c. Submissions for discharge to a public stormwater system
i. Letter of permission
ii. Proof of capacity
ii. Outfall analysis and design (pictures)
x 2. Sizing of storm drains and culverts
x 3. Stormwater ponds and basins
x a. Impoundment sizing calculations
x b. Inlet calculations
x c. Outlet calculations
x d. Emergency spillway calculations
x e. Subsurface investigation report
N/A f. Embankment specifications
N/A g. Embankment seepage controls
x h. Outlet seepage controls
x i. Detail sheet
x j. Basin cross sections
x k. Basin plan sheet
N/A 4. Infiltration systems
N/A a. Well locations map
N/A b. Sand and gravel aquifer map
N/A c. Subsurface investigation report with test pit or boring logs
N/A d. Permeability analysis
N/A e. Infiltration structure design
N/A f. Pollutant generation and transport analysis
N/A g. Monitoring and operations plan
N/A i. Locations of storage points of potential contaminants
N/A ii. Locations of observation wells and infiltration monitoring plan

N/A iii. Groundwater quality monitoring plan
x 5. Drainage easement declarations.
x F. Stormwater quality treatment plan peak discharge calculations
x 1. Basic stabilization plan
x a. Ditches, swales, and other open channel stabilization
x b. Culvert and storm-drain outfall stabilization
x c. Earthen slope and embankment stabilization
x d. Disturbed area stabilization
x e. Gravel roads and drives stabilization
x 2. General Standard
x a. Calculations for sizing BMP
x b. Impervious area calculation
x c. Developed area calculation
x d. Summary spreadsheet of calculations
N/A 3. Phosphorus control plan
N/A a. Calculations for the site's allowable phosphorus export
N/A b. Calculations for determining the developed site's phosphorus export
N/A c. Calculations for determining any phosphorus compensation fees
N/A 4. Offset Credits
N/A a. Urban impaired stream
N/A Offset credit calculation
N/A b. Phosphorus credit determination
N/A i. Location map
N/A ii. Scaled plan
N/A iii. Title and right
N/A iv. Demolition plan
N/A v. Vegetation plan
N/A vi. Offset credit calculation
N/A vii. Calculation for the new allowable export
x 5. Runoff treatment measures
x a. structural measures
x i. Design drawings and specifications
x ii. Design calculations
x iii. Maintenance plan
N/A iv. TSS removal or phosphorus treatment factor determinations
x v. Stabilization plan
N/A b. Vegetated buffers
N/A i. Soil survey
N/A ii. Buffer plan
N/A iii. Turnout and level spreader designs
N/A iv. Deed restrictions
N/A 6. Control plan for thermal impacts to coldwater fisheries
N/A 7. Control plan for other pollutants
x 8. Engineering inspection of stormwater management facilities
x G. Maintenance of common facilities or property
x 1. Components of the maintenance plan
x A. Maintenance of facilities by owner or operator
x 1. Site owner or operator (name legally responsible party)
x 2. Contact person responsible for maintenance
x 3. Tranfer mechanism
x 4. List of facilities to be maintained
x 5. List of inspection and maintenance tasks for each facility
x 6. Identifications of any deed covenants, easements, or restrictions
x 7. Sample maintenance log
N/A 8. Copies of any third-party maintenance contracts
N/A B. Maintenance of facilities by homeowner's association
N/A 1. Incorporation documents for the association
N/A 2. Membership criteria
N/A 3. Association officer responsible for maintenance
N/A 4. Establishment of fee assessment for maintenance work

N/A 5. Establishment of lien system
N/A 6. Reference to department order(s) in association charter
N/A 7. Tranfer mechanism from developer to association
N/A 8. List of facilities to be maintained
N/A 9. Identification of any deed covenants, easements, or restrictions
N/A 10. Renewal of covenants and leases
N/A 11. List of inspection and maintenance tasks for each facility
N/A 12. Sample maintenance log
N/A 13. Copies of any third-party maintenance contracts
N/A C. Maintenance of facilities by municipality or municipal district
N/A 1. Identification of the municipal department or utility district
N/A 2. Contact person responsible for maintenance
N/A 3. Evidence of acceptance of maintenance responibility
N/A 4. Tranfer mechanism from developer
N/A 5. List of facilities to be maintained
N/A 6. List of inspection and maintenance tasks for each facility
N/A 7. Identifications of any deed covenants, easements, or restrictions
N/A 8. Sample maintenance log
x 2. General inspection and maintenance requirements
x a. Drainage easements
x b. Ditches, culverts, and catch-basin systems
x c. Roadways and parking surfaces
N/A d. Stormwater detention and retention facilities
1. Embankment inspection and maintenance
2. Outlet inspection and clean-out
3. Spillway maintenance
4. Sediment removal and disposal
N/A e. Stormwater infiltration facilities
N/A 1. Sediment protection plan
N/A 2. Infiltration rehabilitation plan
N/A 3. Sediment removal and disposal
N/A 4. Groundwater monitoring plan
N/A f. Proprietary treatment devices
N/A g. Buffers
x h. Other practices and measures

Section 13. Urban Impaired Stream Submissions

N/A 1. Off-site credits
N/A 2. Compensation fees (Urban Impaired Stream/Phosphorus)
N/A 3. Development impacts

Section 14. Basic Standards

x A. Narrative
x 1. Soil types
x 2. Existing erosion problems
x 3. Critical areas
x 4. Protected natural resources
x 5. Erosion control measures
x 6. Site stabilization
x B. Implementation schedule
x C. Erosion and sediment control plan
x 1. Pre-development and post-development contours
x 2. Plan scale and elements
x 3. Land cover types and boundaries
x 4. Existing erosion problems
x 5. Critical areas
x 6. Protected natural resources
x 7. Locations (general)
x 8. Locations of controls
x 9. Disturbed areas

x 10. Stabilized construction entrance
x D. Details and specifications (for both temporary and permanent measures)
x E. Design calculations
x F. Stabilization plan
x 1. Temporary seeding
x 2. Permanent seeding
x 3. Sodding
x 4. Temporary mulching
x 5. Permanent mulching
x G. Winter construction plan
x 1. Dormant seeding
x 2. Winter mulching
N/A H. Third-party inspections
N/A 1. Inspector's name, address, and telephone number
N/A 2. Inspector's qualifications
N/A 3. Inspection schedule
N/A 4. Contractor contact
N/A 5. Reporting protocol

Section 15. Groundwater

x A. Narrative
x 1. Location and maps
x 2. Quantity
x 3. Sources
x 4. Measures to prevent degradation
N/A B. Groundwater protection plan
N/A C. Monitoring plan
N/A 1. Monitoring points
N/A 2. Monitoring frequency
N/A 3. Background conditions
N/A 4. Monitoring parameters
N/A 5. Personnel qualifications
N/A 6. Proof of training
N/A 7. Equipment and methods
N/A 8. Quality assurance/quality control
N/A 9. Reporting requirements
N/A 10. Remedial action plan
N/A D. Monitoring well installation report
N/A 1. Well location map
N/A 2. Elevation data
N/A 3. Well installation data
N/A 4. Well construction details
N/A 5. Borehole logs
N/A 6. Summary of depth measurements
N/A 7. Characteristics of subsurface strata
N/A 8. Well installation contract
N/A 9. Schematic cross-sections
N/A 10. Monitoring point summary table
N/A 11. Protective casing
N/A 12. On-site well identification

Section 16. Water supply

x A. Water supply method
N/A 1. Individual wells (evidence of sufficient/healthful supply)
a. Support of findings by well drillers
b. Support of findings by geologist
N/A 2. Common well(s) (reports)
N/A a. Hydrogeology report

N/A b. Engineering report
N/A c. Well installation report
N/A d. Long-term safe yield and zone of influence determination
N/A e. Public water supply
N/A i. Proposed well or wells
N/A ii. Existing well or wells
N/A iii. Water quality analysis
N/A 3. Well construction in shallow-to-bedrock areas
N/A 4. Additional information
_x__ 5. Off-site utility company or public agency
N/A 6. Other sources
N/A B. Subsurface wastewater disposal systems (locations of systems and wells)
N/A C. Total usage (statement re: total anticipated water usage)

Section 17. Wastewater disposal

N/A A. On-site subsurface wastewater disposal systems (investigation results)
N/A 1. Site plan
N/A 2. Soil conditions summary table
N/A 3. Logs of subsurface explorations
N/A 4. Additional test pits, borings or probes
N/A a. Soil conditions A
N/A b. Soils with Profiles 8 and 9 parent material
N/A c. Soil conditions D
N/A d. Disposal field length 60 feet or greater
N/A 5. 3-bedroom design
N/A 6. Larger disposal systems
N/A a. System design details
N/A b. Plan view
N/A c. Cross sections
N/A d. Test pit data
N/A e. Mounding analysis
N/A B. Nitrate-nitrogen impact assessment
N/A 1. When required
N/A a. Exempted____
N/A i. Conventional systems meeting certain setbacks
N/A ii. Denitrification systems
N/A b. Special conditions and other exemptions
N/A 2. Assumptions
N/A a. Initial concentration
N/A b. Background concentration
N/A c. Contribution from development
N/A d. Mixing and dilution
N/A e. Severe-drought scenario
N/A f. Wastewater flow to subsurface wastewater disposal fields
N/A 3. Assessment report minimum requirements
N/A a. Narrative and calculations
N/A b. Site plan
N/A i. Well locations
N/A ii. 10 mg/l and 8 mg/l isocons
N/A iii. Groundwater contours and groundwater flow divides
N/A c. References
N/A 4. Denitrification systems
N/A a. Design plans and specifications
N/A b. Installation information
N/A c. Monitoring plan
N/A d. Maintentance
N/A e. Backup system
_x__ D. Municipal facility or utility company letter

N/A E. Storage or treatment lagoons

Section 18. Solid waste (list: type, quantity, method of collection and location)

x A. Commercial solid waste facility (final disposal location)
x B. Off-site disposal of construction/demolition debris (final disposal location)
x C. On-site disposal of woodwaste/land clearing debris
N/A 1. Applicability of rules (evidence re: applicability of rules)
N/A 2. Burning of wood wastes
N/A a. Delineation on site plan
N/A b. Plans for handling unburned woodwaste and woodash
N/A c. Evidence of capacity to accept waste (approved facility)
N/A d. Usage of materials
N/A e. Data on mixing ratios and application rates
N/A D. Special or Hazardous Waste

Section 19. Flooding

x A. Explanation of flooding impact
N/A B. Site plan showing 100-year flood elevation
N/A C. Hydrology analysis
x D. FEMA flood zone map with site boundaries

Section 20. Blasting

N/A A. Site Plan or map
N/A B. Report
1. Assessment
2. Blasting plan

Section 21. Air emissions (narrative and summary)

x A. Point and non-point sources identified
N/A B. Emission components (point sources)

Section 22. Odors

x A. Identification of nature/source
N/A B. Estimate of areas affected
N/A C. Methods of control

x **Section 23. Water vapor** (narrative)

x **Section 24. Sunlight** (statement and drawing, if required)

Section 25. Notices

x A. Evidence that notice sent
x B. List of abutters for purposes of notice

Table of Contents

Section 1
Development Description

A. Narrative

1. Objectives and details

Federal Distributors, Inc. proposes to construct a building expansion at the existing warehouse and distribution facility located at 2019 Lisbon Street in Lewiston. The applicant is proposing a 23,612 s.f. building expansion to the existing facility along with a new fire lane extended around the perimeter of the new building. The project parcel is identified as Lewiston Tax Map 46, Lot 12.

The property is located in the Highway Business (HB) Zoning District, in which warehouse is a Permitted Use.

The site will be accessed via an existing full access entrance from Lisbon Street.

2. Existing facilities

The existing parcel is currently developed with a large commercial building utilized as a warehouse/distribution facility and office space.

B. Topographic Map

A Topographic Map based on USGS topographic information is enclosed as Attachment 1. Elevations on the developed part of the subject property vary from a 190 to 210.

C. Construction plan

Project construction is expected to begin in Summer of 2018.

Major site work activities for the construction of the proposed improvements and their sequence follow:

1. Install stabilized construction entrance and maintain until site is paved/stabilized.
2. Only those areas necessary for construction will be disturbed.
3. Prior to the start of construction, sediment barrier will be installed across the slope(s), on the contour, at or just below the limits of clearing or grubbing, and/or just above any adjacent travelled way to protect it from construction-related erosion.
4. Clear and grub work site as needed to execute plans using caution not to over expose the site.
5. Begin footings and building foundation, including foundation drainage.
6. Disturbed areas will be permanently stabilized within fifteen (15) days of final grading, or temporarily stabilized within thirty (30) days of the initial disturbances of soils. Disturbed areas will be stabilized before storms. Loam will be saved for later use where possible. Excess soil materials will be used as fill or removed from site to an approved location.
7. At a minimum, the erosion control measures shall be reviewed and repaired once a week or immediately following any significant rainfall or snowmelt. Sediment trapped behind these

barriers shall be excavated when it reaches a depth of 6-inches and be discarded on the site. All erosion control measures shall be installed as indicated on the drawings.

8. Install utilities, storm drains, catch basins, and appurtenances. Storm drains, catch basins, and treatment measures will be installed prior to construction of site elements that discharge to these systems.

9. Construct pavement areas.

10. Construct building.

11. Install paving and curbing.

12. Loam, lime, fertilize, seed, and mulch landscaped and other disturbed areas.

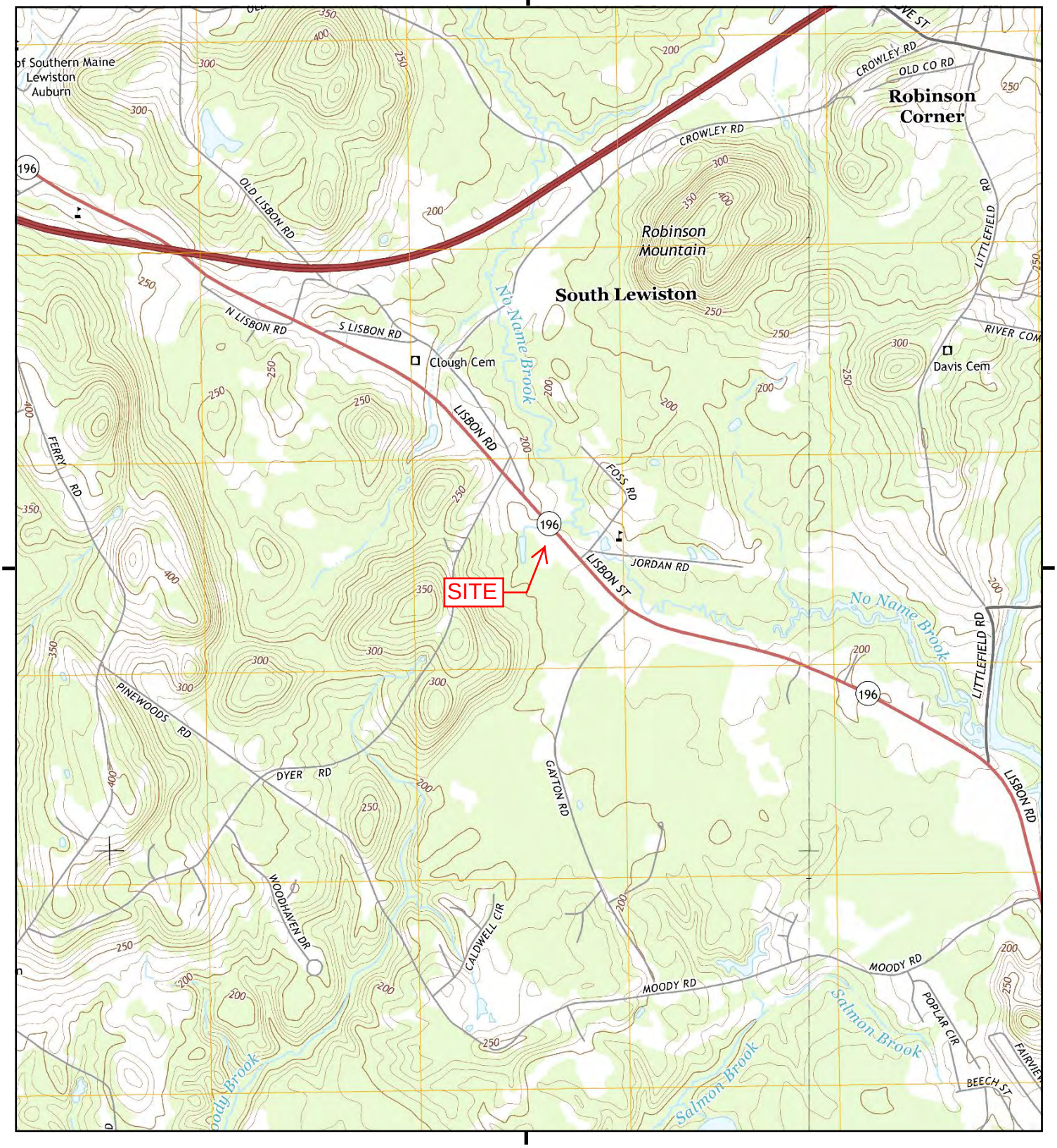
13. Once the site is stabilized and a 90% catch of vegetation has been obtained, remove all temporary erosion control measures.

14. Touch up loam and seed.

Attachment 1 - USGS map

Historical Topo Map

2014



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lewiston, 2014, 7.5-minute
E, Lisbon Falls North, 2014, 7.5-minute

SITE NAME: Federal Distributors
ADDRESS: 2019 Lisbon Street
LEWISTON, ME 04240
CLIENT: SITELINES, PA

N

Section 2
Title, Right or Interest

A copy of the deed is included as an attachment to this section.

Attachment 1 – Deed

Bk 8930 Pg32 #8361
06-16-2014 @ 12:42p

DEED OF SALE BY PERSONAL REPRESENTATIVE
(TESTATE)

PAUL B. CRONIN, duly appointed and acting personal representative of the estate of Joseph S. Cronin, as shown by the probate records of Androscoggin County, Maine, Docket Number 2013-436, and not having given notice to each person succeeding to an interest in the real property described below at least ten (10) days prior to the sale, such notice not being required under the terms of the decedent's will, by the power conferred by the Probate Code, and every other power, for consideration paid grants to **FEDERAL DISTRIBUTORS, INC.**, of Lewiston, Androscoggin County, Maine, two certain lots or parcels of land with the buildings thereon in the City of Lewiston, County of Androscoggin, State of Maine situated on both sides of the Lisbon Road, A.K.A. Route 196, being more particularly described on the attached Exhibit A.

MAINE REAL ESTATE TRANSFER TAX PAID

For source of title see deed from Melvin Newendyke and Roger C. Barton, Personal Representatives of the Estate of Harry G. Crowley to Paulette B. Cronin, as life tenant, and Joseph S. Cronin, as remainderman, dated May 26, 1988 and recorded in the Androscoggin County Registry of Deeds in Book 2260, Page 91. Paulette B. Cronin, the named life tenant, died September 9, 2005.

Title not searched; description not verified.

WITNESS my hand and seal this 11th day of June, 2014.

Witness

Paul B. Cronin, Personal Representative of
Estate of Joseph S. Cronin

STATE OF MAINE
ANDROSCOGGIN, ss.

The foregoing instrument was acknowledged before me this 11th day of June, 2014, by Paul B. Cronin, in his said capacity as personal representative of the estate of Joseph S. Cronin.

Notary Public

SEAL

Jill A. Checkoway
Printed Name of Notary Public
My Commission Expires: 3/5/2016

H:\DOCS\CHECKOWAY\Cronin, Joseph eo\Deed of Sale.doc

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

Section 3
Financial Capacity

A. Estimated costs

The estimated site costs are approximately $1,500,000 to develop the infrastructure for construction of the site improvements, building, utilities, and stormwater management.

Costs for the development will be borne by the developer.

B. Financing

A letter from their funding source indicating funds available and their past banking relationship with the Applicant will be submitted under separate cover.

C. Certificate of Good Standing

A Certificate of Good Standing from the Secretary of State for Federal Distributors, Inc. has been included as an attachment to this section.

Attachment 1 – Certificate of Good Standing

MAINE
Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Fri Feb 23 2018 15:28:08. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
FEDERAL DISTRIBUTORS, INC.	19470029 D	BUSINESS CORPORATION	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
03/05/1947	N/A	MAINE

Other Names	(A=Assumed ; F=Former)
NONE	

Clerk/Registered Agent

JOHN E. CRONIN
2075 LISBON RD PO BOX 2007
LEWISTON, ME 04241 2007

Section 4
Technical Ability

A. Prior Experience

The design team, led by Sitelines, PA, has extensive experience planning, designing, and gaining approvals for commercial development projects throughout the state, including the multiple residential subdivisions and multiple Goodwills throughout the State, and the redevelopment of the Kennebec Journal site in Augusta.

B. Personnel

The following professional consultants have been retained to assist with this project:

- **Sitelines, P.A. (Joseph J. Marden, P.E.)** — Site Design and Civil Engineering, Land Surveying
- **Atlantic Environmental, LLC (Tim Forrester, Biologist)** — Wetland Delineation
- **Summit Geoengineering Services (Craig Coolidge, P.E.)** — Geotechnical
- **The Sheridan Corporation (David Whitney)** — Building Design

Section 5
Noise

A. Developments producing a minor noise impact

1. This project falls within the "Other developments" category (4) of development as those that produce "minor levels of sound impacts". The following information is provided in support of this classification.

    a. *Type, source, and location of noise:* During construction, the project will cause minor noise impacts typically associated with site and building construction. The source of the noise will mostly be from heavy equipment operation during construction within the area of the site development. The development will adhere to the City of Lewiston's Ordinance restricting construction hours in order to limit adverse construction noise during non-business hours.

    b. *Uses, zoning and plans:* The project site is located within the City of Lewiston's Highway Business (HB) Zoning District. The proposed uses for the project site are consistent with the zoning district uses and other commercial uses in the area.

    c. *Protected Location:* There are no known protected locations near this development.

    d. *Minor Nature of Impact:* It is common that commercial buildings have mechanical equipment located externally to the structure. These locations can vary due to the building, and are typically either roof-mounted or ground–mounted, dependent on the roof alignment and style. These noise sources are typically fixed and can be physically screened from abutting parcels. It is noted that development area is located far from abutting uses and will preserve vegetated buffers on undevelopable land along the parcel's boundaries. These buffers are anticipated to mitigate any noise associated with the proposed project, including fixed and transient sources. The fixed noises described above are all minor in nature and, combined with the size of the site and distances to abutting neighborhoods, would not be expected to have any adverse impacts on neighboring properties.

    e. *Demonstration:* The project is located within the City of Lewiston's Highway Business (HB) Zoning District. The proposed use will conform to those allowed within the zone and will not have an adverse noise impact on the area.

Section 6
Visual Quality and Scenic Character

The existing parcel is located within the Highway Business (HB) Zoning District, which is an area and zoning district established for commercial uses. The abutting properties along Lisbon Street are primarily industrial/commercial uses and are in similar scale to the existing facility located on the site. There are residential properties located along the rear of parcel along Dyer Road, but, due to the size of the subject parcel, the residential properties are located more than 0.25 miles from the developed portion of the site. The proposed improvements will not result in any adverse visual impacts to the surrounding area.

Municipal permitting from the City of Lewiston will be necessary and commercial design standards and architectural review will be included in the process.

Section 7
Wildlife and Fisheries

Maine Department of Inland Fisheries and Wildlife (MDIFW) were contacted for assistance in determining potential fisheries and wildlife habitat impacts that could result from the proposed development. As determined by MDIFW, *"Our department has not mapped any Essential Habitats or fisheries habitats that would be directly affected by your project."*

MDIFW requested a vernal pool survey for the property as part of the proposed development. Based on discussions with wetlands biologist Tim Forrester with Atlantic Environmental, since the wetlands were delineated outside of the vernal pool survey season, he was not able to determine if there were any significant vernal pools located in the vicinity of the developed site. Based on his observations at the time of the delineation, there is the potential for a significant vernal pool located within the wetlands located southwesterly of the proposed building expansion. As such, a NRPA Permit-by-Rule for disturbance with 250-feet of a potential significant vernal pool has been submitted to MDEP. A copy of the application has been submitted as part of a separate package to the City.

Attachment 1 – Response Letter from IF&W

PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

March 12, 2018

Joseph Marden
Sitelines, PA
8 Cumberland St.
Brunswick, ME 04011

RE: Information Request - 2019 Lisbon Street building expansion, Lewiston

Dear Joe:

Per your request received February 20, 2018, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and fisheries habitat concerns within the vicinity of the *2019 Lisbon Street building expansion Project* in Lewiston. For purposes of this review we are assuming tree clearing will be part of your project.

Our Department has not mapped any Essential Habitats or fisheries habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats

Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat.

While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. We recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, 207-902-1569) for further guidance, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. Otherwise, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools

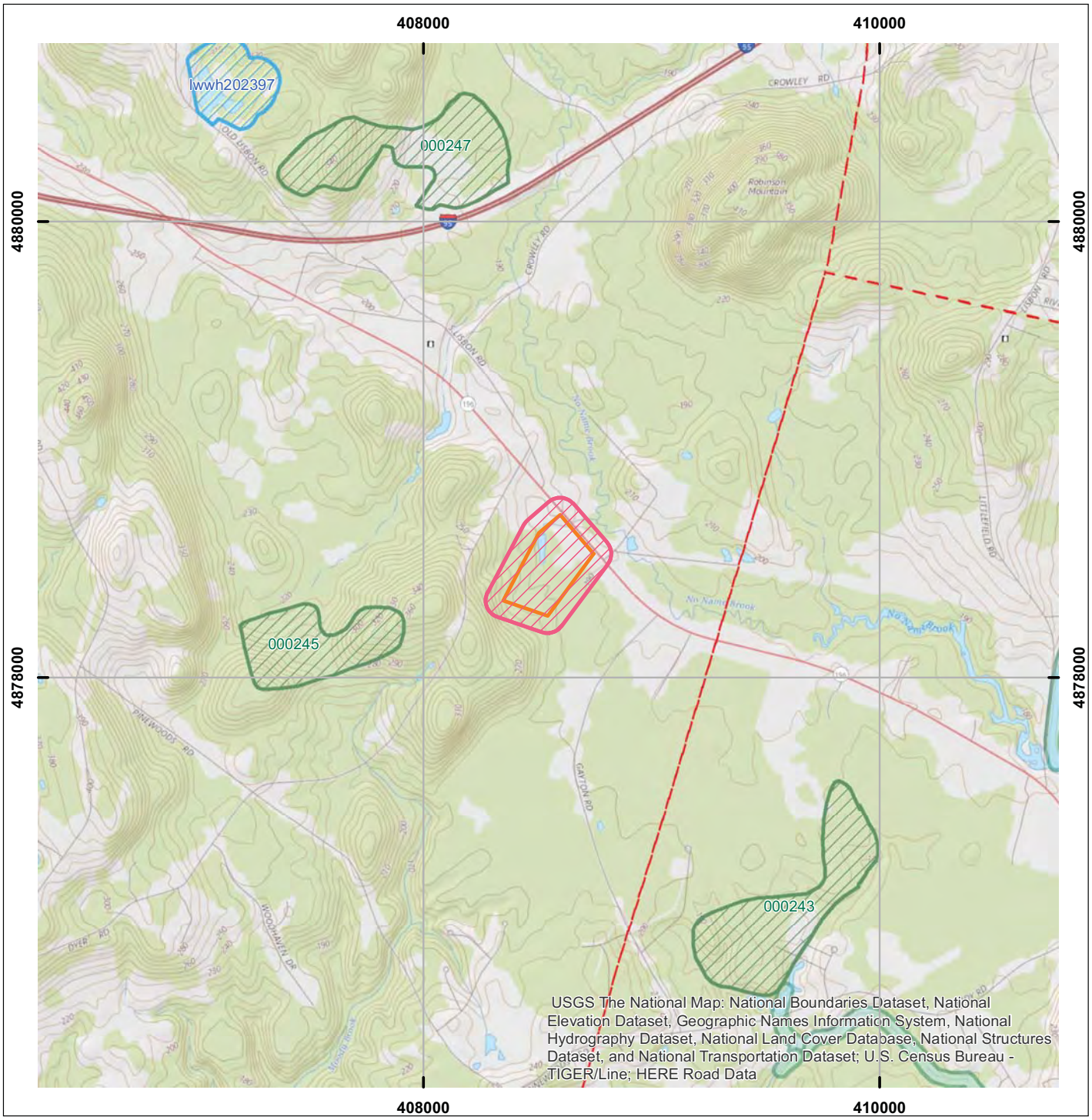
At this time, MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, our Department will need to review and verify any vernal pool data prior to final determination of significance.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

John Perry
Environmental Review Coordinator



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: raremussels (Version 1)

Maine Department of Inland Fisheries and Wildlife

0 0.125 0.25 0.5 0.75 1 Miles

Projection: UTM, NAD83, Zone 19N

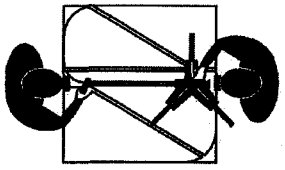
Date: 2/21/2018

- ProjectPolys
- ProjectSearchAreas
- Deer Winter Area
- Inland Waterfowl/Wading Bird
- Special Concern-occupied habitats(100ft buffer)

Section 8
Historic Sites

The Maine Historic Preservation Commission (MHPC) was contacted to determine if the development project would adversely affect any historic sites, historic structures, or archaeological sites. A response from MHPC is included as an Attachment to this section indicating, "*there will be no historic properties affected by the proposed undertaking.*"

Attachment 1 – Response Letter from MHPC



February 17, 2018

2714-9

Kirk F. Mohney
State Historic Preservation Officer
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, Maine 04333

Re: Significant Historic or Archaeological Concerns
Proposed Building Expansion
2019 Lisbon Street, Lewiston, Maine

Dear Mr. Mohney:

On behalf of Valley Distributors, Sitelines, PA is preparing a Site Location of Development Act Permit application for a proposed building expansion at 2019 Lisbon Street in Lewiston, Maine. The project location is identified as Tax Map 46, Lot 12 on the City of Lewiston Tax Maps.

Based on a review of the City of Lewiston's Tax Assessors Information, there are no buildings on, or in the vicinity of, the Site that are fifty (50) years of age or older.

The purpose of this letter is to request information on any significant natural resources associated with the parcels. Please review the USGS Map and Tax Map and research your database to determine if there are any known or suspected resources of significance in this area.

Please contact me with any questions or if you require additional information. Thank you for your assistance with this project.

Very truly yours,

Joseph J. Marden, P.E.
Project Engineer

Enclosures

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

Kirk F. Mohney, 3/2/18
Kirk F. Mohney, Date
State Historic Preservation Officer
Maine Historic Preservation Commission

Section 9
Unusual Natural Areas

The Department of Agriculture, Conservation & Forestry Natural Areas Program was contacted to determine if the development project would adversely affect rare botanical features or other unusual natural areas. A letter from the Department of Agriculture, Conservation & Forestry Natural Areas Program is enclosed indicating that *"there are no rare botanical features documented specifically within the project area."* It is not anticipated the project will have an adverse impact on unusual natural area.

Attachment 1 – Response Letter from Department of Agriculture, Conservation & Forestry

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

March 7, 2018

Joe Marden
Sitelines
8 Cumberland Street
Brunswick, ME 04011

Via email: jmarden@sitelinespa.com

Re: Rare and exemplary botanical features in proximity to: #2714-9, Building Expansion, 2019 Lisbon Street, Lewiston, Maine

Dear Mr. Marden:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received February 17, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Lewiston, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: 1906 Lisbon Street, Lewiston, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dry Land Sedge						
	SC	S2	G5	1997-07-08	3	Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5	2007-09-14	4	Old field/roadside (non-forested, wetland or upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1938-08-18	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Smooth Winterberry Holly						
	SC	S3	G5	1989	22	Forested wetland

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

SNR Not yet ranked.

SNA Rank not applicable.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

Section 10
Buffers

As shown on the enclosed plans, the proposed building expansion is located primarily within area that was previously lawn. In order to install the fire lane around the perimeter of the new building, a swath of wooded area will need to be removed on the eastern side of the development. None of the landscaping between the existing building and Lisbon Street will need to be removed as part of the proposed improvements.

The existing tree lines and proposed limitation of clearing are shown on the enclosed plans.

Section 11
Soils

A. Soil Survey Map and Report

A soil map of the project area is included. The map was generated from the Natural Resources Conservation Service and includes the information available from the medium intensity soil survey.

B. Soil Survey

For the purposes of stormwater pre- and post-development stormwater models, the medium intensity soils map from the Natural Resources Conservation Service were utilized. A copy of the Medium Intensity Soils Map of the project site is included as an Attachment to this section.

C. Geotechnical Investigation

A Geotechnical Report was completed by Summit Geoengineering Services, dated February 12, 2018, and is included as an Attachment to this section. As stated in the report, the existing soils consist of topsoil underlain by marine regressive sand, glaciomarine, and eventually bedrock. Bedrock was encountered at a depth of sixty (60) feet. The report recommended perimeter underdrains around the proposed building expansion to collect any seasonally high groundwater that may be present during wet periods or from runoff and snowmelt. Based on the approximate depth to the seasonal high groundwater elevation of two (2) to twelve (12) feet, any proposed stormwater treatment systems will need to be installed with an impermeable liner.

D. Hydric Soils Mapping

Hydric soils (wetlands) have been located on the site by Atlantic Environmental, LLC and are shown on the enclosed plans.

Attachment 1 – Medium Intensity Soils Map
Attachment 2 – Geotechnical Report

Map Scale: 1:3,470 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AaB	Adams loamy sand, 0 to 8 percent slopes	1.0	3.9%
AaC	Adams loamy sand, 8 to 15 percent slopes	5.3	20.8%
ChC	Charlton very stony fine sandy loam, 8 to 15 percent slopes	0.0	0.0%
EmB	Elmwood fine sandy loam, 2 to 8 percent slopes	6.8	26.8%
EmC2	Elmwood fine sandy loam, 8 to 15 percent slopes, eroded	1.2	4.8%
NgB	Ninigret fine sandy loam, 0 to 8 percent slopes	3.2	12.4%
ScA	Scantic silt loam, 0 to 3 percent slopes	8.0	31.3%
Totals for Area of Interest		**25.5**	**100.0%**

The key to success starts with a solid foundation.
ENGINEERING | EXPLORATION | EXPERIENCE

Geotechnical Report

Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston, Maine

Sitelines PA

8 Cumberland Street, Brunswick, Maine

2/12/2018

SUMMIT GEOENGINEERING SERVICES

PIN 18022

SUMMIT
GEOENGINEERING SERVICES

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173 Pleasant Street Rockland, Maine 04841 | (207) 318-7761
www.summitgeoeng.com

February 12, 2018
Summit #18022

Curtis Y. Neufeld, P.E.
Sitelines, PA
8 Cumberland Street
Brunswick, Maine 04011

Reference: Geotechnical Engineering Services
Federal Distributors Building Expansion – 2019 Lisbon Street, Lewiston, Maine

Dear Mr. Neufeld;

We have completed our geotechnical investigation for a planned building expansion at Federal Distributors in Lewiston, Maine. Our scope of services included performing subsurface explorations at the site and preparing this report summarizing our findings and geotechnical recommendations.

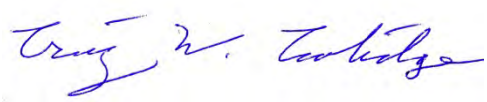
Subgrade beneath the expansion footprint is comprised of marine regressive consisting of sand-silt to glaciomarine (Presumpscot formation) consisting of silt-clay overlying presumed bedrock or dense stratum at a depth of 60 feet below ground surface. The geotechnical considerations identified for site development include:

- The presence of sand-silt-clay within excavations for foundation footings
- The potential of groundwater within excavations for foundation footings
- The presence of glaciomarine and its ability to support foundation loads
- The presence of glaciomarine and its influence for seismic design

Discussion and geotechnical recommendations for the above considerations are included in this report for the design and construction of the expansion foundation and associated earthwork.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

Sincerely yours,
Summit Geoengineering Services



Craig W. Coolidge, P.E.
Vice President
Principal Engineer

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TABLE OF CONTENTS

1.0 Project and Site Description

Summit Geoengineering Services (SGS) was asked to perform a geotechnical investigation for a planned building expansion at Federal Distributors located at 2019 Lisbon Street in Lewiston, Maine. The building expansion is planned as having a footprint of 23,612 ft^2. A new fire lane and subsurface storm water system are planned as part of development. The expansion footprint is positioned north of the existing building structure and west of Lisbon Street.

Site Facing West Showing Planned Expansion Footprint

The existing site topography, the planned expansion footprint, and associated structures used for our engineering design are shown on the Exploration Location Plan in Appendix A. In general, site topography is relatively flat within the expansion footprint at or near elevation 200 to 201 feet. The site is presently an open lawn within the expansion footprint with densely wooded softwood within the fire lane and storm water pond. Existing grades for the fire lane and storm water pond are elevated slightly from elevations of 201 to 204 feet.

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2.0 Site Investigation

Summit Geoengineering Services (SGS) conducted a site investigation to include the following:

- Review of available published geologic mapping for the site
- Test borings to include SPT split spoon sampling and field vane shear tests
- Cone penetration test with shear wave velocity tests
- Observation of test pits performed by others
- Soils laboratory testing using samples obtained from the test borings

2.1 Geologic Mapping

Copies of the geologic maps of the site by the Marine Geological Survey are included in Appendix B and summarized below.

Surficial geology is mapped as marine regressive sand deposit (Pmrs) described as sand, silt, and minor gravel as observed within the upper portions of the site. Results of the subsurface investigation further determined the marine regressive sand deposit is underlain by glaciomarine Presumpscot formation (Pp) described as silt, clay, and sand. This formation is mapped locally downstream and east of the site.

Surficial materials mapping near the site indicates an overburden thickness of 62 to 104 feet or greater consisting of clay overlying sand and gravel. Depth to refusal (bedrock or dense strata) from the subsurface explorations conducted onsite occurred at 60 feet which shows good agreement with the available mapping.

Bedrock is mapped as part of the Sangerville Formation (Sstp) consisting of dark gray quartz-plagioclase-biotite-hornbende granofels, and quartz-plagioclase-biotite granofels, salt and pepper-textured amphibolite, and thinly-bedded calc-silicate granofels.

2.2 Subsurface Explorations

The subsurface conditions were explored by the drilling of 2 test borings and 1 cone penetration tests on January 29, 2018. Explorations were performed by Summit Geoengineering Services (SGS) using a rubber track mounted AMS Power Probe 9500 VTR.

Test borings were advanced using 3.5-inch direct push casing to depths of 22 to 36 feet below ground surface. Test borings were conducted with standard penetration tests (SPT-N) using split spoon samplers and field vane shear tests. Soils were visually classified in the field by a geotechnical engineer using the Unified Soil Classification System (USCS).

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SPT Sampling with Auto-Drop Hammer

Cone penetration test (CPT-1) was performed with shear wave velocity to push refusal (dense stratum) encountered at a depth of 60 feet below ground surface. CPT was advanced using a rubber track mounted PowerProbe 9500 VTR with a Vertek 5-ton digital cone. Anchoring was conducted using a single point hollow anchor with start of test depth at 5 feet below ground surface. Parameters obtained include cone resistance (q_c), sleeve friction (f_s), piezocone pore pressure (u_2), and shear wave velocity (V_s).

Cone Penetration Testing with Shear Wave Velocity

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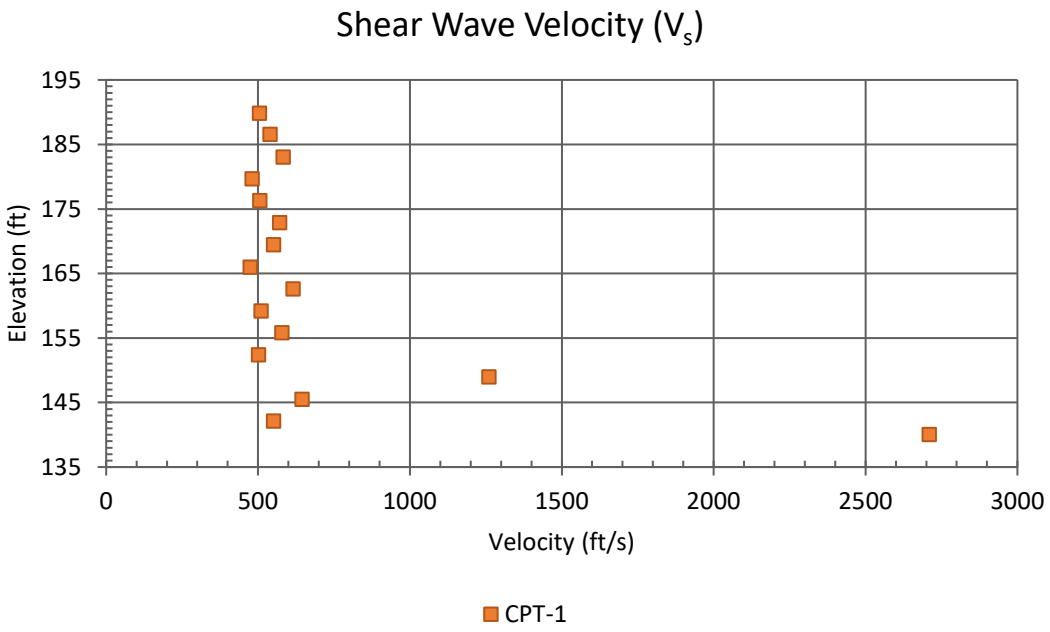
During the performance of piezocone penetration tests (CPTu), shear wave velocity tests (V_s) were conducted at approximate 1-meter depth intervals (rod breaks). Results of the shear wave velocity tests are show on the graph below:



Additionally, SGS observed and logged the excavation of 3 test pits performed by St. Laurent & Sons Excavation, Inc. under separate contract to others. Test pits were excavated to depths of 12 to 14 feet below ground surface using a Caterpillar 308E rubber track excavator.

Excavation of Test Pits by St. Laurent & Sons Excavation, Inc.

Exploration locations are shown on the Exploration Location Plan in Appendix A. Logs of the explorations are provided in Appendix B. The explorations were field located by SGS by taping from existing site features.

2.4 Laboratory Testing

Laboratory testing was conducted by Summit Geoengineering Services (SGS) for soil samples collected onsite during the subsurface exploration as follows:

- Moisture Content (ASTM D2216)
- Atterberg Limits (ASTM D4318)
- Grain Size Analysis (ASTM D6913)

Reports of the laboratory tests are in Appendix C. Seven samples of the glaciomarine were tested for moisture content ranging from 22.6% to 38.2%. One sample of the glaciomarine from boring B-1, depth of 15 to 17 feet, was tested for Atterberg limits with results as follows:

- Moisture Content (MC) = 38.2%
- Liquid Limit (LL) = 36
- Plastic Limit (PL) = 23
- Plastic Index (PI) = 13

Grain size analysis was conducted for a sample of the upper marine regressive deposits from boring B-2 at a depth of 5 to 7 feet.

3.0 Subsurface Conditions

Results of the site investigation indicate the subsurface conditions consist of the following:

- ***Topsoil*** (Silt, Rootlets)
- ***Marine Regressive Sand*** (Sand, Silt, minor Gravel)
- ***Glaciomarine*** (Clay, Silt, minor Sand)
- ***Bedrock*** (Granofels)

3.1 Soil

Topsoil is described as loose dark brown silt with rootlets and classifies as ML in accordance with the Unified Soil Classification System (USCS).

Marine Regressive Sand is descibed as compact to loose light brown to olive-brown and mottled silt with variable sand and classifies as ML to SM-ML in accordance with the USCS.

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Topsoil to Marine Regressive Sandy Silt (Boring B-2, 0'-2')

Glaciomarine *(Presumpscot Formation)* consists of 2 subunits. The upper subunit is described as firm olive brown and mottled silty clay and classifies as CL in accordance with the USCS. The lower subunit is described as soft gray clay and classifies as CL in accordance with the USCS.

Glaciomarine Firm Silty Clay (Test Pit TP-1, 7'-12')

3.2 Bedrock

Bedrock refusal, estimated from cone penetration test (CPT-1) push refusal during the site investigation, was encountered at a depth of 60 feet, elevation 140 feet, located near the center of the building expansion. The recorded tip resistance achieved a maximum pressure of 8,420 psi prior to anchor refusal abruptly beneath the marine deposit suggesting refusal upon bedrock or dense stratum.

3.3 Groundwater

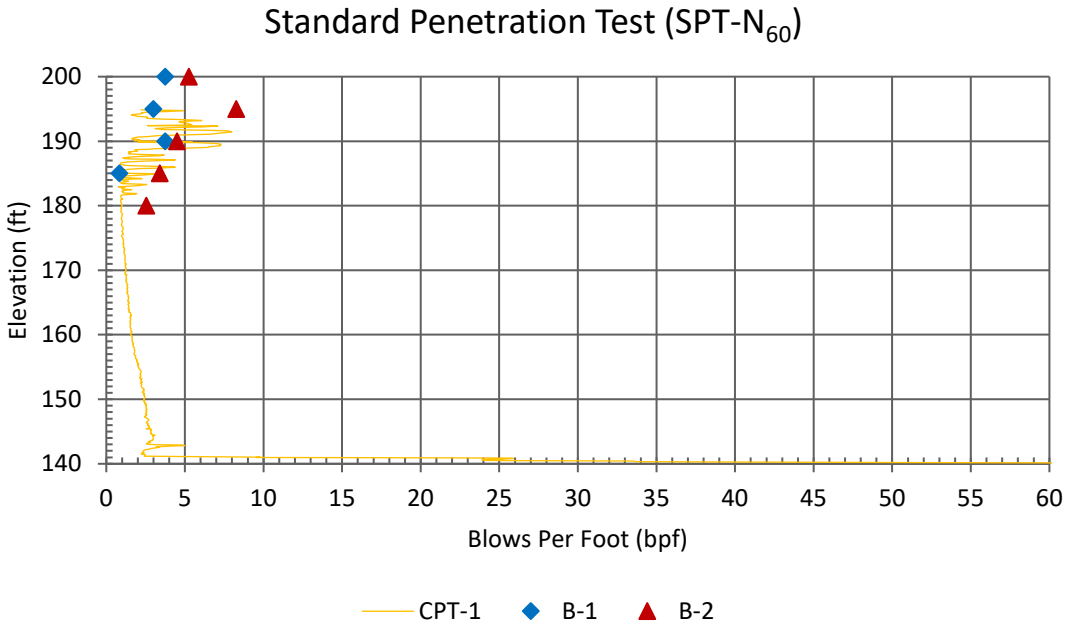
Groundwater was observed at a depth range of 2 to 12 feet below ground surface, elevations 198 to 190 feet, during the exploration. Groundwater appears to fluctuate within the upper marine regressive sand and glacial marine stiff silty clay. Mottling within this depth range suggests fluctuation of groundwater during wet and dry periods through accumulation of rain and snow melt.

4.0 Geotechnical Evaluation

Geotechnical engineering properties are estimated from results of the test borings, cone penetration testing, and laboratory testing, along with engineering judgement. The engineering properties are used for geotechnical analyses of bearing pressure, settlement, and seismic design provided within this report. Interpretation of the engineering properties used for our analyses are shown below for the following parameters:

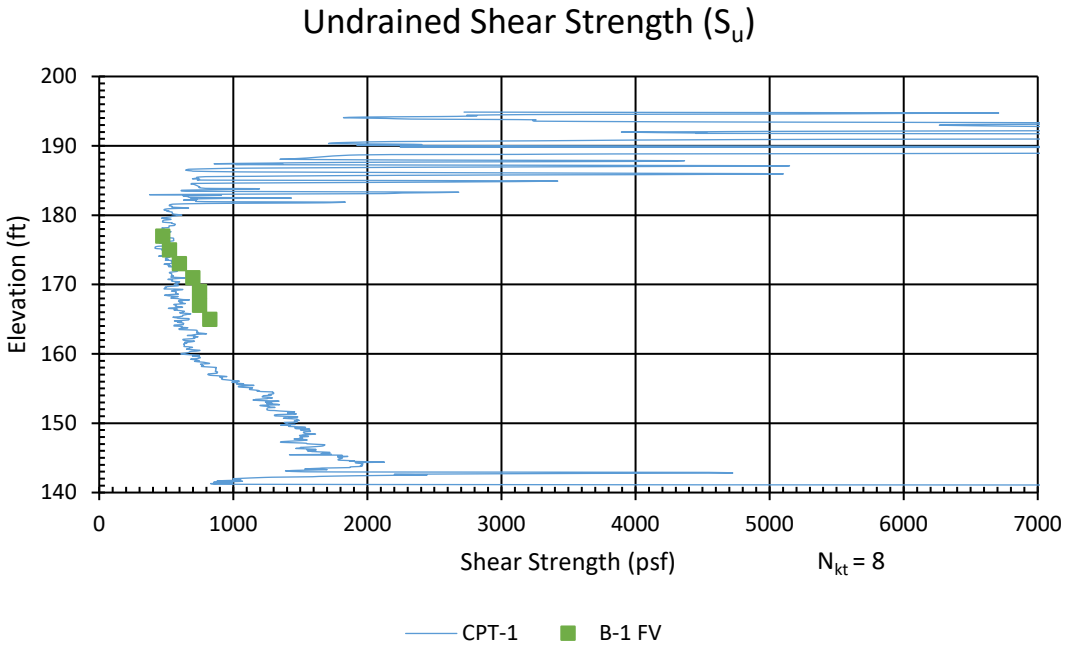
- Corrected SPT-N_{60} values
- Undrained shear strength (S_u)
- Over consolidation ratio (OCR)

Graphic representation of corrected SPT-N_{60} values is presented below:



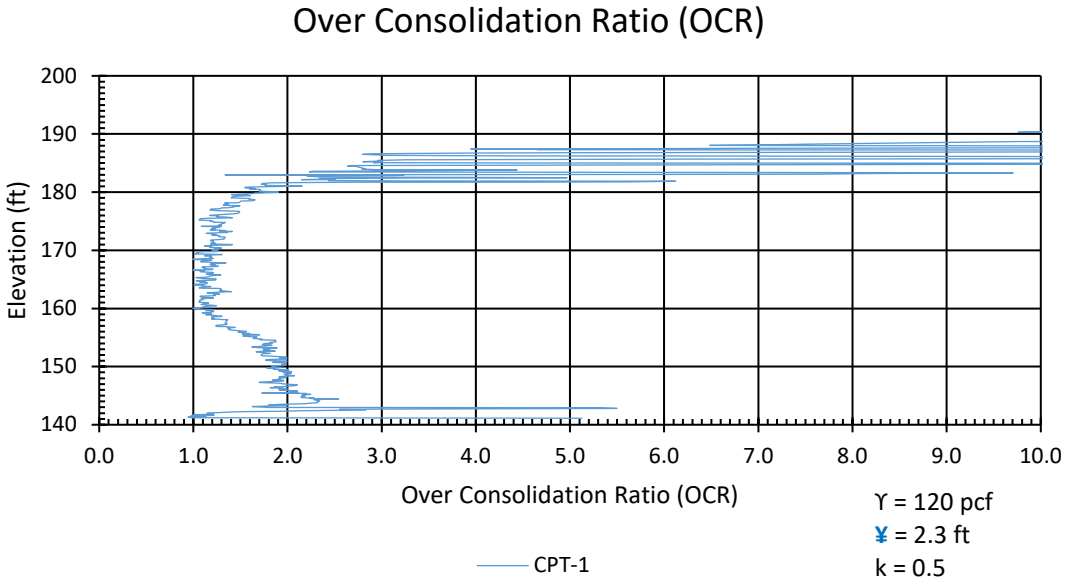
The lower SPT N_{60} values represent lower glaciomarine (soft clay) and higher SPT N_{60} values represent upper marine regressive (sandy silt) and upper glaciomarine (firm clay). The large spike at elevation 140 feet, depth of 60 feet, typically represent impact (refusal) upon bedrock or dense strata during cone penetration testing.

Graphic representation of the undrained shear strength (S_u) is presented below:



The undrained shear strength (S_u) is estimated from interpretation of cone penetration resistance using an N_{kt} correction factor of 8 and field vane shear tests during test borings. Results indicate an undrained shear strength of approximately 500 to 900 psf increasing with depth for the lower soft clay. Spikes typically represent silt or sand seams.

Graphic representation of over consolidation ratio (OCR) is presented below:



OCR is estimated from interpretation of cone penetration resistance using a correction factor k of 0.5, in-situ soil unit weight of 120 pcf, and a groundwater depth of 2 feet below grade. In general, the OCR ranges from 1.0 to 2.0 indicating normal to slightly over-consolidated state.

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This undrained shear strength (S_u) and over consolidation ratio (OCR) were checked using the normalized undrained shear strength ratio referred to as:

$$(S_u/\sigma'_v) = (0.23 +/- 0.04)\ OCR^{0.8}$$ *(Jamiolkowski et al., 1985)*

The mean ratio using estimated undrained shear strength and OCR is 0.27 +/- which is in agreement.

The factor of safety used to determine the allowable bearing pressure is 3. Where bearing upon marine regressive sandy silt, between elevations 200 to 193 feet, the calculated allowable bearing capacity is 3,000 psf using an effective friction angle (ϕ') of 33°, a soil unit weight (Υ_t) of 120 pcf, with a minimum embedment depth of 2.5 feet and minimum footing width of 2.5 feet.

To reduce the effects of consolidation settlement, recommendations are provided in Section 5.0 to limit foundation loads which establish footing dimensions that dissipate within the upper marine regressive sandy silt and firm glaciomarine clay. Based on the relatively flat site and anticipated finish floor to match at or near existing building, import fill is anticipated to be minimal (within 1 foot) reducing the effects of import fill to generate consolidation settlement.

Elastic settlement for a maximum column load of 125 kips with a bearing pressure of 3,000 psf is estimated at 1 inch or less. Differential settlement between column loads is recommended to be at or less than a deflection of 1/300. We recommend Summit Geoengineering Services (SGS) be made available to review final structural plans and column loads to evaluate the potential for excessive differential settlement.

5.0 Geotechnical Recommendations

The building expansion can be supported using conventional spread footings with proper site preparation and the following foundation limitations:

- Building expansion finish floor elevation of 200 feet +/- 1 ft
- Maximum total column load of 125 kips
- Maximum continuous strip footing load of 10 kips/ft
- Minimum footing depth of 2.5 ft and maximum footing depth of 4.5 ft
- Minimum column footing width of 2.5 ft and strip footing width of 1.5 ft

The geotechnical recommendations provided in this report are based on the results of our site investigation and the design limitations summarized above. Unanticipated changes in site conditions or design modification to the project should be reviewed by Summit Geoengineering Services to evaluate possible implications to the recommendations provided in this report.

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5.1 Bearing Capacity & Settlement

We anticipate subgrade soils for the building expansion foundations will consist of firm silt-clay with minor sand. Based on this, we recommend the foundation elements be proportioned using an allowable net bearing pressure of 3,000 psf. We recommend SGS be made available to review final structural plans and column loads to verify its conformance to our geotechnical recommendations and settlement estimates provided in Section 4.0.

The bearing pressure and associated settlements are based on the following conditions:

- All existing topsoil is removed from the building footprint prior to placing fill or constructing footings.
- Foundation footings are constructed on competent subgrade. We recommend granular subgrade be proof-rolled prior to placing fill or constructing footings. Proof rolling should consist of a minimum of five passes in a north-south direction and then five passes in an east-west direction using a vibratory roller or plate compactor.
- New foundations are structurally isolated from existing foundations and are constructed near the same elevation as existing foundations to prevent undermining during construction. New foundations should be constructed at a minimum of 1.5H:1V setback where adjacent to existing foundation elements.
- Excavations near existing foundations are inspected by the geotechnical engineer to evaluate bearing stability. If unsuitable conditions are encountered, localized stabilization may be deemed appropriate.
- Subgrade soils that become softened or disturbed in the base of excavations are over excavated and stabilized using 12 inches of crushed stone. Crushed stone should be tamped to lock the structure together.

5.2 Backfill Recommendations

We recommend all fill placed within the building expansion footprint consist of Foundation Backfill. Foundation Backfill should have a maximum particle size limited to 6 inches and the portion passing a 3-inch sieve should meet the following gradation specification:

FOUNDATION BACKFILL	
Sieve Size	**Percent Passing**
½ inch	35 to 80
¼ inch	25 to 65
No. 40	0 to 30
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type D (2014)

Foundation Backfill should be placed in 6 to 12 inch lifts and compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

The following soil parameters can be used for foundation design of lateral loads:

Foundation Design Parameters

- Active Earth Pressure Coefficient (K_A): 0.28
- At Rest Earth Pressure Coefficient (K_o): 0.44
- Passive Earth Pressure Coefficient (K_p): 3.54
- Total Unit Weight (γ_t): 130 pcf
- Effective Friction Angle (ϕ'): 34°

5.3 Frost Protection

Exterior footings should be constructed at a minimum depth of 4.5 feet below finished grade for frost protection based on a design air-freezing index of 1,400 F-degree days for the Lewiston area. We recommend exterior and interior portions of foundation walls and footings are backfilled with Foundation Backfill. The Foundation Backfill should be compacted to 95 percent of its maximum dry density in accordance with ASTM D1557.

5.4 Building Slabs

We recommend the building expansion slabs be constructed on a minimum 12-inch thick layer of Foundation Backfill. The coefficient of subgrade reaction, k (per 12-inch plate) applies to the design of reinforced concrete foundations over soil. For the conditions described above, the slab can be designed using a coefficient of subgrade reaction 100 tons/ft^3.

Due to the potential for capillary rise from groundwater we recommend a vapor barrier be used beneath the building addition slabs. The vapor barrier should be installed in accordance with the latest ACI specifications (ACI 302.1R-96).

5.5 Groundwater Control

Groundwater was encountered at a depth range of 2 to 12 feet (elevation 198 to 190 feet). Based on this, the bottom of foundation footings is expected above anticipated groundwater. To provide drainage of seasonal groundwater and/or runoff, perimeter underdrains may be installed along the base of exterior footings. Additionally, we recommend exterior grades slope away from the building expansion footprint to reduce runoff water from infiltrating the foundation backfill soils.

Perimeter underdrains should consist of 4-inch rigid perforated PVC placed adjacent to the exterior footings and surrounded by a minimum of 6 inches of Crushed Stone. Crushed Stone should be wrapped in filter fabric (Mirafi 140N or similar) to prevent clogging from the migration of the fine soil particles in the backfill soils.

5.6 Seismic Design

Based on the results for shear wave velocity Site Class D is recommended in accordance with ASCE 7-10. The seismic profile was evaluated using data from cone penetration test (CPT-1) conducted with shear wave velocity as follows:

- Average Shear Wave Velocity (V_s) for Soil Profile = 550 ft/s (0 to 60 feet)
- Estimated Shear Wave Velocity (V_s) for Rock Profile = 2,700 ft/s (60 to 100 feet)

Plasticity index of the underlying clay is 13 with moisture content of 38.2%. Based on the results of the laboratory testing the clay does not meet the requirements for Site Class E. Based on this, the following seismic site coefficients should be used:

SUBGRADE SITE SEISMIC DESIGN COEFFICIENTS – ASCE 7-10	
Seismic Coefficient	**Site Class D**
Short period spectral response (S_S)	0.245
1 second spectral response (S_1)	0.081
Maximum short period spectral response (S_{MS})	0.391
Maximum 1 second spectral response (S_{M1})	0.193
Design short period spectral response (S_{DS})	0.261
Design 1 second spectral response (S_{D1})	0.129

The marine regressive (sand-silt) and glaciomarine (silt-clay) were evaluated for liquefaction during earthquake based on penetration resistance obtained from the CPT-1 and seismic mapping by the United States Geological Survey (USGS). The maximum considered earthquake peak ground acceleration for the site determined by ASCE 7-10, Chapter 21.5 are as follows:

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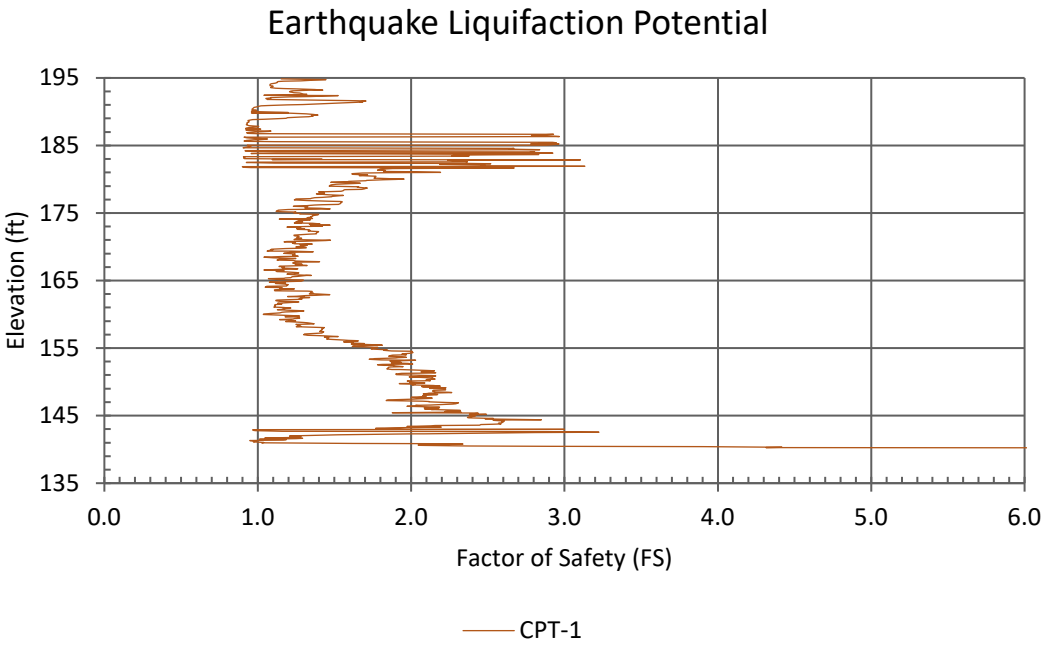
- Probabilistic MCE_G Peak Ground Acceleration PGA (2% in 50-yr) = 0.178
- Deterministic MCE_G Peak Ground Acceleration PGA_M (84^{th} Percentile) = 0.203
- Site-Specific MCE_G Peak Ground Acceleration PGA_M = 0.178
- Mean Moment Magnitude (Unified Hazard Mapping 2014) = 5.56

The factor of safety for liquefaction resistance by earthquake magnitude 5.56 is as follows:



Based on the results, the mean factor of safety against liquefaction for the upper sand-silt (elevations 195 to 182 feet) is 1.1 and for the complete deposit (elevations 195 to 140 feet) is 1.6. In summary, the subgrade is considered resistant to widespread liquefaction.

6.0 Earthwork Considerations

We recommend the geotechnical engineer be retained to observe excavation and subgrade preparation to confirm that soil conditions and construction methods are consistent with this report. We further recommend that a qualified geotechnical consultant be retained to monitor and test soil materials used during construction to ensure proper material type and placement. Soil materials testing reports should be made available to the geotechnical engineer for review.

Foundation Backfill should be compacted to 95 percent of its maximum dry density determined in accordance with ASTM D1557.

We recommend granular subgrade be proof-rolled prior to placement of import fill. Proof rolling should consist of a minimum of five passes in a north-south direction and then five

passes in an east-west direction using a vibratory roller. Proof rolling is not recommended for glaciomarine clay subgrade or below groundwater due to its potential for softening.

Dewatering is anticipated to construction portions of the foundations. We believe that shallow sumps and conventional submersible pumps will be sufficient to control groundwater and infiltrating water during construction. Diversion and control of surface water and/or groundwater should be performed to prevent water flow from upslope cuts.

We recommend excavations within glaciomarine soils that becomes softened or disturbed during construction, be over-excavated and replaced with 12 inches of Crushed Stone. Crushed Stone should be tamped to lock the stone structure together and meet the following gradation:

CRUSHED STONE ¾ INCH	
Sieve Size	**Percent finer**
1 inch	100
¾ inch	90 to 100
½ inch	20 to 55
⅜ inch	0 to 15
No. 4	0 to 5

Reference: MDOT Specification 703.13, Crushed Stone ¾-Inch (2014)

Utility trenching and general excavations below 4 feet should be sloped no greater than 1H to 1V (OHSA type B) for firm clay and 1.5H to 1V (OSHA type C) for granular soils and/or below groundwater. These slopes are based on the current OSHA Excavation Guidelines.

7.0 Closure

Our recommendations are based on professional judgment and generally accepted principles of geotechnical engineering and project information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should these conditions differ materially from those described in this report, SGS should be notified so that we can re-evaluate our recommendations.

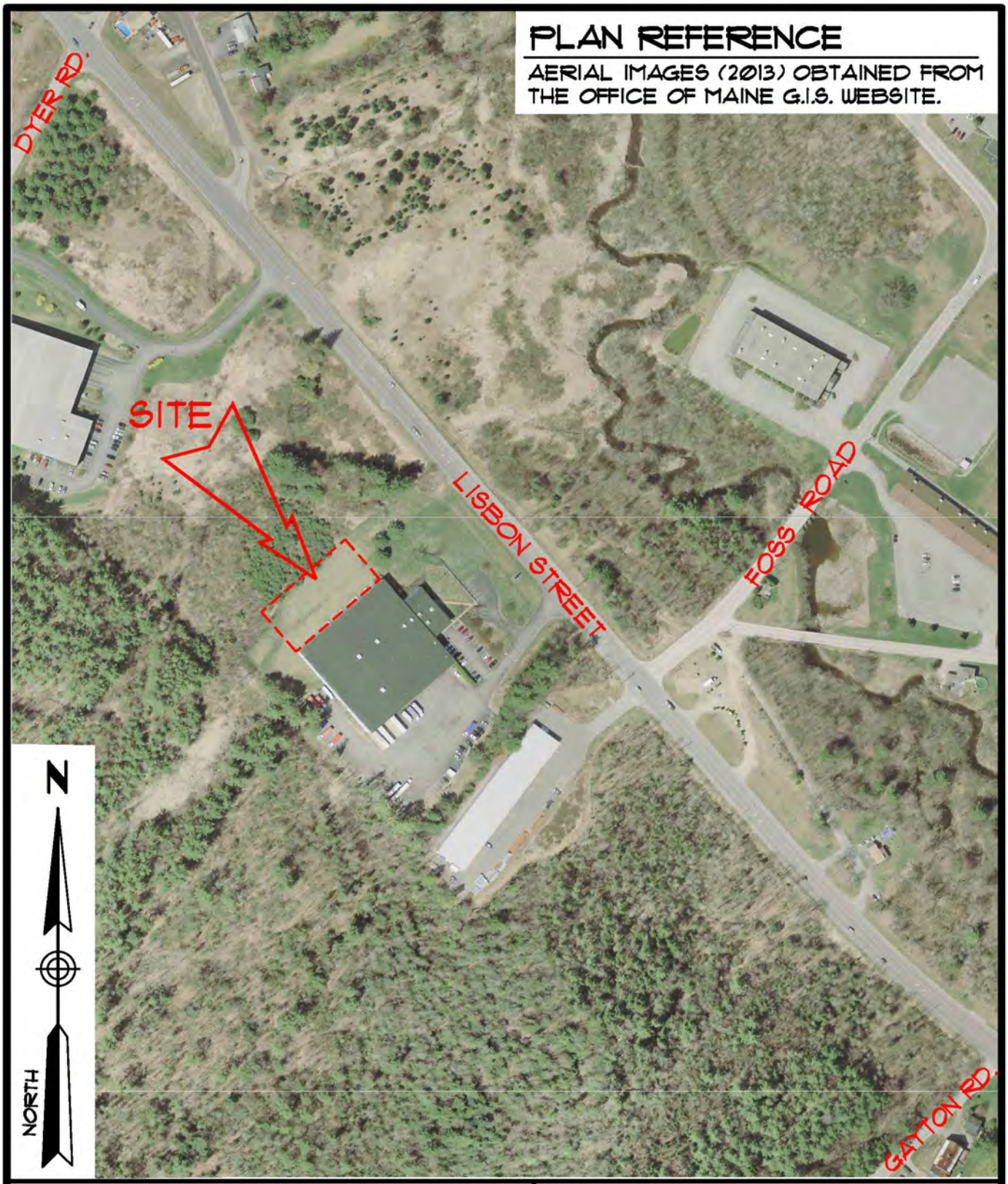
It is recommended that this report be made available in its entirety to contractors for informational purposes and be incorporated in the construction Contract Documents. We recommend that SGS be retained to review final construction documents relevant to the recommendations in this report.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or additional information is required, please do not hesitate to call.

APPENDIX A

LOCATION MAP

EXPLORATION LOCATION PLAN



LOCATION MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 300'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

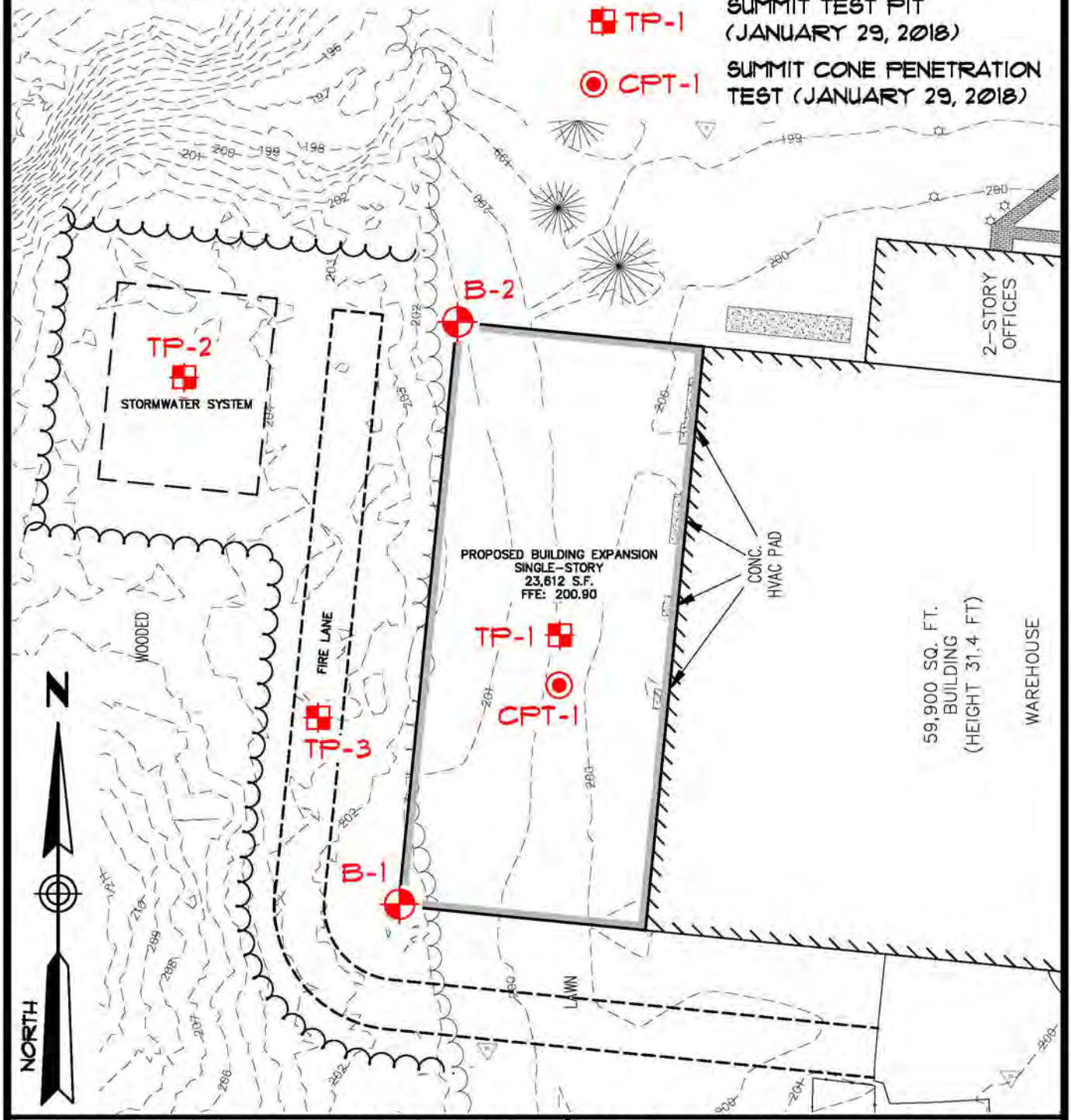
SUMMIT
GEOENGINEERING SERVICES
www.summitgeoeng.com

PLAN REFERENCE

"GRADING PLAN, BUILDING EXPANSION", DATED JANUARY 17, 2018, PREPARED BY SITELINES, PA.

LEGEND

- B-1 — SUMMIT TEST BORING (JANUARY 29, 2018)
- TP-1 — SUMMIT TEST PIT (JANUARY 29, 2018)
- CPT-1 — SUMMIT CONE PENETRATION TEST (JANUARY 29, 2018)



EXPLORATION LOCATION PLAN
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 60'	FILE: 18022 MAPS

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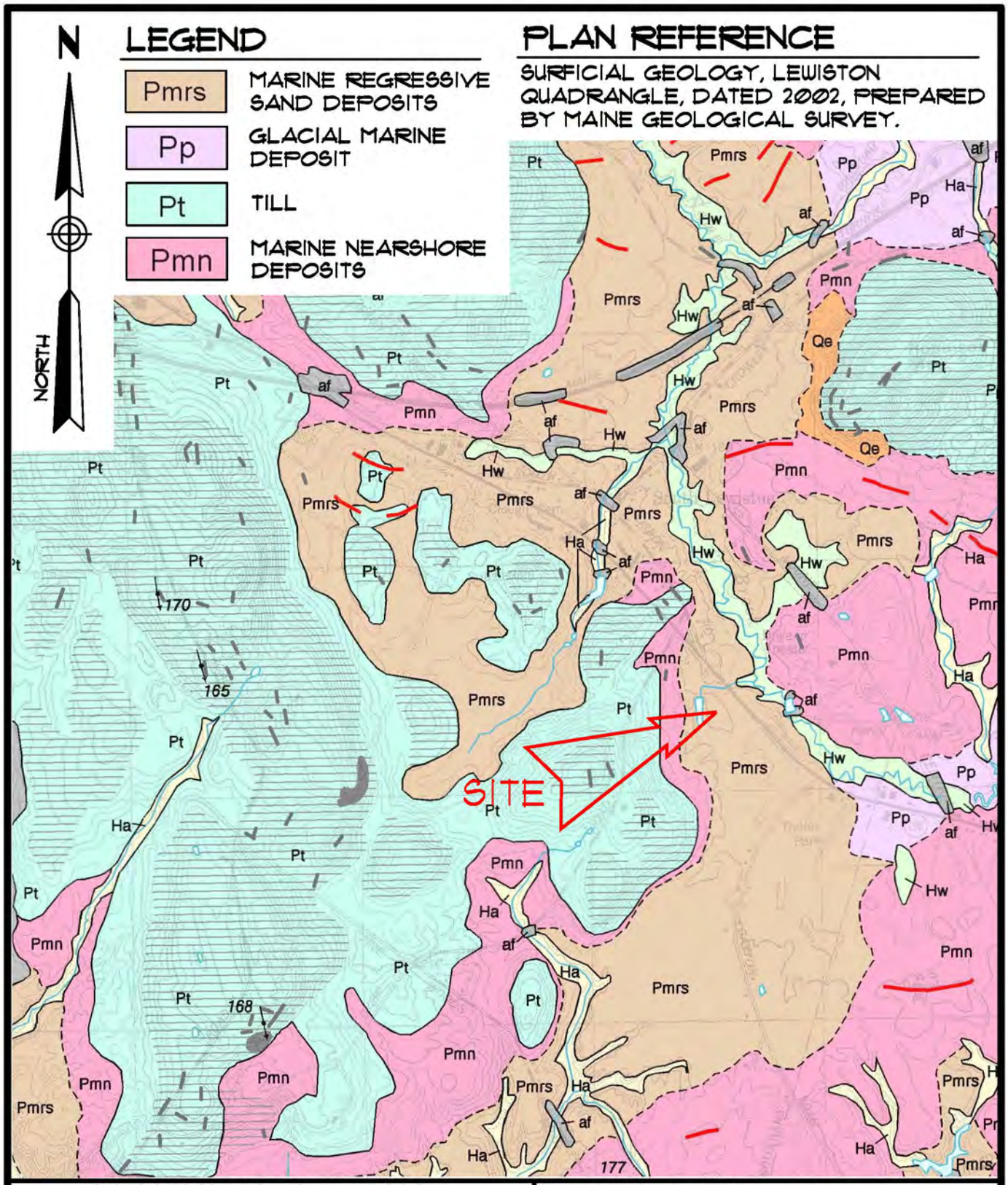
APPENDIX B

GEOLOGICAL MAPPING

EXPLORATION LOGS



SURFICIAL GEOLOGY MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" =2000'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 701
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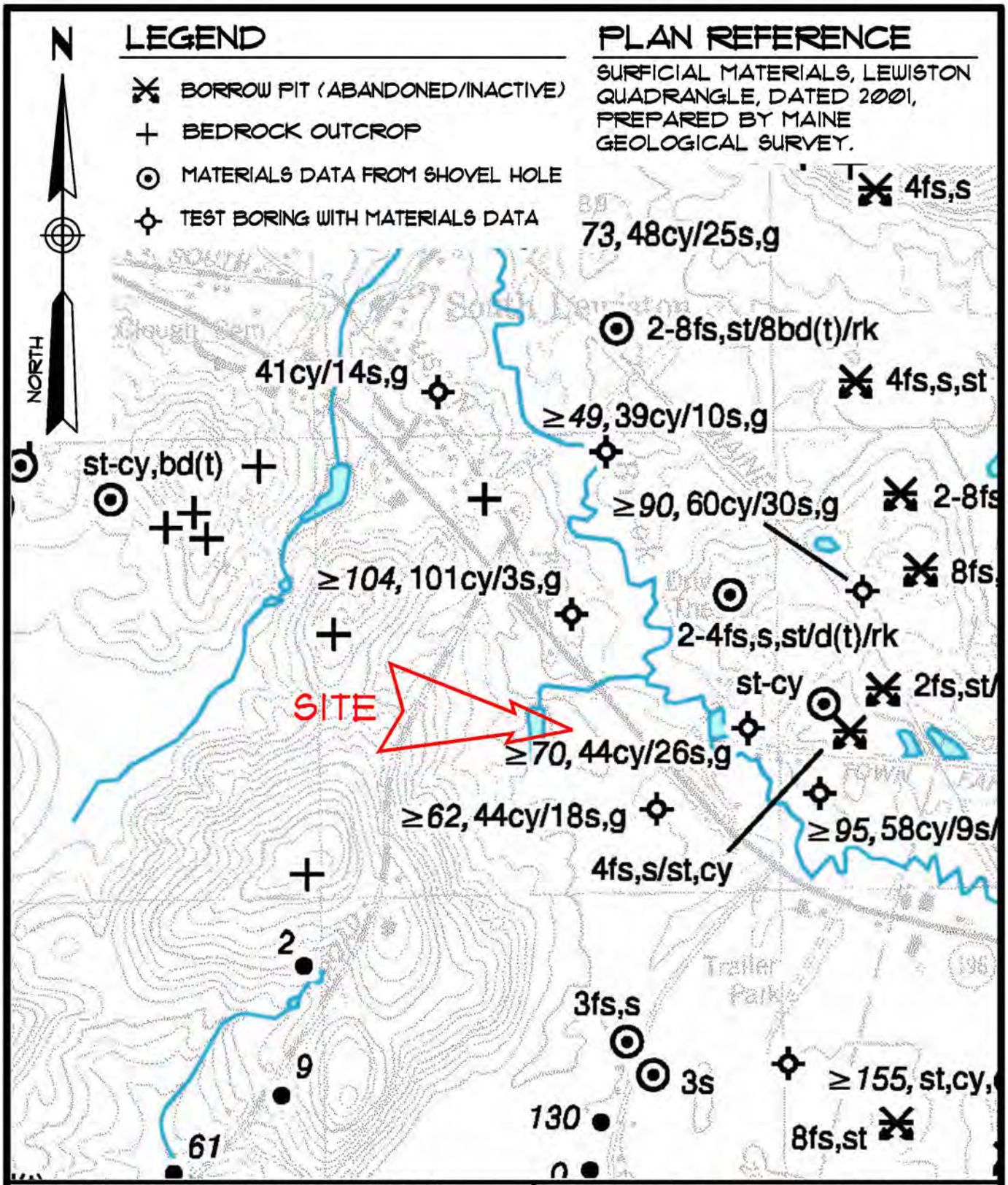

SURFICIAL MATERIALS MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" = 1000'	FILE: 18022 MAPS

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LEGEND

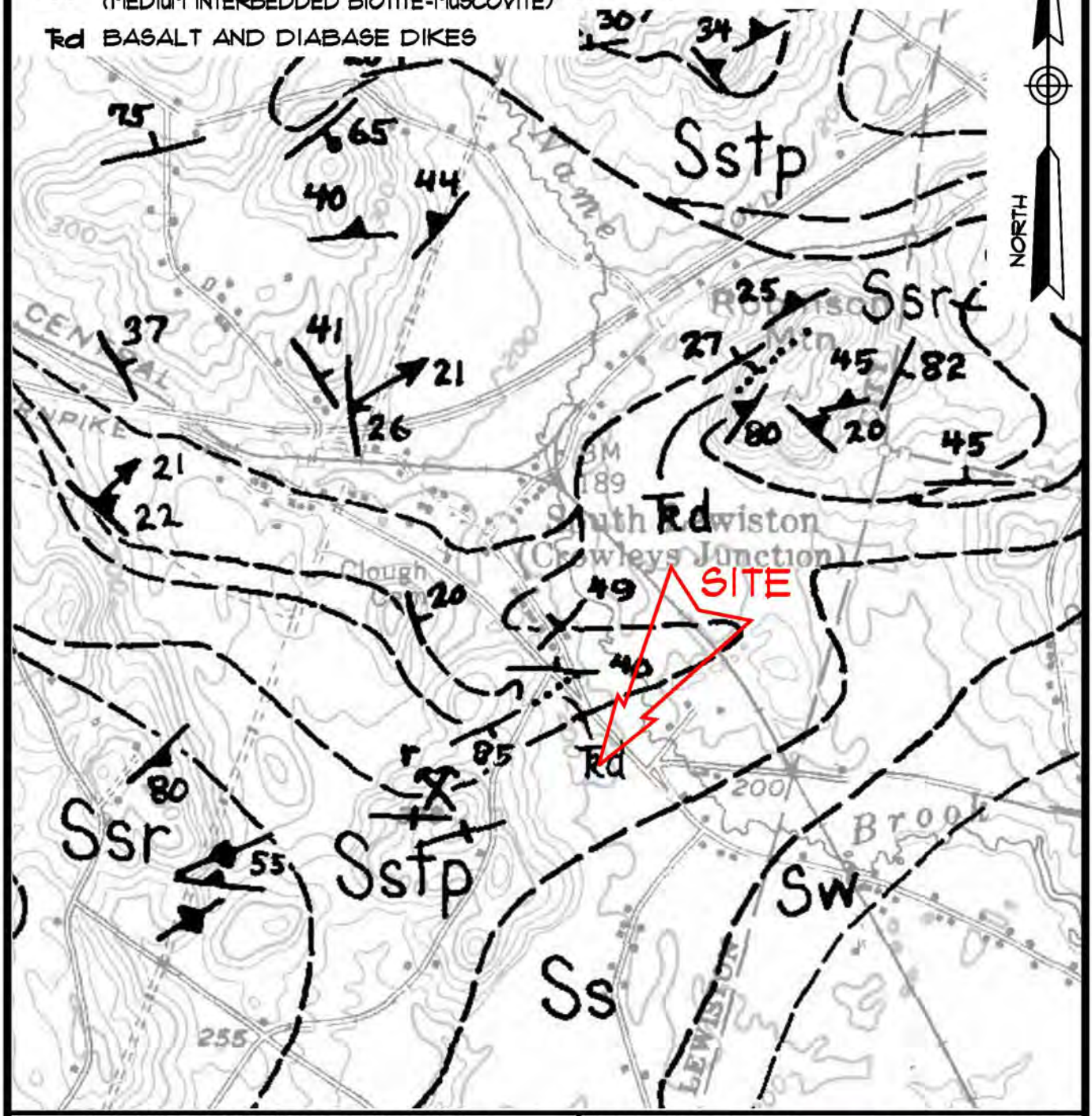
Sstp SANGERVILLE FORMATION (TAYLOR POND MEMBER)

Ss SANGERVILLE FORMATION (MEDIUM INTERBEDDED BIOTITE-MUSCOVITE)

Trd BASALT AND DIABASE DIKES

PLAN REFERENCE

BEDROCK GEOLOGY, LEWISTON QUADRANGLE, DATED 1983, PREPARED BY MAINE GEOLOGICAL SURVEY.



BEDROCK GEOLOGY MAP
FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET - LEWISTON, MAINE

PREPARED FOR

SITELINES, PA

DATE: 2-7-2018	DRAWN BY: KRF	CHECKED BY: CWC
JOB: 18022	SCALE: 1" =2000'	FILE: 18022 MAPS

145 LISBON ST. - SUITE 701
LEWISTON, ME 04240
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EXPLORATION COVER SHEET

The exploration logs are prepared by the geotechnical engineer from both field and laboratory data. Soil descriptions are based upon the Unified Soil Classification System (USCS) per ASTM D2487 and/or ASTM D2488 as applicable. Supplemental descriptive terms for estimated particle percentage, color, density, moisture condition, and bedrock may also be included to further describe conditions.

Drilling and Sampling Symbols:

SS = Split Spoon Sample
UT = Thin Wall Shelby Tube
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RW = Rotary Wash
SV = Shear Vane
PP = Pocket Penetrometer
RC = Rock Core Sample
FV = Field Vane Shear Test
PS = Concrete Punch Sample
Hyd = Hydraulic Advancement of Drilling Rods
Push = Direct Push of Drilling Rods
WOH = Weight of Hammer
WOR = Weight of Rod
PI = Plasticity Index
LL = Liquid Limit
W = Natural Water Content
USCS = Unified Soil Classification System
Su = Undrained Shear Strength
Su(r) = Remolded Shear Strength

Water Level Measurements:

Water levels indicated on the boring logs are the levels measured in the boring at the times indicated. In pervious soils, the indicated elevations are considered reliable groundwater levels. In impervious soils, the accurate determination of groundwater elevations may not be possible, even after several days of observations. Groundwater monitoring wells may be required to record accurate depths and fluctuation.

Gradation Description and Terminology:

Boulders:	Over 12 inches	Trace:	Less than 5%
Cobbles:	12 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 30%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 30%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

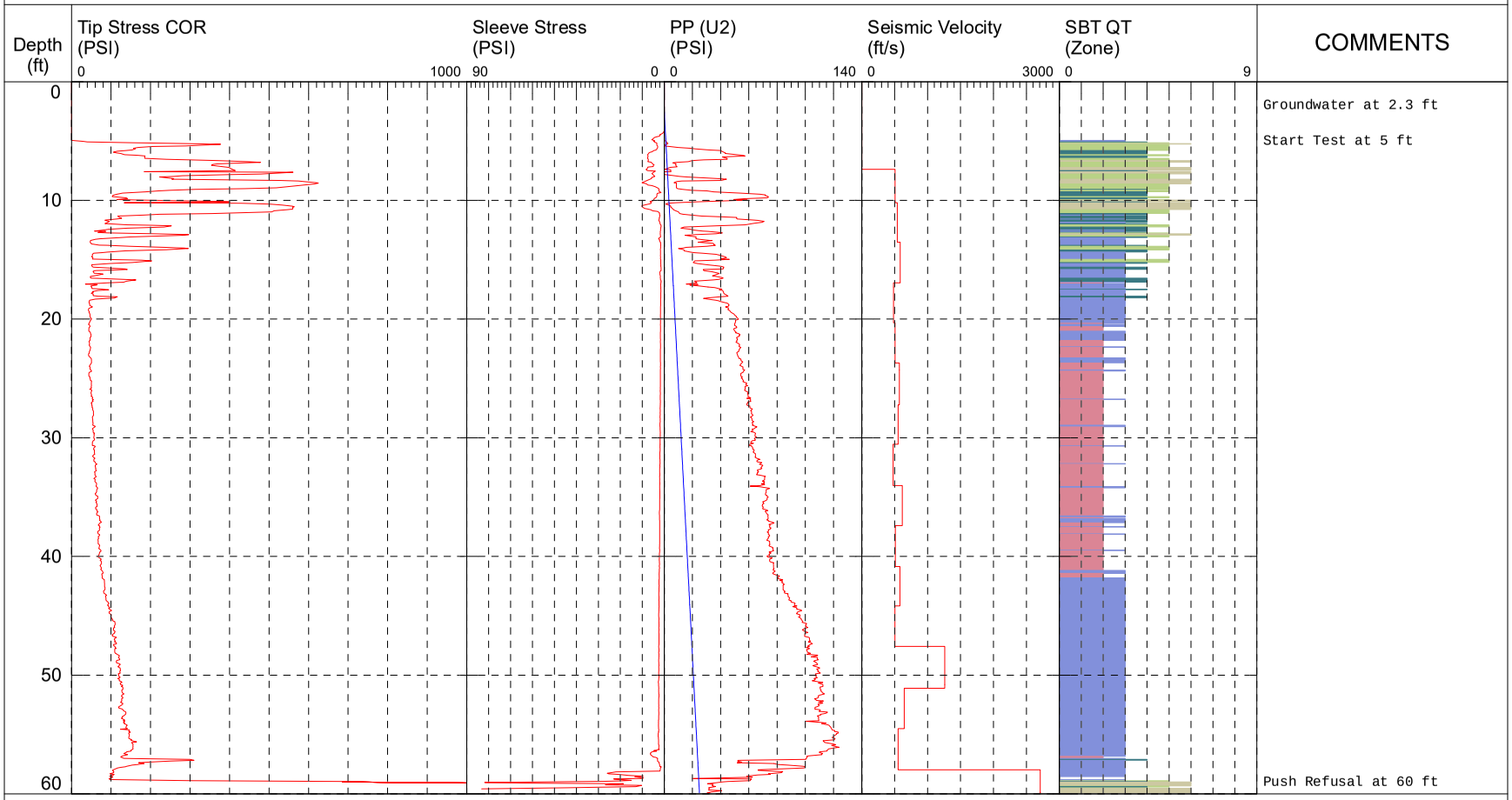
Density of Granular Soils and Consistency of Cohesive Soils:

CONSISTENCY OF COHESIVE SOILS		DENSITY OF GRANULAR SOILS	
SPT N-value blows/ft	**Consistency**	**SPT N-value blows/ft**	**Relative Density**
0 to 2	Very Soft	0 to 4	Very Loose
2 to 4	Soft	5 to 10	Loose
5 to 8	Firm	11 to 30	Compact
9 to 15	Stiff	31 to 50	Dense
16 to 30	Very Stiff	>50	Very Dense
>30	Hard		

CPT-1

COMPANY: Summit Geoengineering Services
OPERATOR: C. Coolidge, P.E.
CREW: E. Stewart, P.E.
CLIENT: Sitelines
CLIENT REP: Curt Neufeld

TEST DATE: Mon 29/Jan/2018
TEST ID: CPT-1
PROJECT: 18022
SITE: 2075 S. Lisbon Street
LOCATION: Lewiston, Maine



COMMENTS

Groundwater at 2.3 ft

Start Test at 5 ft

Push Refusal at 60 ft

TOTAL DEPTH: 60.022 ft

1 Sensitive, fine grained
2 Organic soils - peats
3 Clays - clay to silty clay
4 Silt mixtures - clayey silt to silty clay
5 Sand mixtures - silty sand to sandy silt
6 Sands - clean sand to silty sand
7 Gravelly sand to sand
8 Very stiff sand to clayey sand **
9 Very stiff, fine grained **

*SBT: Robertson 1990; **Overconsolidated or Cemented; *SBT/SPT CORRELATION: UBC-1983

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Boring #: **B-1**

Project:	Federal Distributors Building Expansion	Project #:	18022
Location:	2019 Lisbon Street	Sheet:	1 of 2
City, State:	Lewiston, Maine	Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	10 ft +/-	191 ft +/-	Observed moisture content

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/10	0 - 2	WOH		Dark brown SILT, rootlets, soft, moist, ML		TOPSOIL
1				1	200.9	Olive brown to gray and mottled fine SAND-SILT,		0.1'
				4		trace organics, compact/stiff, damp, SM-ML		MARINE REGRESSIVE
2				8				SAND DEPOSIT
3								
4								
5								
	S-2	24/18	5 - 7	1		Olive brown to gray SILT, some fine Sand, little Clay,	PP = 4,000 to	
6				2		pockets of brown organics, loose/firm, damp, ML	6,000 psf	
				2			MC = 22.6%	
7				9				
8								
					193.0			8'+/-
9								GLACIAL MARINE
								DEPOSIT
10								(Presumpscot
	S-3	24/24	10 - 12	2		Olive brown and mottled Silty CLAY, occasional fine	PP = 2,000 to	Formation)
11				2		Sand/Silt lenses, firm, moist, CL	3,000 psf	
				3			MC = 24.3%	
12				3				
13								
14								
15								
	S-4	24/24	15 - 17	WOH		Gray Silty CLAY, very soft, wet, CL	PP = 500 to	
16				WOH			1,000 psf	
				1			MC = 38.2%	
17				1			LL = 36	
	FIELD VANES						PI = 13	
18			Tip of Vane					
	FV-1		18			S_U = 675 psf, $S_{U(r)}$ = 125 psf		
19								
20								
	FV-2		20			S_U = 450 psf, $S_{U(r)}$ = 50 psf		
21								
22								
	FV-3		22			S_U = 375 psf, $S_{U(r)}$ = 100 psf		

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
SP = Direct push sample (Gravel punch)
S = Split spoon sample

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Federal Distributors Building Expansion	Boring #:	B-1
Location:	2019 Lisbon Street	Project #:	18022
City, State:	Lewiston, Maine	Sheet:	2 of 2
		Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	10 ft +/-	191 ft +/-	Observed moisture content

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
23								GLACIAL MARINE DEPOSIT (Presumpscot Formation)
	FIELD VANES							
24			Tip of Vane					
	FV-4		24			S_U = 475 psf, $S_{U(r)}$ = 125 psf		
25								
26								
	FV-5		20			S_U = 525 psf, $S_{U(r)}$ = 175 psf		
27								
28								
	FV-6		22			S_U = 600 psf, $S_{U(r)}$ = 150 psf		
29								
30								
	FV-7		30			S_U = 700 psf, $S_{U(r)}$ = 150 psf		
31								
32								
	FV-8		32			S_U = 750 psf, $S_{U(r)}$ = 175 psf		
33								
34								
	FV-9		34			S_U = 750 psf, $S_{U(r)}$ = 175 psf		
35								
36								
	FV-10		36			S_U = 825 psf, $S_{U(r)}$ = 200 psf		
37					165.0	End of Exploration at 36', No Refusal		36'
38								
39								
40								
41								
42								
43								
44								

Granular Soils		Cohesive Soils	
Blows/ft.	Density	Blows/ft.	Consistency
0-4	V. Loose	<2	V. soft
5-10	Loose	2-4	Soft
11-30	Compact	5-8	Firm
31-50	Dense	9-15	Stiff
>50	V. Dense	16-30	V. Stiff
		>30	Hard

% Composition ASTM D2487
< 5% Trace
5-15% Little
15-30% Some
> 30% With

NOTES: PP = Pocket Penetrometer, MC = Moisture Content
LL = Liquid Limit, PI = Plastic Index, FV = Field Vane Test
$(S_u)_{fv}$ = Peak / Remolded Undrained Shear Strength

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES

SOIL BORING LOG

Project:	Federal Distributors Building Expansion	Boring #:	**B-2**
Location:	2019 Lisbon Street	Project #:	18022
City, State:	Lewiston, Maine	Sheet:	1 of 1
		Chkd by:	CWC

Drilling Co:	Summit Geoengineering Services, Inc.	Boring Elevation:	201 feet
Driller:	C. Coolidge, P.E.	Reference:	Grading Plan by Sitelines, PA dated 1/17/18
Summit Staff:	E. Stewart, P.E., B. Deyling, P.E.	Date started: 1/29/2018	Date Completed: 1/29/2018

DRILLING METHOD		SAMPLER	
Vehicle:	AMS	Length:	24" SS
Model:	9500 VTR	Diameter:	2"OD/1.5"ID
Method:	3-inch Casing	Hammer:	140 lb
Hammer Style:	Auto	Method:	ASTM D1586

ESTIMATED GROUND WATER DEPTH

Date	Depth	Elevation	Reference
1/29/2018	5 ft +/-	196 ft +/-	Observed moisture content
1/29/2018	Caved at 3 ft	198 ft	Measured in open borehole

Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	Elev. (ft.)	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum
	S-1	24/18	0 - 2	3		Dark brown SILT, rootlets, firm, frozen to damp, ML		TOPSOIL
1				3	200.8	Light brown fine SAND-SILT, loose, damp, SM-ML		0.2' MARINE REGRESSIVE SAND DEPOSIT
				4				
2				5				
3								
4								
5								
	S-2	24/18	5 - 7	4		Olive brown and mottled SILT, some fine Sand,	MC = 22.2%	
6				6		loose to compact, wet, ML	Gravel = 0.0%	
				5			Sand = 22.3%	
7				6			Fines = 77.7%	
8								
					193.0			8'+/- GLACIAL MARINE DEPOSIT (Presumpscot Formation)
9								
10								
	S-3	24/24	10 - 12	1		Olive brown and slightly mottled Silty CLAY, some	PP = 2,000 to	
11				3		fine Sand and Sand lenses, firm, wet, CL	4,000 psf	
				3			MC = 27.9%	
12				3				
13								
14								
15								
	S-4	24/24	15 - 17	WOH		Olive brown Silty CLAY, frequent fine Sand-Silt	PP = 500 to	
16				2		seams, firm to soft, wet, CL	2,500 psf	
				2			MC = 27.5%	
17				3				
18								
19								
20								
	S-5	24/24	20 - 22	1		Gray Silty CLAY, frequent fine Sand seams, soft,	PP = 500 to	
21				2		wet, CL	1,000 psf	
				1			MC = 25.5%*	
22				1				
						End of Exploration at 22', No Refusal		22'

Granular Soils		Cohesive Soils		% Composition
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487
0-4	V. Loose	<2	V. soft	
5-10	Loose	2-4	Soft	< 5% Trace
11-30	Compact	5-8	Firm	5-15% Little
31-50	Dense	9-15	Stiff	15-30% Some
>50	V. Dense	16-30	V. Stiff	> 30% With
		>30	Hard	

NOTES:
PP = Pocket Penetrometer, MC = Moisture Content
SP = Direct push sample (Gravel punch)
S = Split spoon sample
*Sample was previously frozen and thawed, which may affect moisture content.

Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches
Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200

Soil Moisture Condition
Dry: S = 0%
Humid: S = 1 to 25%
Damp: S = 26 to 50%
Moist: S = 51 to 75%
Wet: S = 76 to 99%
Saturated: S = 100%

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-1**
	Project: Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine		Project #: 18022 Groundwater: 10 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location: Middle of Building Addition		
Equipment: CAT 308E	Elevation & Reference: 200 ft, Grading Plan provided by Sitelines, PA		
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive brown and mottled fine SAND-SILT, trace Clay	0.5'
2	and Gravel, loose/firm to compact/stiff, damp, SM-ML	MARINE REGRESSIVE SAND DEPOSIT
3		
4		
5		
6		
7		
8	Olive brown and mottled Silty CLAY, stiff, damp to wet	7'+/-
9	w/ depth, CL	GLACIAL MARINE DEPOSIT
10		
11		
12		
	Gray Silty CLAY, soft, wet, CL	12'+/-
13		
14		
15	End of Exploration at 14', No Refusal	14' (Elevation 186'+/-)
16		
17		
18		
19		

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-2**
	Project:	Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine	Project #: 18022 Groundwater: 12 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location:	Stormwater Pond	
Equipment: CAT 308E	Elevation & Reference:	204 ft, Grading Plan provided by Sitelines, PA	
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive to light brown and mottled Silty fine SAND,	0.3'
2	loose to compact, frozen to damp, SM	MARINE REGRESSIVE SAND DEPOSIT
3		
4		
5		
6		
7		
8	Olive brown and mottled SILT-CLAY, some fine Sand,	7'+/-
	little Clay, occasional Sand seams, firm, moist to wet,	GLACIAL MARINE DEPOSIT
9	ML-CL	
10		
11		
12		Groundwater pooling at base of test pit
13	End of Exploration at 12', No Refusal	12' (Elevation 192'+/-)
14		
15		
16		
17		
18		
19		

SUMMIT GEOENGINEERING SERVICES	**TEST PIT LOG**		Test Pit # **TP-3**
	Project:	Federal Distributors Bldg Expansion 2019 Lisbon Street Lewiston, Maine	Project #: 18022 Groundwater: 10 ft +/-
Contractor: St. Laurent and Son Excavation, Inc.	Test Pit Location:	Fire Lane NW of Building	
Equipment: CAT 308E	Elevation & Reference:	203 ft, Grading Plan provided by Sitelines, PA	
Summit Staff: Erika Stewart, P.E.	Date: 1/29/2018	Weather: Clear, 30°	

Depth (ft)	DESCRIPTION	
	ENGINEERING	**GEOLOGIC/GENERAL**
	Dark brown SILT, rootlets, soft, frozen, ML	TOPSOIL
1	Olive to and mottled SILT, some fine Sand, little Clay, firm, damp to moist, ML	0.3' MARINE REGRESSIVE SAND DEPOSIT
2		
3		
4	Gray SILT-SAND layer at 3'-4'	
5		
6		
7		
8	Olive brown to gray and mottled Silty CLAY, fine Sand lenses, firm to stiff, moist to wet, CL	7'+/- GLACIAL MARINE DEPOSIT
9		
10		
11	Gray Silty CLAY, fine Sand lenses, soft, wet, CL	10.5'
12	End of Exploration at 11.5', No Refusal	11.5' (Elevation 191.5'+/-)
13		
14		
15		
16		
17		
18		
19		

APPENDIX C

LABORATORY TEST RESULTS

SUMMIT
GEOENGINEERING SERVICES

GRAIN SIZE ANALYSIS - ASTM D6913

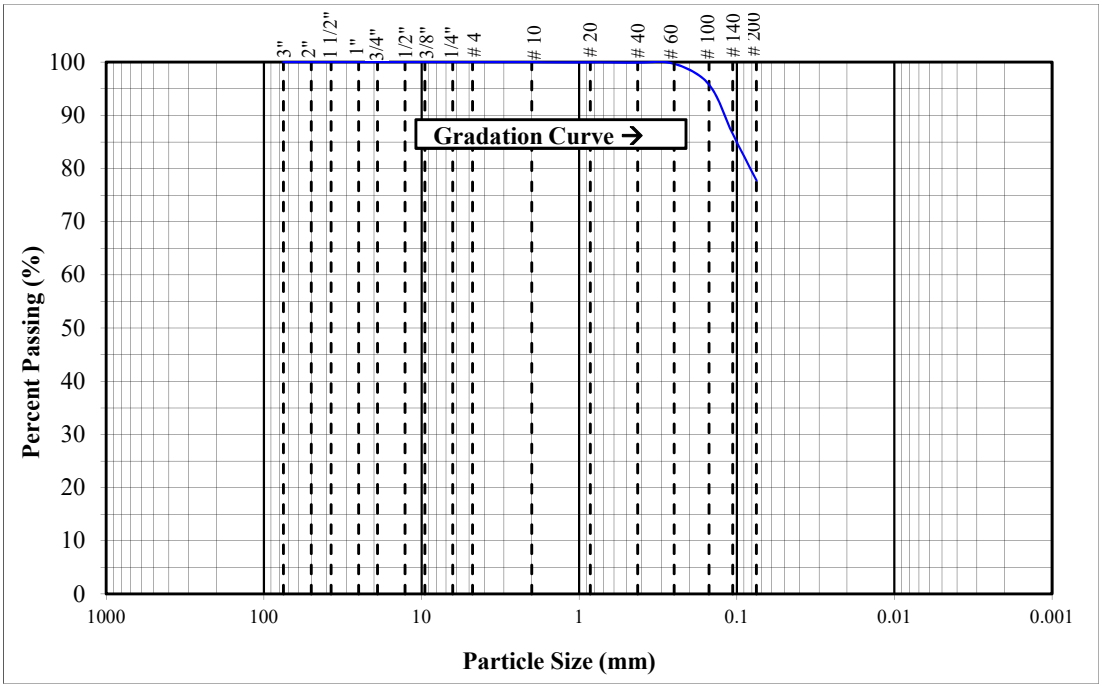
PROJECT NAME:	Federal Distributors Building Expansion	PROJECT #:	18022
PROJECT LOCATION:	2019 Lisbon Street	EXPLORATION #:	B-2
CLIENT:	Sitelines, PA	SAMPLE #:	S-2
TECHNICIAN:	Erika Stewart, P.E.	SAMPLE DEPTH:	5' - 7'
SOIL DESCRIPTION:	SILT, some fine Sand, ML	TEST DATE:	2/12/2018

TEST PROCEDURE

Sample Source: Split Spoon	**Sieve Stack:** Single	**Specimen Procedure:** Moist
Test Method: Method B	**Separating Sieve(s):** 3/8 Inch	**Dispersion Type:** (NaPO3)6

DATA

STANDARD SIEVE DESIGNATION (mm)	ALTERNATIVE SIEVE DESIGNATION (in)	PERCENT PASSING (%)
75	(3 in)	100.0
50	(2 in)	100.0
37.5	(1-1/2 in)	100.0
25.0	(1 in)	100.0
19.0	(3/4 in)	100.0
12.7	(1/2 in)	100.0
9.5	(3/8 in)	100.0
6.35	(1/4 in)	100.0
4.75	(No. 4)	100.0
2.00	(No. 10)	100.0
0.850	(No. 20)	100.0
0.425	(No. 40)	99.9
0.250	(No. 60)	99.7
0.150	(No. 100)	95.8
0.106	(No. 140)	86.5
0.075	(No. 200)	77.7



REMARKS: Moisture Content = 22.5%.

SUMMIT
GEOENGINEERING SERVICES

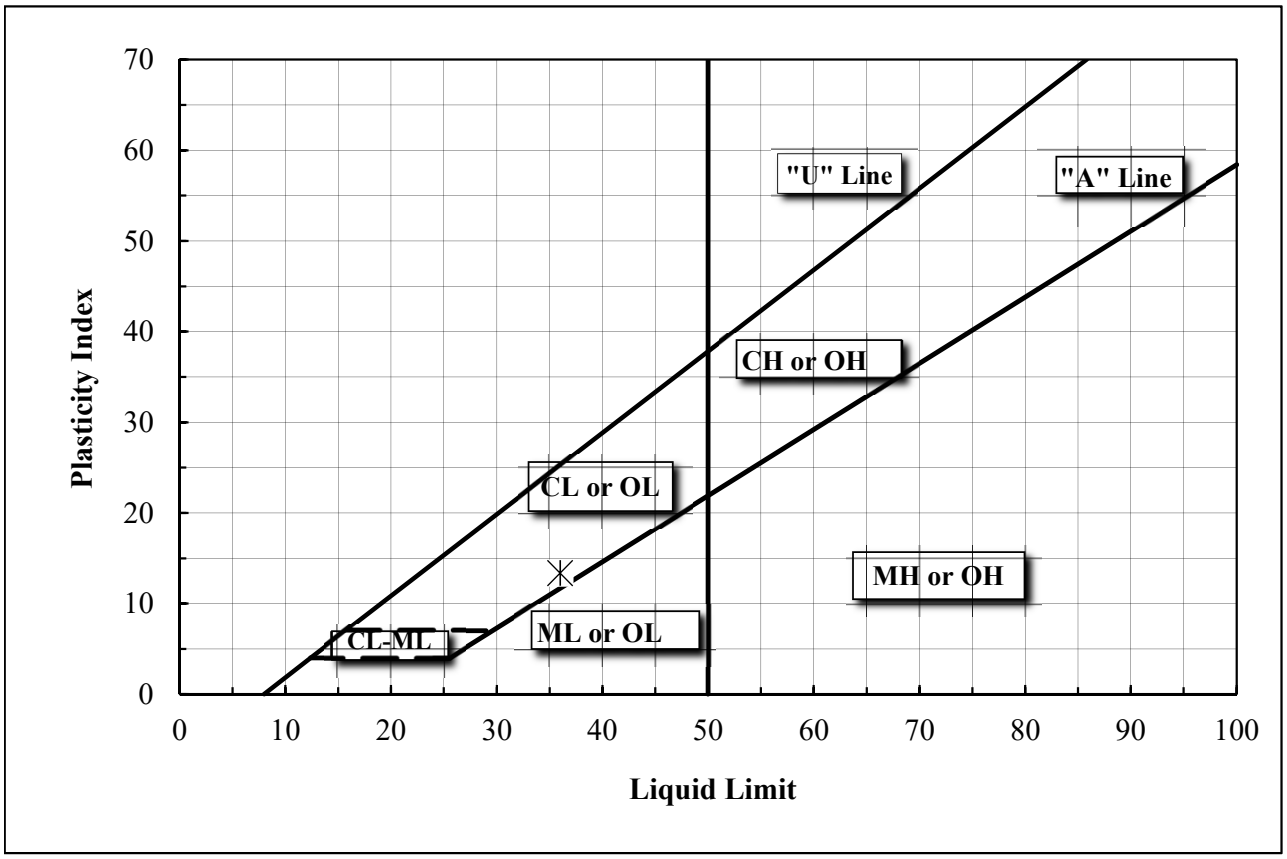
ATTERBERG LIMIT TEST - ASTM D4318

Method "A" (Multi-point)

PROJECT NAME:	Federal Distributors Building Expansion	PROJECT NUMBER:	18022
CLIENT:	Sitelines, PA	SAMPLE NUMBER:	S-4
SOURCE:	Boring B-1	DEPTH:	15' - 17'
TEST DATE:	1/29/2018	TECHNICIAN:	Erika Stewart, P.E.

DATA

Source	Depth	LL	PL	PI	Classification
B-1	15' - 17'	36	23	13	Gray Silty CLAY, frequent fine Sand seams, CL



Notes: Moisture Content = 38.2%

SUMMIT
GEOENGINEERING SERVICES

Laboratory Determination of Water (Moisture) Content of Soil ASTM D2216

PROJECT NAME:	Federal Distributors Building Expansion	PROJECT #:	18022
PROJECT LOCATION:	2019 Lisbon Street, Lewiston, ME	DRYING METHOD:	Oven Dried
CLIENT:	Sitelines, PA	DESCRIPTION:	Glacial Marine
SOURCE:	Test Borings	TECHNICIAN:	Erika Stewart, P.E.
COLLECTION DATE:	01/29/18	TESTING DATE:	02/02/18

Location	Sample No.	Depth	Moisture Content	Remarks
B-1	S-2	5' - 7'	22.6%	Silt-sand
B-1	S-3	10' - 12'	24.3%	Olive clay w/sand
B-1	S-4	15' - 17'	38.2%	Gray clay
B-2	S-2	5' - 7'	22.2%	Silt-sand
B-2	S-3	10' - 12'	27.9%	Olive clay w/sand
B-2	S-4	15' - 17'	27.5%	Olive clay w/sand
B-2	S-5	20' - 22'	25.5%	Gray clay w/ sand*

REMARKS: *Sample was previously frozen and thawed, which may affect moisture content.

Section 12
Stormwater Management

Introduction
Federal Distributors, Inc. (herein referred to as Applicant) is proposing construction of a proposed expansion to an existing warehouse facility. The proposed development will result in approximately 33,204 sq. ft. (0.76 acres) of impervious area. The increased runoff from the site will be directed to a subsurface sand filter for water quality treatment.

Per discussions with the City of Lewiston, as the existing and proposed impervious areas result in more than three (3) acres of impervious area, the new impervious area will need to meet the requirements of a Site Location of Development Act (SLODA) permit. Since the City has delegated authority from the Maine Department of Environmental Protection (MDEP) for SLODA applications, all permitting for the project will be directed through the City review process.

Study Methodology
Topographical data was obtained from on-the-ground survey collected by Sitelines, PA. Hydrologic boundaries were generated using the topographic mapping and the drainage patterns were verified by a site reconnaissance visit.

Surficial soils located in the vicinity of the site were obtained from the United States Department of Agriculture Natural Resources Conservation Service Soil Survey Geographic (SSURGO) Database. The Applicant's parcel includes the soil classifications listed below. Soils units found in the development area are primarily Adams and Scantic.

SOILS TYPES IN LOCAL STUDY AREA

Soils Series	Symbol(s)	Hydrologic Group (HSG) **
Adams	AaB, AaC	A
Charlton	ChC	A
Elmwood	EmB, EmC2	B
Ninigrit	NgB	C
Scantic	Sn	D

**Hydrologic Soils Group taken from SCS TR-55 Manual

Basic Standard
Erosion control BMPs are shown on the project drawings, and notes and details on implementing them are included on separate drawing in the set. The Contractor will be responsible for maintaining the BMPs throughout construction. After the site is stabilized and accepted by the owner, the owner will be responsible for maintaining the permanent BMPs.

Disturbed area will be minimized by clearing only the amount of land required for the construction.

Major site work activities and their sequence follow:

1. Install stabilized construction entrance.
2. Cut and remove trees around area of work, as necessary, leaving the duff layer in place.
3. Set sediment barrier and erosion control measures around the perimeter of the limits of work. Stumps shall be ground onsite and used for sediment barrier and/or mulch.

4. Clear and grub work site as needed to execute plans using caution not to over expose the site. Topsoil salvaged shall be stockpiled and protected against erosion.
5. Install storm drainage and infrastructure, including access.
6. Construct building.
7. Loam, seed, and mulch disturbed areas.
8. Monitor site for signs of erosion monthly and after major storm events.
9. Removal of temporary erosion control measures. Ninety (90) days post construction or upon satisfactory establishment of vegetation has been obtained.
10. Inspect site semi-annually for any sign of erosion or area requiring additional seeding.

The contractor shall monitor the disturbed area for signs of erosion or sediment transport off-site and take corrective action immediately. Inspections shall be logged using the form supplied in the stormwater facilities maintenance plan and kept on file. Completed logs shall be maintained by the Applicant after construction.

General Standard

The proposed project will result in approximately 33,204 sq. ft. (0.76 acres) of new impervious area for a total impervious area of 180,216 s.f. (4.14 ac). Runoff from the new impervious areas will be conveyed to a subsurface sand filter for water quality treatment. Based on conversations with the City, to meet the treatment requirements for the General Standard, in addition to the proposed impervious area, stormwater runoff from the existing building will be collected and directed to the subsurface sand filter. Due to the parameters of the existing developed site, the remainder of the existing developed and impervious areas will remain untreated.

Approximately 93,412 s.f. (2.14 acres), or 51.8%, of the total impervious areas will be directed to the subsurface sand filter. The remaining 86,804 s.f. (1.99 acres) of impervious area will remain untreated and will be directed to either the wetland along the rear of the development or the 36-inch culvert beneath Lisbon Street.

Approximately 299,500 s.f. (6.87 acres) of developed has been, or will be, created as a result of the proposed development. Approximately 117,283 s.f. (2.69 acres), or 39.2% of the total developed area, will be conveyed to the subsurface sand filter. The remaining 182,217 s.f. (4.18 acres) of developed area will be directed to either the wetland along the rear of the development or the 36-inch culvert beneath Lisbon Street.

<u>Water Quality</u>

Underdrained Subsurface Sand Filter

An underdrained subsurface sand filter will be utilized for water quality treatment. The sand filter has been sized to capture and detain a water quality capture volume of 1” of runoff from impervious area and 0.4” of runoff from landscaped areas, and allows it to filter through the filter material to an underdrain system. A filtration rate of 2.4 inches/hour was used in modeling the area as a conservative estimate for ponding evaluation. This rate considers a decrease in filtration rate that will likely be realized over time. The impervious and developed areas tributary to the water quality systems and the required sizing are summarized in the table below:

Impervious Area and Volume Requirements

	(a)	(b)	(c)	(d)	(e)
Sub-Area	Impervious area (sq. ft.)	Required Storage (cu. ft.)	Landscaped Area (sq. ft.)	Required Storage (cu. ft.)	Storage Required (cu. ft.)
	(from plan)	(a)x0.083'	(from plan)	(c)x0.033'	(b)+(d)
SSF*#1	93,412	7,784	23,871	796	8,580

*Subsurface Sand Filter

In addition to the impervious and landscaped areas listed above, there are upgradient areas which are being directed to the subsurface sand filter. This area consists of woodland upgradient of the proposed development area. Per Chapter 500, stormwater systems shall be sized to address runoff from upgradient area at a 50% sizing requirements for an area that is landscaped. The table below summarizes the additional sizing requirements and the total storage areas and filter areas required:

	(f)	(g)	(h)	(i)
Sub-Area	Upgradient Area (sq. ft.)	Required Storage (cu. ft.)	Total Storage Required / Provided (cu. ft.)	Filter Area Required / Provided (sq. ft.)
	(from plan)	[(f)x0.033']x0.50	(e)+(g)	(a)x0.05+ (c)x0.02+ (f)x0.02x0.50
GUSF#1	13,483	225	8,805 / 8,834	5,283 / 7,334

A Cultec Separator Row has been sized to provide pretreatment for the proposed system. A table summarizing the 1-year storm event flows, and the required sizing of the system is below:

	(a)	(b)	(c)	(d)
Sub-Area	1-Year Peak Runoff Rate (cfs)	Flow Rate per Chamber (cfs)	# of Required Chambers	# of Provided Chambers
	(from HydroCAD)	(from Cultec 150XLHD)	(a)/(b)	(from plan)
11S	3.82	0.185	21	21

A Stormwater Facilities Inspection and Maintenance Plan has been included with this submission, which indicates that the subsurface sand filter, specifically the separator row, shall be inspected per the manufacturer's recommendations.

Flooding Standard

Based on discussions with the City of Lewiston Planning Department, a comparison of pre- and post-development peak stormwater runoff rates at the culvert beneath Lisbon Street is needed to determine what impact, if any, there is to downstream drainageways and the drainageway upgradient of the culvert.

Flooding

The project area is located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain) of the Flood Insurance Rate Maps (FIRMs) for Androscoggin County, Maine. The project area is located on Panel 342 of 470 (Community Panel 23001C0342E, Effective July 8, 2013). An excerpt of the applicable FIRM is included as an attachment to Section 19. There is no impact from flooding anticipated for this project.

Off-Site Watersheds

The watershed area analyzed for the pre- and post-development analysis consists of a portion of the subject property, as well as the abutting property and upgradient woodland. The area generally drains from west to east and enters a large wetland complex prior to discharge to the 36-inch culvert at Lisbon Street. The watershed is bordered by Lisbon Street on the east and Dyer Road on the west.

Stormwater Analysis Subcatchments

Pre-Development Conditions

A summary of the subcatchments is provided below:

Subcatchment 1 represents approximately 21.62 acres comprised of woodland, paved areas, roof areas, and lawn areas. Stormwater runoff is conveyed towards the 36-inch culvert beneath Lisbon Street.

Post-Development Conditions

Under post-development conditions, a 23,612 s.f. building expansion with an associated fire lane will be constructed, resulting in approximately 33,204 s.f. (0.76 acres) of new impervious area. Stormwater runoff from the new impervious area will be directed to a subsurface sand filter for treatment and detention. A summary of the subcatchments is provided below:

Subcatchment 10 represents approximately 19.59 acres comprised of woodland, paved areas, and lawn areas. Stormwater runoff is conveyed towards the 36-inch culvert beneath Lisbon Street.

Subcatchment 11 represents approximately 3.00 acres comprised of woodland, the new and existing building area, and lawn area. Stormwater runoff is conveyed to a subsurface sand filter prior to discharge towards the 36-inch culvert beneath Lisbon Street.

Results

A comparison of pre- and post-development peak stormwater runoff rates at the Points of Interest is presented in the following table. Peak runoff rates were estimated for the 2, 10, and 25-year, 24-hour storm events. Point of Interest 1 is located at the entrance to the 36-inch culvert beneath Lisbon Street.

	Point of Interest 1 (cfs)		
Design Storm	Pre	Post	Change
2-Year	3.26	2.70	-0.56
10-Year	10.34	9.75	-0.59
25-Year	18.00	16.90	-1.10

As shown in the table, the peak runoff rates are decreased in all events at the point of interest as a result of the proposed development. As such, the proposed improvements meet the Flooding Standard as designed.

Conclusion

Through the implementation of erosion and sedimentation control measures and best management practices, the project complies with the requirements of the Basic Standard.

Runoff from 51.8% of the total impervious area and 39.2% of the total developed area will be captured and conveyed to a subsurface sand filter for water quality treatment. By capturing and treating runoff from the impervious surfaces and developed areas the project likewise meets the applicable portions of the General Standard.

By detaining stormwater runoff from the project such that the peak flows of stormwater from the project site did not significantly increase from pre-development peak flows, the project complies with the requirements of the Flooding Standard.

Attachment A – Stormwater Facilities Inspection and Maintenance Plan
Attachment B – HydroCAD Report
Attachment C – Pre- and Post-Development Watershed Plans

Stormwater Facilities Inspection and Maintenance Plan
Federal Distributors Building Expansion
2019 Lisbon Street, Lewiston, Maine

1.0 GENERAL

This stormwater management maintenance plan has been prepared in support of the Maine Department of Environmental Protection Site Location of Development Act application for the proposed building expansion in Lewiston, Maine. The requirements of this plan shall be incorporated into the efforts associated with the development including construction and ongoing operations.

2.0 BEST MANAGEMENT PRACTICES

2.1 Best Management Practices

During Construction, a stabilized construction entrance, sediment barrier, erosion control blanket and/or erosion control mix, seeding, and mulching practices will be used in accordance with the Maine Department of Environmental Best Management Practices (BMP) manual during construction and until a stabilized condition exists.

After Construction, stormwater BMPs will includes housekeeping and physical measures described herein, including a subsurface sand filter, sweeping of paved surfaces, and maintenance of storm drain pipes.

The stormwater maintenance management for this project will be performed consistent with the two references listed below and as amended in this manual. Where standards are not consistent, the more stringent requirement shall apply.

2.2 References

The primary references for the stormwater management design were as follows:

1 "Chapter 500. Stormwater Management Rules", Maine Department of Environmental Protection, Revised August 2015.

2 "Maine Erosion and Sedimentation Best Management Practices", Maine Department of Environmental Protection, current edition on-line.

3.0 MAINTENANCE OF STORMWATER FEATURES

3.1 General Responsibilities

The Contractor will be responsible for maintaining the stormwater features until the construction phase of the project is complete. These efforts shall include maintenance of temporary and permanent stormwater features and addressing interim site conditions as necessary. After completion of construction, the Applicant will be responsible for maintaining the permanent stormwater features as shown on the plan.

The Point of Contact for the Applicant is as follows:

John Cronin
Federal Distributors, Inc.
PO Box 207
Lewiston, ME 04241

3.1 General Requirements

The general requirements for this stormwater maintenance management manual will meet the standards of Reference No.1, specific to the water quality feature concerned. Additional maintenance requirements are identified in the following narratives.

3.2 Specific Maintenance Requirements

The following specific maintenance requirements apply to stormwater features as follows:

3.2.1 Cultec Separator Row

- The maintenance of Separator Row shall be in accordance with the manufacturer's recommendations.
- Maintenance shall be performed by an appropriate service company with equipment designed for the purpose.
- Records of maintenance shall be maintained for a period of 5 years.

3.2.2 Subsurface Sand Filter

- Maintain Cultec Treatment Row in accordance with Section 3.2.1.
- Utilize inspection ports to ensure that the system is operating adequately.

3.2.3 Storm Drain System

- Piped drainage systems shall be inspected in spring and late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet. Sediment should be removed when its level exceeds 20% of the pipe diameter. Hydraulic flushing or any mechanical means may accomplish sediment removal. Care shall be taken to contain the sediment at the pipe outlet.

3.2.4 Paved Surfaces

- Accumulations of winter sand along impervious areas shall be cleared at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along the edge of paved areas may be removed by grading excess sand to the pavement edge and removing it manually, sweeping, or by a front-end loader.

3.2.5 Vegetative Surfaces

- For most vegetative surfaces, grass should be mowed on a regular basis so that grass height does not exceed 6 inches. Any erosion rills, gullies, or bare spots should be seeded or sodded to re-establish the turf cover.

- Buffer, screening, and decorative landscaping should be inspected for health on a regular basis. Pruning, weeding, feeding, and mulching.

4.0 INSPECTION AND MAINTENANCE CHECKLIST

4.1 Maintenance Frequency

Notwithstanding any other schedule noted, general inspections should be conducted monthly during wet weather conditions from March to November.

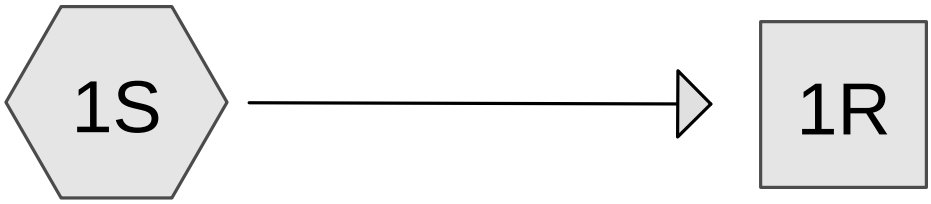
4.2 Inspection and Maintenance Checklist

Inspection of the stormwater facilities shall be completed by individual qualified by experience or training to assess their condition and performance. Maintenance actions required will be documented, completed and inspected by individuals trained or experienced in such maintenance. An inspection and maintenance checklist specific to the facilities for this development is included.

Federal Distributors Building Expansion
Lewiston, Maine
Stormwater Inspection and Maintenance Log

Performed by:_____ **Date:**_____

Feature	Description of maintenance	Recorded Observation/Corrective Action Taken or Required
Storm Drain Pipes	Inspect for evidence of sediment	
	Inspect for clogging debris and material	
Paved Surfaces	Inspect for excessive sediment deposits, trash and debris.	
	Inspect for evidence of cracking	
Vegetative Surfaces	Inspect for vegetative cover of at least 85%	
Separator Row	Inspect separator row for presence of sediment.	
Subsurface Sand Filters	Inspect for evidence of excessive sediment deposits.	
	Inspect overflow for presence of sediment and/or trash.	
Catch basins Outlet Control Structure Drain Manhole	Inspect for presence of sediment in traps; remove sediment if within 1 foot of outlet invert or hood.	
	Inspect frame and grate to verify grate is flush with finish grade.	
	Inspect for presence of trash and debris.	



36" CULVERT

Subcat Reach Pond Link

Routing Diagram for 2714-PRE
Prepared by Sitelines, PA, Printed 3/6/2018

Summary for Subcatchment 1S:

Runoff = 3.26 cfs @ 12.89 hrs, Volume= 0.662 af, Depth> 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

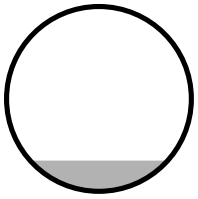
Summary for Reach 1R: 36" CULVERT

Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 0.37" for 2-YR event
Inflow = 3.26 cfs @ 12.89 hrs, Volume= 0.662 af
Outflow = 3.26 cfs @ 12.90 hrs, Volume= 0.661 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.27 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 2.81 fps, Avg. Travel Time= 0.7 min

Peak Storage= 87 cf @ 12.90 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Subcatchment 1S:

Runoff = 10.34 cfs @ 12.80 hrs, Volume= 1.721 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

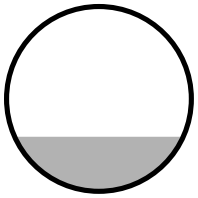
Summary for Reach 1R: 36" CULVERT

Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 0.96" for 10-YR event
Inflow = 10.34 cfs @ 12.80 hrs, Volume= 1.721 af
Outflow = 10.34 cfs @ 12.81 hrs, Volume= 1.720 af, Atten= 0%, Lag= 0.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.97 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.53 fps, Avg. Travel Time= 0.5 min

Peak Storage= 198 cf @ 12.80 hrs
Average Depth at Peak Storage= 0.88'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Subcatchment 1S:

Runoff = 18.00 cfs @ 12.77 hrs, Volume= 2.845 af, Depth> 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
198,750	98	Paved parking, HSG C
265,261	30	Woods, Good, HSG A
130,990	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
157,056	77	Woods, Good, HSG D
45,358	39	>75% Grass cover, Good, HSG A
17,782	61	>75% Grass cover, Good, HSG B
76,031	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
941,849	63	Weighted Average
743,099		78.90% Pervious Area
198,750		21.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

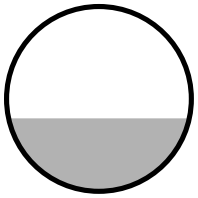
Summary for Reach 1R: 36" CULVERT

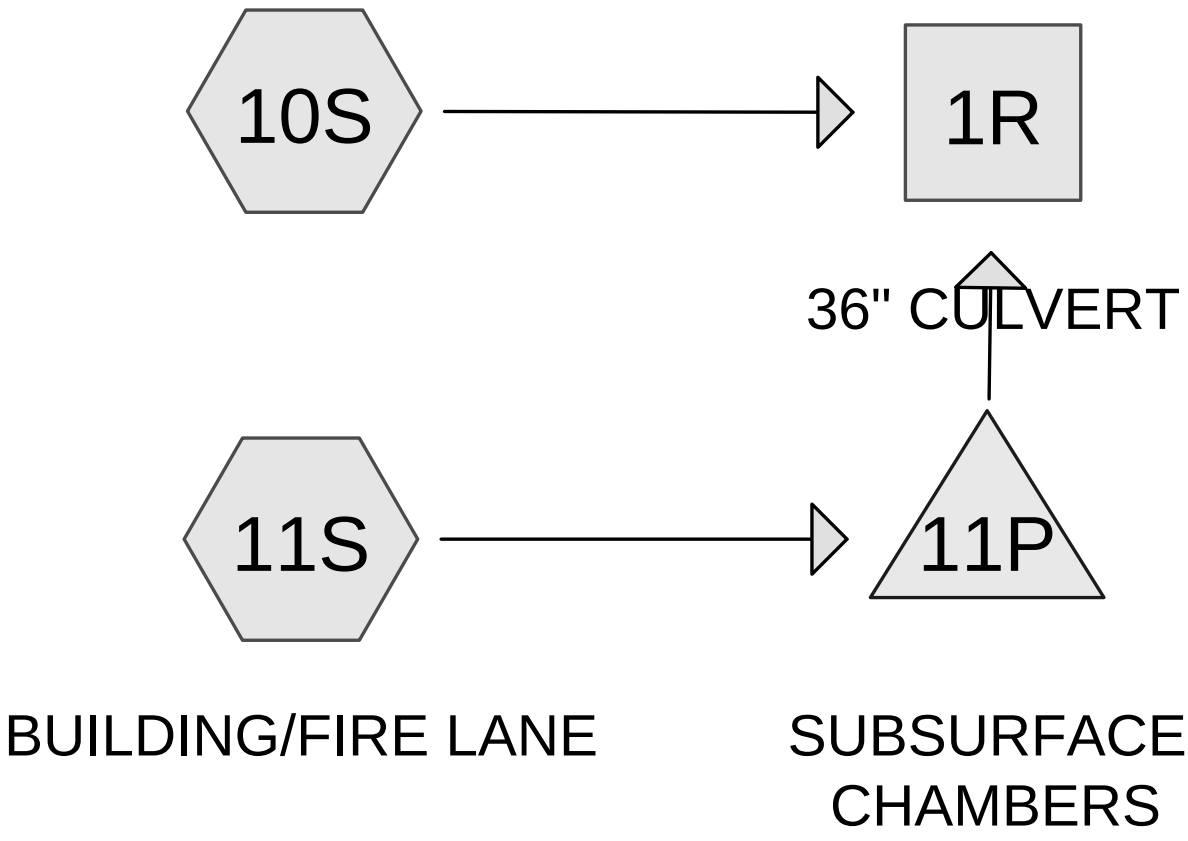
Inflow Area = 21.622 ac, 21.10% Impervious, Inflow Depth > 1.58" for 25-YR event
Inflow = 18.00 cfs @ 12.77 hrs, Volume= 2.845 af
Outflow = 17.98 cfs @ 12.77 hrs, Volume= 2.843 af, Atten= 0%, Lag= 0.5 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.96 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 3.88 fps, Avg. Travel Time= 0.5 min

Peak Storage= 295 cf @ 12.77 hrs
Average Depth at Peak Storage= 1.18'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'





Subcat Reach Pond Link

Routing Diagram for 2714-POST
Prepared by Sitelines, PA, Printed 3/6/2018

Summary for Subcatchment 10S:

Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-INCH Rainfall=1.00"

Area (sf)	CN	Description
138,564	98	Paved parking, HSG C
252,907	30	Woods, Good, HSG A
129,709	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
153,756	77	Woods, Good, HSG D
34,810	39	>75% Grass cover, Good, HSG A
19,062	61	>75% Grass cover, Good, HSG B
73,806	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
853,235	61	Weighted Average
714,671		83.76% Pervious Area
138,564		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: BUILDING/FIRE LANE

Runoff = 0.54 cfs @ 12.19 hrs, Volume= 0.056 af, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-INCH Rainfall=1.00"

Area (sf)	CN	Description
93,412	98	Paved parking, HSG C
12,410	39	>75% Grass cover, Good, HSG A
11,461	80	>75% Grass cover, Good, HSG D
4,495	30	Woods, Good, HSG A
8,988	77	Woods, Good, HSG D
130,766	87	Weighted Average
37,354		28.57% Pervious Area
93,412		71.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	51	0.0290	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	73	0.0584	3.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
11.5	124	Total			

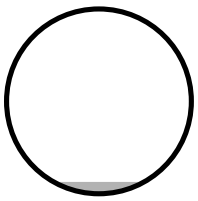
Summary for Reach 1R: 36" CULVERT

Inflow Area = 22.590 ac, 23.57% Impervious, Inflow Depth = 0.03" for 1-INCH event
Inflow = 0.44 cfs @ 12.20 hrs, Volume= 0.056 af
Outflow = 0.44 cfs @ 12.30 hrs, Volume= 0.056 af, Atten= 0%, Lag= 6.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.34 fps, Min. Travel Time= 0.8 min
Avg. Velocity = 1.12 fps, Avg. Travel Time= 1.7 min

Peak Storage= 22 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.19'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 3.002 ac, 71.43% Impervious, Inflow Depth = 0.22" for 1-INCH event
Inflow = 0.54 cfs @ 12.19 hrs, Volume= 0.056 af
Outflow = 0.44 cfs @ 12.20 hrs, Volume= 0.056 af, Atten= 19%, Lag= 0.6 min
Primary = 0.44 cfs @ 12.20 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 193.96' @ 12.31 hrs Surf.Area= 7,920 sf Storage= 113 cf

Plug-Flow detention time= 3.2 min calculated for 0.056 af (100% of inflow)
Center-of-Mass det. time= 3.2 min (892.8 - 889.6)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	**Cultec R-150XLHD** x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	195.70'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	191.30'	**18.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.44 cfs @ 12.20 hrs HW=193.95' (Free Discharge)
└**3=Culvert** (Passes 0.44 cfs of 9.20 cfs potential flow)
  ├**1=Exfiltration** (Exfiltration Controls 0.44 cfs)
  └**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment 10S:

Runoff = 0.89 cfs @ 13.06 hrs, Volume= 0.320 af, Depth= 0.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
138,564	98	Paved parking, HSG C
252,907	30	Woods, Good, HSG A
129,709	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
153,756	77	Woods, Good, HSG D
34,810	39	>75% Grass cover, Good, HSG A
19,062	61	>75% Grass cover, Good, HSG B
73,806	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
853,235	61	Weighted Average
714,671		83.76% Pervious Area
138,564		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: BUILDING/FIRE LANE

Runoff = 3.82 cfs @ 12.16 hrs, Volume= 0.328 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 1-YR Rainfall=2.50"

Area (sf)	CN	Description
93,412	98	Paved parking, HSG C
12,410	39	>75% Grass cover, Good, HSG A
11,461	80	>75% Grass cover, Good, HSG D
4,495	30	Woods, Good, HSG A
8,988	77	Woods, Good, HSG D
130,766	87	Weighted Average
37,354		28.57% Pervious Area
93,412		71.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	51	0.0290	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	73	0.0584	3.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
11.5	124	Total			

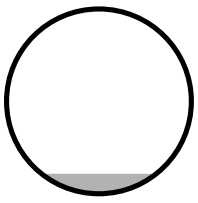
Summary for Reach 1R: 36" CULVERT

Inflow Area = 22.590 ac, 23.57% Impervious, Inflow Depth = 0.34" for 1-YR event
Inflow = 1.34 cfs @ 13.06 hrs, Volume= 0.648 af
Outflow = 1.34 cfs @ 13.07 hrs, Volume= 0.648 af, Atten= 0%, Lag= 0.9 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.27 fps, Min. Travel Time= 0.6 min
Avg. Velocity = 2.05 fps, Avg. Travel Time= 0.9 min

Peak Storage= 47 cf @ 13.06 hrs
Average Depth at Peak Storage= 0.32'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 3.002 ac, 71.43% Impervious, Inflow Depth = 1.31" for 1-YR event
Inflow = 3.82 cfs @ 12.16 hrs, Volume= 0.328 af
Outflow = 0.44 cfs @ 11.75 hrs, Volume= 0.328 af, Atten= 88%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.75 hrs, Volume= 0.328 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 195.04' @ 13.16 hrs Surf.Area= 7,920 sf Storage= 5,364 cf

Plug-Flow detention time= 103.6 min calculated for 0.328 af (100% of inflow)
Center-of-Mass det. time= 103.5 min (938.4 - 834.8)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	**Cultec R-150XLHD** x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	195.70'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	191.30'	**18.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.44 cfs @ 11.75 hrs HW=193.95' (Free Discharge)
└**3=Culvert** (Passes 0.44 cfs of 9.20 cfs potential flow)
  ├**1=Exfiltration** (Exfiltration Controls 0.44 cfs)
  └**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment 10S:

Runoff = 2.26 cfs @ 12.93 hrs, Volume= 0.596 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
138,564	98	Paved parking, HSG C
252,907	30	Woods, Good, HSG A
129,709	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
153,756	77	Woods, Good, HSG D
34,810	39	>75% Grass cover, Good, HSG A
19,062	61	>75% Grass cover, Good, HSG B
73,806	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
853,235	61	Weighted Average
714,671		83.76% Pervious Area
138,564		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: BUILDING/FIRE LANE

Runoff = 5.07 cfs @ 12.16 hrs, Volume= 0.435 af, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-YR Rainfall=3.00"

Area (sf)	CN	Description
93,412	98	Paved parking, HSG C
12,410	39	>75% Grass cover, Good, HSG A
11,461	80	>75% Grass cover, Good, HSG D
4,495	30	Woods, Good, HSG A
8,988	77	Woods, Good, HSG D
130,766	87	Weighted Average
37,354		28.57% Pervious Area
93,412		71.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	51	0.0290	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	73	0.0584	3.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
11.5	124	Total			

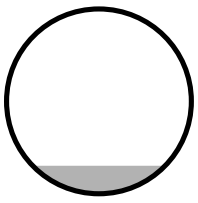
Summary for Reach 1R: 36" CULVERT

Inflow Area = 22.590 ac, 23.57% Impervious, Inflow Depth = 0.55" for 2-YR event
Inflow = 2.71 cfs @ 12.93 hrs, Volume= 1.031 af
Outflow = 2.70 cfs @ 12.94 hrs, Volume= 1.031 af, Atten= 0%, Lag= 0.8 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.03 fps, Min. Travel Time= 0.5 min
Avg. Velocity = 2.29 fps, Avg. Travel Time= 0.8 min

Peak Storage= 76 cf @ 12.93 hrs
Average Depth at Peak Storage= 0.45'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 3.002 ac, 71.43% Impervious, Inflow Depth = 1.74" for 2-YR event
Inflow = 5.07 cfs @ 12.16 hrs, Volume= 0.435 af
Outflow = 0.44 cfs @ 11.60 hrs, Volume= 0.435 af, Atten= 91%, Lag= 0.0 min
Primary = 0.44 cfs @ 11.60 hrs, Volume= 0.435 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 195.52' @ 13.76 hrs Surf.Area= 7,920 sf Storage= 8,001 cf

Plug-Flow detention time= 164.6 min calculated for 0.435 af (100% of inflow)
Center-of-Mass det. time= 164.4 min (991.1 - 826.7)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	**Cultec R-150XLHD** x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	195.70'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	191.30'	**18.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=0.44 cfs @ 11.60 hrs HW=193.95' (Free Discharge)
└**3=Culvert** (Passes 0.44 cfs of 9.19 cfs potential flow)
  ├**1=Exfiltration** (Exfiltration Controls 0.44 cfs)
  └**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Subcatchment 10S:

Runoff = 8.07 cfs @ 12.82 hrs, Volume= 1.583 af, Depth= 0.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
138,564	98	Paved parking, HSG C
252,907	30	Woods, Good, HSG A
129,709	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
153,756	77	Woods, Good, HSG D
34,810	39	>75% Grass cover, Good, HSG A
19,062	61	>75% Grass cover, Good, HSG B
73,806	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
853,235	61	Weighted Average
714,671		83.76% Pervious Area
138,564		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: BUILDING/FIRE LANE

Runoff = 8.42 cfs @ 12.16 hrs, Volume= 0.729 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-YR Rainfall=4.30"

Area (sf)	CN	Description
93,412	98	Paved parking, HSG C
12,410	39	>75% Grass cover, Good, HSG A
11,461	80	>75% Grass cover, Good, HSG D
4,495	30	Woods, Good, HSG A
8,988	77	Woods, Good, HSG D
130,766	87	Weighted Average
37,354		28.57% Pervious Area
93,412		71.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	51	0.0290	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	73	0.0584	3.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
11.5	124	Total			

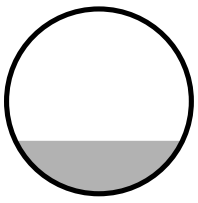
Summary for Reach 1R: 36" CULVERT

Inflow Area = 22.590 ac, 23.57% Impervious, Inflow Depth = 1.23" for 10-YR event
Inflow = 9.76 cfs @ 12.73 hrs, Volume= 2.311 af
Outflow = 9.75 cfs @ 12.73 hrs, Volume= 2.311 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 5.87 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.70 fps, Avg. Travel Time= 0.7 min

Peak Storage= 190 cf @ 12.73 hrs
Average Depth at Peak Storage= 0.86'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 3.002 ac, 71.43% Impervious, Inflow Depth = 2.91" for 10-YR event
Inflow = 8.42 cfs @ 12.16 hrs, Volume= 0.729 af
Outflow = 4.31 cfs @ 12.41 hrs, Volume= 0.729 af, Atten= 49%, Lag= 14.9 min
Primary = 4.31 cfs @ 12.41 hrs, Volume= 0.729 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 196.09' @ 12.41 hrs Surf.Area= 7,920 sf Storage= 10,202 cf

Plug-Flow detention time= 150.9 min calculated for 0.728 af (100% of inflow)
Center-of-Mass det. time= 150.8 min (962.8 - 812.0)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	**Cultec R-150XLHD** x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	195.70'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	191.30'	**18.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=4.27 cfs @ 12.41 hrs HW=196.08' (Free Discharge)
└**3=Culvert** (Passes 4.27 cfs of 13.49 cfs potential flow)
  ├**1=Exfiltration** (Exfiltration Controls 0.44 cfs)
  └**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.83 cfs @ 2.03 fps)

Summary for Subcatchment 10S:

Runoff = 14.61 cfs @ 12.77 hrs, Volume= 2.637 af, Depth= 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
138,564	98	Paved parking, HSG C
252,907	30	Woods, Good, HSG A
129,709	55	Woods, Good, HSG B
35,958	70	Woods, Good, HSG C
153,756	77	Woods, Good, HSG D
34,810	39	>75% Grass cover, Good, HSG A
19,062	61	>75% Grass cover, Good, HSG B
73,806	74	>75% Grass cover, Good, HSG C
14,663	80	>75% Grass cover, Good, HSG D
853,235	61	Weighted Average
714,671		83.76% Pervious Area
138,564		16.24% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.8	150	0.0530	0.12		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
2.1	127	0.0394	0.99		**Shallow Concentrated Flow, B-C** Woodland Kv= 5.0 fps
0.8	78	0.1090	1.65		**Shallow Concentrated Flow, C-D** Woodland Kv= 5.0 fps
5.1	312	0.0420	1.02		**Shallow Concentrated Flow, D-E** Woodland Kv= 5.0 fps
11.4	260	0.0058	0.38		**Shallow Concentrated Flow, E-F** Woodland Kv= 5.0 fps
3.5	224	0.0446	1.06		**Shallow Concentrated Flow, F-G** Woodland Kv= 5.0 fps
8.7	298	0.0130	0.57		**Shallow Concentrated Flow, G-H** Woodland Kv= 5.0 fps
52.4	1,449	Total			

Summary for Subcatchment 11S: BUILDING/FIRE LANE

Runoff = 11.28 cfs @ 12.16 hrs, Volume= 0.987 af, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-YR Rainfall=5.40"

Area (sf)	CN	Description
93,412	98	Paved parking, HSG C
12,410	39	>75% Grass cover, Good, HSG A
11,461	80	>75% Grass cover, Good, HSG D
4,495	30	Woods, Good, HSG A
8,988	77	Woods, Good, HSG D
130,766	87	Weighted Average
37,354		28.57% Pervious Area
93,412		71.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	51	0.0290	0.08		**Sheet Flow, A-B** Woods: Light underbrush n= 0.400 P2= 3.00"
0.3	73	0.0584	3.62		**Shallow Concentrated Flow, B-C** Grassed Waterway Kv= 15.0 fps
11.5	124	Total			

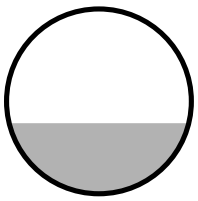
Summary for Reach 1R: 36" CULVERT

Inflow Area = 22.590 ac, 23.57% Impervious, Inflow Depth = 1.93" for 25-YR event
Inflow = 16.90 cfs @ 12.69 hrs, Volume= 3.624 af
Outflow = 16.88 cfs @ 12.69 hrs, Volume= 3.624 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Max. Velocity= 6.84 fps, Min. Travel Time= 0.3 min
Avg. Velocity = 2.97 fps, Avg. Travel Time= 0.6 min

Peak Storage= 282 cf @ 12.67 hrs
Average Depth at Peak Storage= 1.14'
Bank-Full Depth= 3.00' Flow Area= 7.1 sf, Capacity= 54.95 cfs

36.0" Round Pipe
n= 0.015 Concrete sewer w/manholes & inlets
Length= 114.0' Slope= 0.0090 '/'
Inlet Invert= 185.12', Outlet Invert= 184.09'



Summary for Pond 11P: SUBSURFACE CHAMBERS

Inflow Area = 3.002 ac, 71.43% Impervious, Inflow Depth = 3.95" for 25-YR event
Inflow = 11.28 cfs @ 12.16 hrs, Volume= 0.987 af
Outflow = 9.00 cfs @ 12.27 hrs, Volume= 0.987 af, Atten= 20%, Lag= 6.5 min
Primary = 9.00 cfs @ 12.27 hrs, Volume= 0.987 af

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.05 hrs
Peak Elev= 196.36' @ 12.27 hrs Surf.Area= 7,920 sf Storage= 11,075 cf

Plug-Flow detention time= 129.2 min calculated for 0.986 af (100% of inflow)
Center-of-Mass det. time= 129.1 min (932.7 - 803.5)

Volume	Invert	Avail.Storage	Storage Description
#1	193.92'	5,820 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 20,117 cf Overall - 5,566 cf Embedded = 14,551 cf x 40.0% Voids
#2	194.42'	5,566 cf	**Cultec R-150XLHD** x 205 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap
		11,386 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
193.92	7,920	0	0
196.46	7,920	20,117	20,117

Device	Routing	Invert	Outlet Devices
#1	Device 3	193.92'	**2.410 in/hr Exfiltration over Surface area**
#2	Device 3	195.70'	**5.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	191.30'	**18.0" Round Culvert** L= 130.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 191.30' / 190.65' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.75 cfs @ 12.27 hrs HW=196.35' (Free Discharge)
└**3=Culvert** (Passes 8.75 cfs of 13.93 cfs potential flow)
  ├**1=Exfiltration** (Exfiltration Controls 0.44 cfs)
  └**2=Sharp-Crested Rectangular Weir** (Weir Controls 8.31 cfs @ 2.63 fps)

X:\LAND PROJECTS\2714 SHERIDAN LEWISTON FED DIST\DWG\2714-SITE.DWG - PRE-DEVELOPMENT - JOE

LEGEND:

15 — SUBCATCHMENT AREA

A — B — TIME OF CONCENTRATION

LISBON STREET (RT. 196)

SHERIDAN

TO LEWISTON

TO LISBON

15

EmB

AdB

AdC

RgB

CbB

A

B

C

D

E

2.	03-20-18	REVISED PER CITY COMMENTS — JJM
1.	03-06-18	SUBMITTED TO CITY OF LEWISTON — JJM

TITLE:
PRE-DEVELOPMENT WATERSHED

PROJECT:
FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

PROGRESS PRINT
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STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

GRAPHIC SCALE
80 0 40 80 160
(IN FEET)
1 inch = 80 ft.

ISSUED FOR:
PERMITTING REVIEW

STATE OF MAINE
CURTIS Y. NEUFELD
9779
LICENSED
PROFESSIONAL ENGINEER
03-20-18

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FIELD WK: MC/CR	SCALE: 1"=40'	SHEET: DR1
DRN BY: JJM	JOB #: 2714	
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-SITE	

X:\LAND PROJECTS\2714 SHERIDAN LEWISTON FED DIST\DWG\2714-SITE.DWG - POST-DEVELOPMENT - JOE

LEGEND:

- 1P — STORMWATER POND
- 1S — SUBCATCHMENT AREA
- A — B — TIME OF CONCENTRATION

LISBON STREET (RT. 196)

10S 11S 11P

2.	03-20-18	REVISED PER CITY COMMENTS — JJM
1.	03-06-18	SUBMITTED TO CITY OF LEWISTON — JJM

TITLE: POST-DEVELOPMENT WATERSHED

PROJECT: *FEDERAL DISTRIBUTORS BUILDING EXPANSION*
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: *FEDERAL DISTRIBUTORS, INC.*
PO BOX 207, LEWISTON, ME 04241

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(IN FEET)
1 inch = 80 ft.

ISSUED FOR:
PERMITTING REVIEW

STATE OF MAINE
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03-20-18

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207.725.1200 www.sitelinespa.com

FIELD WK: MC/CR	SCALE: 1"=40'	SHEET: DR2
DRN BY: JJM	JOB #: 2714	
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-SITE	

Section 13
Urban Impaired Stream Submissions

The proposed development is not located within the direct watershed of an Urban Impaired Stream, and is not required to conform to the Urban Impaired Stream standards.

Section 14
Basic Standards

A. Narrative

I. Project Description

Federal Distributors, Inc. proposes to construct a building expansion at the existing warehouse and distribution facility located at 2019 Lisbon Street in Lewiston. The applicant is proposing a 23,612 s.f. building expansion to the existing facility along with a new fire lane extended around the perimeter of the new building. The project parcel is identified as Lewiston Tax Map 46, Lot 12.

II. Technical Guide

Best Management Practices

The stormwater maintenance management for this project will be performed consistent with the two references listed below and as amended in this manual. Where standards are not consistent, the more stringent requirement shall apply.

References

The primary references for the stormwater management design were as follows:

1 "Chapter 500. Stormwater Management Rules", Maine Department of Environmental Protection, Revised August 2015.

2 "Maine Erosion and Sedimentation Best Management Practices", Maine Department of Environmental Protection, current edition on-line.

III. Existing and Proposed Drainage Features

The existing parcel is currently developed with a large commercial building utilized as a warehouse/distribution facility and office space. The developed portion of the property either drains towards the 36-inch culvert beneath Lisbon Street along the frontage of the property or drains overland to the wetland southerly of the developed area. The existing building is collected by roof drains and directed via a stormdrain to the drainage ditch along the frontage of Lisbon Street.

Development of the site consists of the construction of a building, a stormwater management system, and lawn/landscaped areas. The stormwater runoff from the new building expansion, the existing building, and the new fire lane will be directed to a subsurface sand filter for water quality treatment prior to discharge to the existing 36-inch culvert beneath Lisbon Street.

IV. Erosion/Sedimentation Control Devices

The following erosion/sedimentation control devices are planned for this site during the construction period. These devices are installed as indicated on the drawings.

1. Sediment Barrier will be installed down gradient of disturbed areas to trap runoff borne sediments until the site is stabilized. Installation details are provided in the drawings on the Erosion Control detail sheets. If moderate to highly erodible soils are to be disturbed, then a wood waste compost/bark filter berm with a minimum height of 18 inches shall be placed down slope of the sediment barrier.

2. Straw or hay mulch is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed on slopes of less than 10 percent shall be anchored by applying water; mulch placed on slopes steeper than 10 percent shall be covered with "Tenax R-4" fabric netting or approved equal and anchored with staples in accordance with the manufacturer's recommendations. Mulch application rates are provided as noted. Regardless of mulch application rate, soil must not be visible when mulching is complete. All slopes greater than 15% during regular construction season and 8% during winter season are to have mulch pinned down by netting or a manufactured combination pinned mulch/net matt may be used.

3. Loam and seed is intended to serve as the primary permanent stabilization method for all denuded areas not covered with other erosion control measures, such as riprap. Application rates are to be provided as noted.

4. No seeding or mulching shall be done when soil is covered by snow. If seeding is necessary, snow will be removed exposing bare soil before seeding and mulching.

5. If hydro seeding is used, all mulching/netting requirements still apply.

V. Temporary/Erosion/Sedimentation Control Measures

The following are planned as temporary erosion/sedimentation control measures during construction:

1. Sediment barrier shall be installed along the down gradient side of the parking areas, the vegetated filter basins and all fill sections. The sediment barrier will remain in place until the site is stabilized.

2. Temporary stockpiles of stumps, grubbings, or common excavation will be protected as follows:

a. Temporary Stockpiles shall not be located within 25 feet of the wetlands nor in areas with slopes over 10 percent, and shall be located away from drainage swales.

b. The stockpile shall be stabilized within 7 days and be covered with mulch and "Terrajute" fabric netting. Sediment barrier shall be installed along the down gradient side of the stockpile.

c. Stockpiles shall be seeded, mulched and anchored with "Tenax R-4" fabric netting if they are to remain in place over 21 days.

3. All denuded areas, which have been rough graded and are not located within the parking and driveway sub base area, shall receive mulch or erosion control mesh fabric within 7 days of final grading.

4. If work is conducted between September 1st and December 1st of any calendar year, all denuded areas will be covered with hay mulch, applied at twice the normal application rate, and anchored with "Tenax R-4" fabric netting. The period between final grading and mulching shall be reduced to a 7-day maximum. The period between final grading and mulching shall be reduced 3 days for construction done between December 1st and March 30th.

5. Pavement shall be swept or washed to control mud and dust as necessary.

6. Seeding cutoff dates: All areas not permanently seeded by September 1st should (a) be temporarily seeded with rye and mulched by October 1st, (b) covered with sod by November 1st, or (c) mulched for over winter stabilization by November 15th.

VI. Permanent Erosion Control Measures

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. All culverts and storm drains will have inlet/outlet riprap aprons.

2. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, mulched, and seeded. "Tenex R-4" fabric netting anchored with staples shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. This protection shall be installed within 7 days on the areas noted on the Erosion Control Plan Sheet; all other areas shall receive protection within 15 days. Native topsoil shall be stockpiled and reused for final restoration when it is of sufficient quality.

VII. Timing and Sequence of Erosion/Sedimentation Control Measures During Construction

THE FOLLOWING CONSTRUCTION SEQUENCE IS MANDATORY:

1. Install stabilized construction entrance.

2. Cut and remove trees around area of work, as necessary, leaving the duff layer in place.

3. Set sediment barrier and erosion control measures around the perimeter of the limits of work. Stumps shall be ground onsite and used for sediment barrier and/or mulch.

4. Clear and grub work site as needed to execute plans using caution not to over expose the site. Topsoil salvaged shall be stockpiled and protected against erosion.

5. Install storm drainage and infrastructure, including access.

6. Construct building foundation and paved areas.

7. Remove any fine sediment deposition from paved areas.

8. Loam, seed, and mulch disturbed areas.

9. Construct ponds and subsurface sand filter. (Protect from heavy equipment)

10. Monitor site for signs of erosion monthly and after major storm events.

11. Removal of temporary erosion control measures. Ninety (90) days post construction or upon satisfactory establishment of vegetation has been obtained.

12. Inspect site semi-annually for any sign of erosion or area requiring additional seeding.

Note: All denuded areas not subject to final paving, riprap or gravel shall be revegetated.

VIII. Submittals

The project may be bid to site contractors. The site contractor shall submit a schedule for the completion of the work, which will satisfy the following criteria:

1. Items in the construction sequence shall generally be completed in the specified order; separate items may be constructed simultaneously. Work must also be scheduled or phased to minimize the extent of the exposed areas as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as sediment barrier in place before large areas of land are denuded.

2. The work shall be conducted to:

a. Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.

b. Revegetate disturbed areas as rapidly as possible. If areas are sited on the Erosion Control Plan Sheet as "Special Treatment", they shall be permanently stabilized within 24 hours; all other areas shall be permanently stabilized within 7 days of initial disturbance.

c. Incorporate planned inlets and drainage systems as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.

3. If the summer/fall construction schedule is not possible and construction is planned between September 1st and April 1st of any calendar year, then the Site Contractor shall submit a schedule, which will satisfy the following criteria:

a. Limit the amount of exposed area to those areas in which work is expected to be undertaken during the proceeding 30 days.

b. During the construction process, all disturbed areas shall be covered with mulch within 7 days of final grading.

c. Once final grade has been established, the site contractor may choose to dormant seed the disturbed areas prior to placement of mulch and "Tenax R-4" fabric netting anchored with staples.

4. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 3.6#/1,000 s.f.

All areas seeded during the winter months will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 90 percent catch) shall be revegetated by replacing loam, seed, and mulch.

a. The area of denuded non-stabilized construction shall be considered to be denuded until the sub base gravel is installed in parking areas, the base slab gravel is installed in building areas, or the areas of future loam and seed have been loamed, meshed, and mulched. The mulch rate shall be twice the rate specified in the seeding plan (90#/1,000 s.f. x 2 = 180#/s.f.).

b. Within the exposed work area, temporary sedimentation sumps shall be provided at the interface between parking areas and graded slopes. This shall be accomplished by creating an area 18" below adjacent temporary grades. The sedimentation area shall have a bottom width of 3" and 3:1 side slopes. Culverts to allow access shall be installed by the site contractor. Along the sedimentation sumps, barriers shall be provided at sufficient intervals to permit runoff to be accumulated to a minimum depth of 12" before overflowing.

c. If the project construction occurs such that winter construction is used, these items shall be deferred to permit their completion between May 15th and September 15th of any calendar year. The site contractor must use any added measures which may be necessary to control erosion/sedimentation from the site.

The site contractor shall note that no areas shall remain denuded for a period of over 30 days before it is temporarily stabilized. Temporary stabilization shall be installation of gravel or mulching.

IX. Provision for Maintenance of the Erosion/Sedimentation Control Features

The project will be contracted by the Owner for construction by a site contractor. The project is subject to the requirements of a MEDEP Site Location of Development permit. This permit requires the site contractor to prepare a list and designate by name, address and telephone number all individuals who will be responsible for implementation, inspection and maintenance of all erosion control measures identified within this section. As contained in the erosion and sedimentation control plan of the contract drawings of this section, one of these individuals shall prepare and sign a report which will include:

1. Assuring and certifying the owner's construction sequence is in conformance with the specified schedule of this section. A weekly certification stating compliance, any deviations, and corrective measures necessary to comply with the erosion control requirements of this section shall be prepared and signed by the inspector(s).

2. In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on the site, which include:

- Dates when major grading activities occur in a particular area.
- Dates when construction activities cease in a particular area, either temporarily or permanently.
- Dates when an area is stabilized.

3. Inspection of the project work site on a weekly basis and after each significant rainfall event (0.5 inches or more within any consecutive 24-hour period) during construction until permanent erosion control measures have been properly installed and the site has been stabilized. Inspection of the project work site shall include:

- Identification of proper erosion control measure installation in accordance with the erosion control detail sheet or as specified in this section.

- Determine whether erosion control measure is properly operating. If not, identify damage to control device and determine remedial measures.

- Identify areas, which appear vulnerable to erosion and determine additional erosion control measures to improve conditions.

- Inspect areas of recent seeding to determine catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.

Accumulated silt/sediment should be removed when the depth of sediment reaches 50 percent of the barrier height. Accumulated silt/sediment should be removed from behind sediment barrier when the depth of the sediment reaches 6 inches.

4. If inspections of the site indicate a change should be made to the erosion control plan, to either improve effectiveness or correct a site-specific deficiency, the inspector shall immediately implement the corrective measure and notify the Owner, Owner's representative, and MEDEP project analyst of the recommended change.

5. Once construction has been completed, long-term maintenance of the vegetated filter basins and catch basins will be the responsibility of the Owner. The catch basin sumps shall be inspected in April and October of each year. Sediment shall be removed when the depth of sediment reaches one-half the depth of the sump.

All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed on site, and a copy will be kept at the general contractor's office. All written reports will be available for on site inspection as needed.

X. Facility Operation and Maintenance

Maintenance measures will commence upon completion of construction. Maintenance measures shall consist of the following:

A. Storm drain maintenance shall be performed to maintain capacity.

B. Ditches shall be maintained to repair erosion problems and remove accumulated debris. As a minimum, channel deposition, and silt fence shall be reviewed and repaired once a week or immediately after any significant rainfall or snow melt. Sediment trapped behind barriers shall be excavated once it reaches a depth of 6" and regraded on site.

C. The storm drain pipes shall be maintained to keep inlets and outlets free of debris. As a minimum, inlets, outlets and their appurtenances shall be reviewed weekly.

XI. Seeding Plan:

1. Instructions on preparation of soil: Prepare a good seed bed for planting method used.

2. Apply lime as follows: 138#/1000 s.f.

3. Fertilize with 18.4 pounds of 10, 20, 10 N-P-K/1000 s.f.

4. Method of applying lime and fertilizer: Spread and work into the soil before seeding.

5. Seed with the following mixture:

- 47% Red Fescue
- 5% Red Top
- 40% Tall Fescue
- 7% Perennial Rye
- 1% Inert

When using small grain as nurse crop, seed it at one-half the normal seeding rate.

6. Mulching instructions: Apply at the rate of 90# per 1000 s.f.

	Amount	**Units # Tons, Etc**.
• Total Lime	138	#/1000 s.f.
• Total Fertilizer	18.4	#/1000 s.f.
• Total Seed	3.0	#/1000 s.f.
• Total Mulch	90	#/1000 s.f.

XIII. Construction Schedule

Site improvements will begin in the Summer 2018 depending upon final project approval by the Owner.

B. Erosion and Sedimentation Control Plan

A comprehensive erosion and sedimentation control plan has been prepared as part of the site design to address temporary and permanent erosion and sedimentation control measures. Erosion control details, narratives, and requirements are included in the submitted plan set.

Section 15
Groundwater

A. Narrative

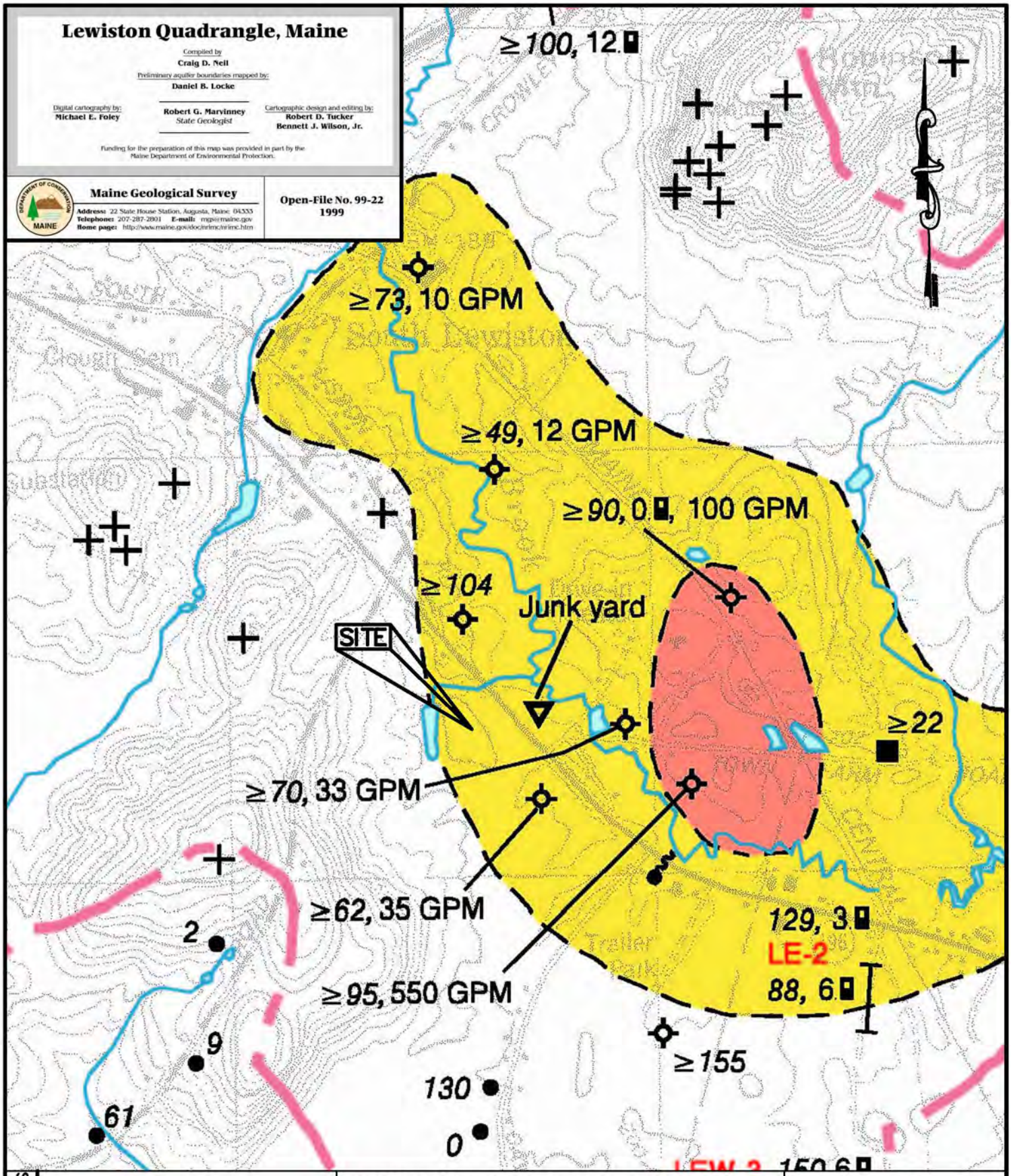
The project overlays a sand and gravel aquifer as shown on the enclosed map. Based on the Significant Sand and Gravel Aquifers map, the parcel is located partially within an area of surficial deposits with moderate to good potential ground-water yield. Based on a test boring completed southerly of the parcel, depths to bedrock in the site vicinity exceed 62 feet and there is a yield flow of approximately 35 gallons per minute.

Public water and sewer utilities are utilized for the existing building and will be extended internally to serve the proposed building expansion. The project will not use, discharge, or extract groundwater from within or adjacent to the parcel.

Stormwater runoff from the proposed impervious areas will be appropriately collected, treated and discharged as described in Section 12. Per Section 12 of this application, stormwater management will not include any infiltration of stormwater runoff from the existing or proposed impervious areas.

Based on these factors, there are no adverse impacts to groundwater anticipated with this project.

Attachment 1 – Significant Sand and Gravel Aquifer Map
Attachment 2 – Surficial Geology Map

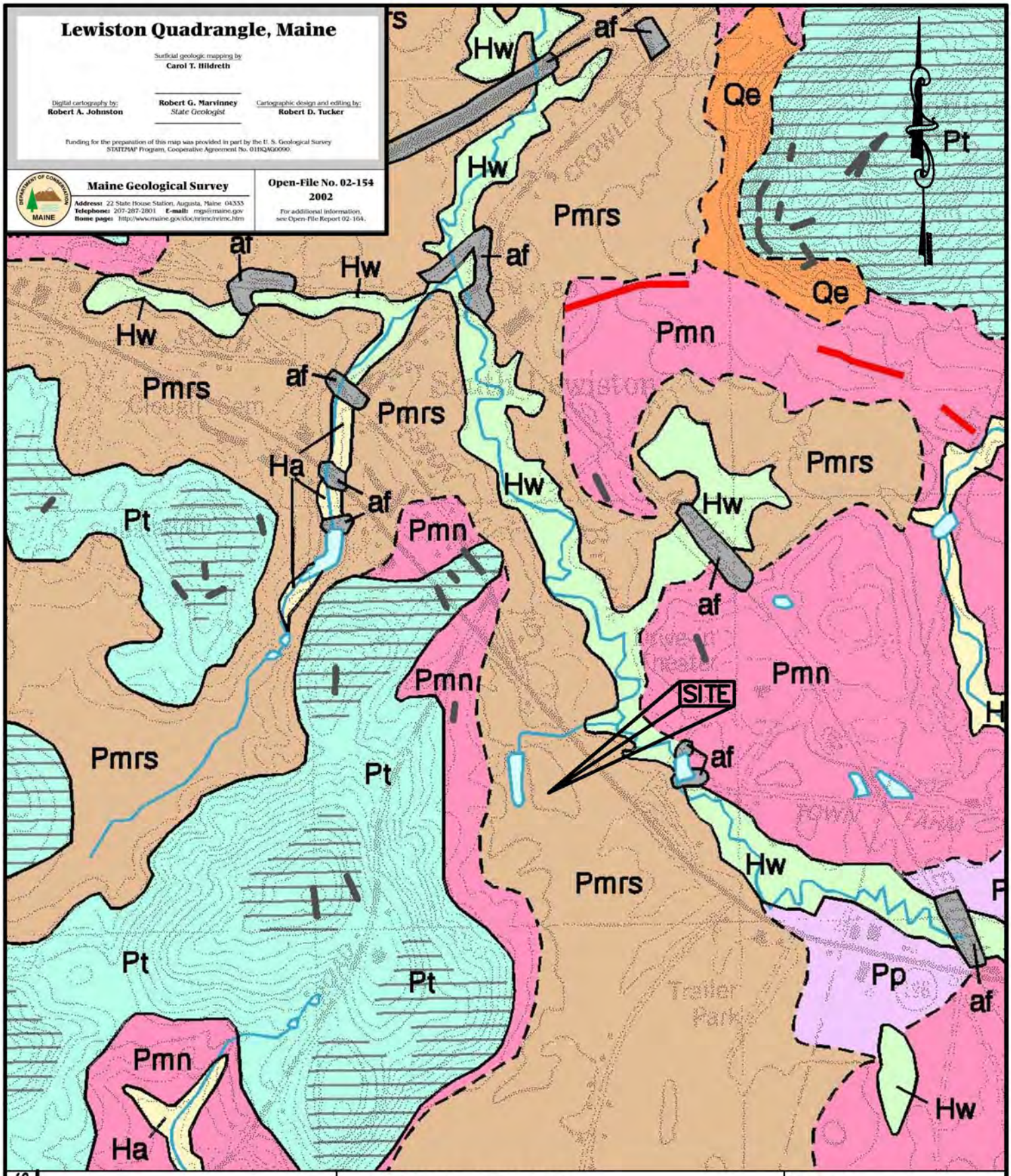


SHEET: 1 OF 1

SITELINES
ENGINEERS PLANNERS
8 CUMBERLAND ST. BRUNSWICK, ME 04011
(207) 725-1200 FAX 725-1114

SIGNIFICANT SAND & GRAVEL AQUIFER MAP
PROPOSED BUILDING EXPANSION
2019 LISBON STREET
LEWISTON, MAINE

DATE: 02-17-18
SCALE: 1"=1000'
JOB: 2714
FILE: 2714-MAPS



SHEET: 1 OF 1

SITELINES
ENGINEERS PLANNERS
8 CUMBERLAND ST. BRUNSWICK, ME 04011
(207) 725-1200 FAX 725-1114

SURFICIAL GEOLOGY
PROPOSED BUILDING EXPANSION
2019 LISBON STREET
LEWISTON, MAINE

DATE: 02-17-18
SCALE: 1"=1000'
JOB: 2714
FILE: 2714-MAPS

Section 16
Water Supply

A. Water Supply Method

The existing building utilizes water services from the water main within Lisbon Street. The existing water service will be extended internally to serve the building expansion.

B. Subsurface Wastewater Disposal

The existing building utilizes a sewer service from the sewer main within Lisbon Street. The existing sewer service will be extended internally to serve the building expansion.

Section 17
Wastewater Disposal

A. Wastewater Disposal Method

The existing building utilizes a sewer service from the sewer main within Lisbon Street. The existing sewer service will be extended internally to serve the building expansion.

Section 18
Solid Waste

A. Commercial Solid Waste Facility

As the proposed building expansion is intended to provide additional warehouse space for the existing use, there will be an increase in the amount of solid waste generated at the site. Solid waste will be collected in dumpsters located at the rear of the building which, as indicated previously, is adequately screened from abutters and Lisbon Street.

Removal and disposal of non-hazardous commercial solid waste generated will be contracted with a licensed private waste hauler per private agreement. Known commercial waste disposal companies serving Lewiston are Pine Tree Waste, R.C. Rogers, Waste Management, and Troiano waste haulers.

B. Off-site Disposal of Construction/Demolition Debris

Building construction debris associated with the development will be disposed of off-site by licensed non hazardous solid waste haulers, and is the responsibility of the owner. Approved facilities for construction/demolition debris are the Topsham Transfer & Recycling Center or direct to ReEnergy in Lewiston. Bulky waste and metal may also be taken to the Grimmel's recycling center at the Pejepscot Mill in Topsham.

C. On-site disposal of Wood Waste/Land Clearing Debris (Stumps and Grubbings)

Based on the parcel's existing character, minimal wood waste and/or land clearing debris is anticipated for this project and will be disposed of on-site by shredding or on-site grinding. In field areas, a rate of approximately 400 cy per acre is estimated. For woods areas, a volume of approximately 800 cy per acre is estimated. Any trees that would be of value for lumber will be cut to tree length and sold. Hardwood not sawn for lumber will be made available and/or donated for low-income fire wood program. Stumps and softwood will be chipped and used for erosion control or hauled off-site to an approved location. Burying of stumps will not be allowed.

All inert material discovered (concrete, etc) will be crushed and disposed of on-site or transported to an approved land-fill facility. Any asphalt encountered during construction will be removed and disposed of or recycled. Approved facilities for non-hazardous construction/demolition debris are the Topsham Transfer & Recycling Center, ReEnergy in Lewiston or Grimmel's recycling center at the Pejepscot Mill in Topsham.

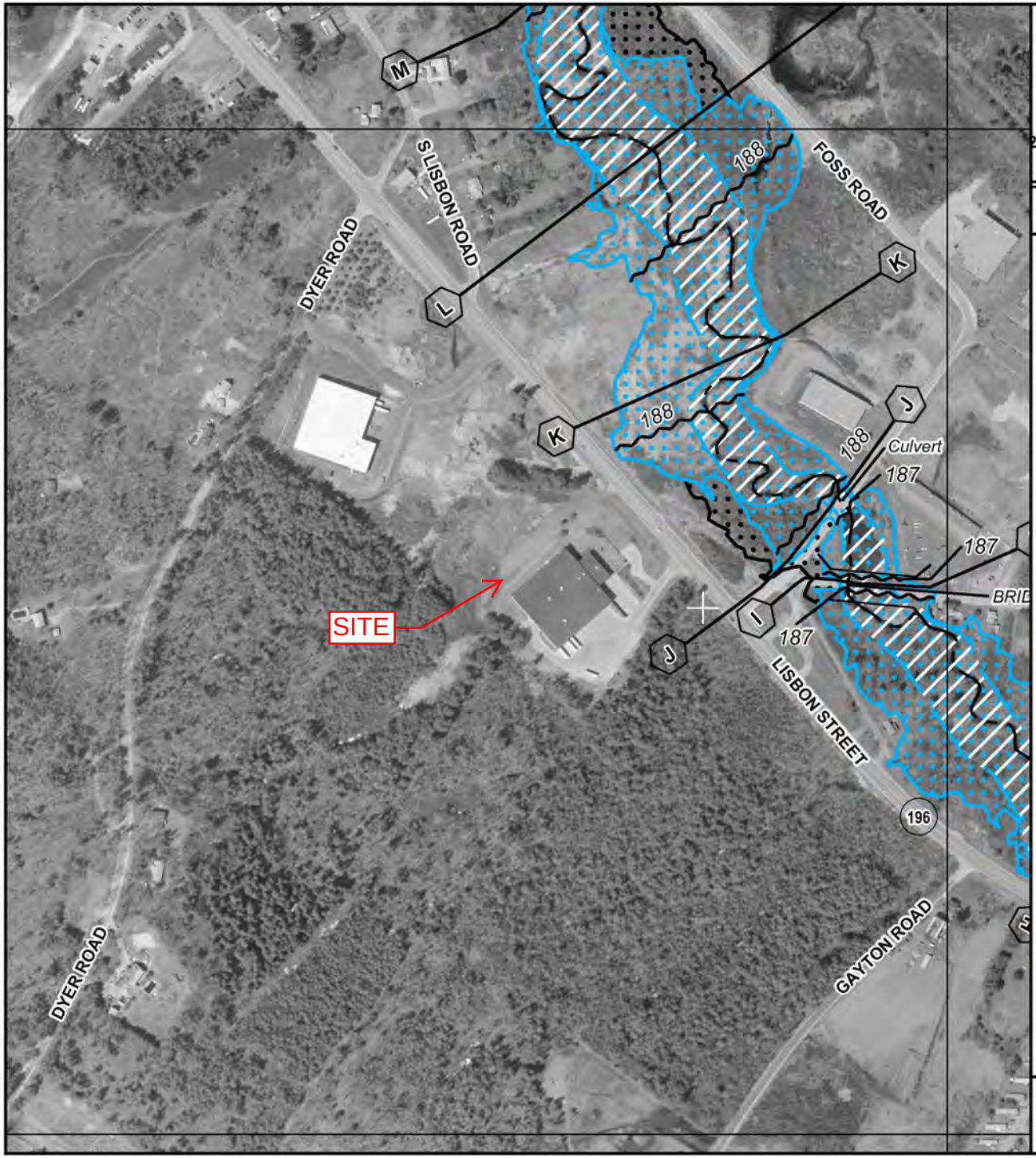
D. Special or Hazardous Waste

No special or hazardous wastes are anticipated to be generated by the development. The presence or generation of special or hazardous wastes on individual lots will be contracted per private agreement.

Section 19
Flooding

The project area is located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain) of the Flood Insurance Rate Maps (FIRMs) for Androscoggin County, Maine. The project area is located on Panel 342 of 470 (Community Panel 23001C0342E, Effective July 8, 2013). An excerpt of the applicable FIRM is included as an Attachment to this section. There is no impact from flooding anticipated for this project.

Attachment 1 – FEMA Flood Map



MAP SCALE 1" = 500'

250 0 500 1000

FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0342E

FIRM

FLOOD INSURANCE RATE MAP

ANDROSCOGGIN COUNTY, MAINE (ALL JURISDICTIONS)

PANEL 342 OF 470

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LEWISTON, CITY OF	230004	0342	E
LISBON, TOWN OF	230005	0342	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
23001C0342E

EFFECTIVE DATE
JULY 8, 2013

Federal Emergency Management Agency

Section 20
Blasting

Based on the existing test pits and the owner's history with the property, no blasting is anticipated as part of the proposed development.

Section 21
Air Emissions

A. Point and non-point sources identified:

There are no proposed point sources for air emissions associated with this project. An erosion control plan has been prepared to address temporary and permanent stabilization methods. During construction, the site contractor will be responsible to mitigate the impacts of disturbance through the use of Best Management Practices to control fugitive dust emissions. The proposed project is consequently anticipated to represent no impact from air emissions.

Section 22
Odors

A. Identification of nature/source

The proposed improvements consist of infrastructure including pavement, stormwater runoff control, and a building expansion, and, consequently, are not anticipated to represent a permanent source of odors. All solid waste will be stored in enclosed containers and removed on a regular basis. No adverse odors are expected to be generated by this project.

Section 23
Water Vapor

The project will consist of the expansion of an existing warehouse and distribution facility and is not anticipated to represent a permanent source of water vapor.

Section 24
Sunlight

Due to the size and location of the building relative to the parcel boundaries, no structures on the site are anticipated to block access to direct sunlight to abutting parcels. Per the City of Lewiston Zoning Ordinance, the structure will be no greater than 65 feet in height. The proposed project consequently is not anticipated to represent permanent blockage of sunlight.

Section 25
Notices

A. Evidence that notice sent

The following notice information is enclosed:

1. Notice of Intent To File
2. Copy of notice posted in the Sun Journal

B. List of abutters for purpose of notice

3. List of abutters

PUBLIC NOTICE FILING AND CERTIFICATION

The DEP Rules, Chapter 2, require an applicant to provide public notice for all Site Location projects with the exception of minor revisions and condition compliance applications. In the notice, the applicant must describe the proposed activity and where it is located. **"Abutter"** for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.

2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

   ATTACH a list of the names and addresses of the owners of abutting property.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application;
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. Provided notice of, if required, and held a public informational meeting in accordance with Chapter 2, Rules Concerning the Processing of Applications, Section 14, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on N/A
Date

Approximately _____ members of the public attended the Public Informational Meeting.

(AGENT) 3/6/2018
Signature of Applicant or Authorized Agent Date

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that
Federal Distributors, Inc., PO Box 2007, Lewiston, Maine 04241, (207) 783-1777 is intending to file a Site Location of Development Act permit application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481 thru 490 on or about **February 28, 2018**.

The application is for a proposed 23,612 s.f. building expansion to an existing warehouse facility at the following location: **2019 Lisbon Street, Lewiston, Maine**

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Environmental Protection's office in **Augusta** during normal working hours. A copy of the application may also be seen at the municipal offices in **Lewiston, Maine**.

Written public comments may be sent to the regional office in Augusta where the application is filed for public inspection: MDEP, Central Maine Regional Office, 17 State House Station, Augusta, Maine 04333

ABUTTING PROPERTY OWNERS

MAP-46 LOT-7
BAUER, EDWARD W. III
48 DYER ROAD
LEWISTON, ME 04240

MAP-46 LOT-11
DENTURE VENTURE LLC
319 RIDGE ROAD
WALES, ME 04280

MAP-46 LOT-13
PATHWAY VINEYARD CHURCH
PO BOX 1610
LEWISTON, ME 04241

MAP-46 LOT-23
BUTLER REALTY LP
PO BOX 1375
LEWISTON, ME 04243

GENERAL NOTES:

1. DRAWINGS ARE BASED ON BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION FROM MULTIPLE SOURCES BY SITELINES, PA.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION HAS NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES AND IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-800-DIG-SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IN AREAS OF POTENTIAL CONFLICTS TEST PITS SHALL BE REQUIRED TO VERIFY EXISTING UTILITY LOCATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

3. RIM ELEVATIONS OF PROPOSED SANITARY SEWER MANHOLES, DRAINAGE STRUCTURES AND ASSOCIATED STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE WITHIN LIMITS OF WORK.

4. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, CABLE AND FIRE ALARM). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER AND ARCHITECT.

5. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, INVERTS AND TYPES OF EXISTING PIPES AT ALL PROPOSED POINTS OF CONNECTION PRIOR TO ORDERING MATERIALS. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATIONS, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE CONSTRUCTION MANAGER REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT.

6. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS AND GRADES BEFORE WORK BEGINS. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH ALL UTILITY LINE CROSSINGS WITH TEST PITS PRIOR TO BEGINNING WORK. CONFLICTS SHALL BE REPORTED IN WRITING TO CONSTRUCTION MANAGER FOR RESOLUTION OF THE CONFLICT.

7. ALL AREAS OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION NOT COVERED WITH BUILDINGS, STRUCTURES, OR PAVEMENT SHALL RECEIVE 4 INCHES OF LOAM AND SEED.

8. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS AND SHALL BE RESPONSIBLE FOR PAYING ANY FEES FOR ANY POLE RELOCATION AND FOR THE ALTERATION OR ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, CABLE, FIRE ALARM AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.

9. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.

10. ALL PROPERTY MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE RESET TO THEIR ORIGINAL LOCATION BY A MAINE REGISTERED LICENSED PROFESSIONAL LAND SURVEYOR (PLS) AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL PREPARE AN AS-BUILT PLAN SURVEY SHOWING LOCATIONS OF ALL SURFACE FEATURES AND SUBSURFACE UTILITY SYSTEMS INCLUDING THE LOCATION TYPE, SIZE AND INVERTS.

11. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES PRIOR TO EARTHWORK OPERATION AND MAINTAIN ALL EROSION CONTROL MEASURES AND SEEDED EMBANKMENTS DURING CONSTRUCTION. EROSION CONTROL SHALL BE REMOVED ONLY UPON THE ESTABLISHMENT OF ALL LANDSCAPED AREAS. ALL WORK SHALL BE IN COMPLIANCE WITH THE ENVIRONMENTAL QUALITY HANDBOOK FOR EROSION AND SEDIMENT CONTROL, LATEST EDITION, AS ADOPTED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

12. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. ALL CONSTRUCTION ACTIVITY SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.

13. ALL MATERIALS AND CONSTRUCTION METHODS USED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO ALL LOCAL MUNICIPAL STANDARDS AND MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

14. THE CONTRACTOR IS REQUIRED TO CONTROL DUST DURING CONSTRUCTION. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH WATER AS NEEDED TO CONTROL DUST EMISSIONS. COVER EXPOSED SOIL AREAS AS QUICKLY AS PRACTICAL TO PREVENT WINDS FROM GENERATING DUST.

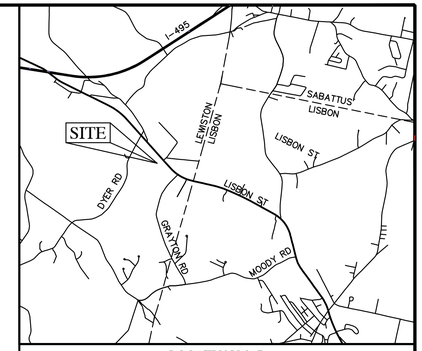
15. ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).

16. ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.

17. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY. NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING.

FEDERAL DISTRIBUTORS BUILDING EXPANSION

2019 LISBON STREET, LEWISTON, MAINE



LOCATION MAP
NOT TO SCALE

PREPARED FOR:

FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, MAINE 04241

LEGEND

EXISTING		PROPOSED
●	IRON MARKER FOUND	
	5/8" REBAR TOPPED WITH AN ALUMINUM CAP READING "BRUCE W. MARTINSON – PLS 2137" TO BE SET	⊙
	GRANITE MONUMENT SET	⊡
	CATCH BASIN	
	SEWER MANHOLE	
HYD	FIRE HYDRANT	
WV	WATER GATE VALVE	WV
	WATER SHUT-OFF	
CMP #13	UTILITY POLE	●
OHE (OVERHEAD UTILITY LINE)	UTILITY LINE	UGE (OVERHEAD UTILITY LINE)
	PROPERTY LINE	
	EASEMENTS	
	SETBACK/BUFFER	
WmB Au	SOILS BOUNDARY	
	WETLAND BOUNDARY	
	STREAM	
	CURB	
	EDGE OF PAVEMENT	
	ROAD CENTERLINE	
	BUILDING	
12"SD	STORM DRAIN(SEE PLAN FOR SIZE)	12"SD
6"S	SEWER LINE(SEE PLAN FOR SIZE)	6"S
8"W	WATER LINE(SEE PLAN FOR SIZE)	8"W
	SLOPE ARROW	-1.5%
100	CONTOURS	100
	TEMPORARY INLET PROTECTION	
	TREE LINE	
	SEDIMENT BARRIER	SB
	RIPRAP	
	PROPOSED PAVEMENT	
	SPOT GRADE	T100.50 B100.00

PROJECT CONTACTS:

LEWISTON PLANNING & CODE ENFORCEMENT
DAVID HEDIGER, CITY PLANNER
27 PINE STREET
LEWISTON, MAINE 04240
PHONE: 207-513-3125

WATER & SEWER DIVISION
KEVIN GAGNE, P.E., DEPUTY DIRECTOR
103 ADAMS AVE
LEWISTON, MAINE 04240
PHONE: 207-513-3003

PUBLIC WORKS DEPARTMENT:
DAVID A. JONES, DIRECTOR
103 ADAMS AVE
LEWISTON, MAINE 04240
PHONE: 207-513-3003

LEWISTON FIRE DEPARTMENT:
BRIAN STOCKDALE, FIRE CHIEF
2 COLLEGE STREET
LEWISTON, MAINE 04240
PHONE: 207-513-3002

LEWISTON POLICE DEPARTMENT:
BRIAN O'MALLEY, CHIEF
171 PARK STREET
LEWISTON, MAINE 04240
PHONE: 207-513-3001

NATURAL GAS:
UNITIL MAINE GAS OPERATIONS
376 RIVERSIDE INDUSTRIAL PARKWAY
PORTLAND, MAINE 04103
PHONE: 1-866-933-3821

ELECTRIC SERVICE:
CENTRAL MAINE POWER
740 MAIN STREET
LEWISTON, MAINE 04240
PHONE: 207-897-3454

CABLE SERVICE:
SPECTRUM
37 ALFRED A PLOURDE PARKWAY
LEWISTON, MAINE 04240
PHONE: 1-800-892-4357

DESIGN TEAM:

ENGINEERING, PLANNING, SURVEYING & LANDSCAPE ARCHITECTS:
SITELINES, P.A.
CURTIS NEUFELD, P.E.
8 CUMBERLAND STREET
BRUNSWICK, MAINE 04011
PHONE: 207-725-1200

GEOTECHNICAL ENGINEERING:
SUMMIT GEOENGINEERING SERVICES
CRAIG COOLIDGE, P.E.
173 PLEASANT STREET
ROCKLAND, MAINE 04841
PHONE: 207-318-7761

BUILDING DESIGN:
THE SHERIDAN CORPORATION
DAVID WHITNEY, LEED AP
33 SHERIDAN DRIVE
FAIRFIELD, MAINE 04937
PHONE: 207-774-6138

CIVIL SHEET INDEX:

APPROVED: CITY OF LEWISTON

DATE APPROVED:

DATE SIGNED:

CHAIRMAN:

PRELIMINARY PERMITTING REQUIREMENTS:

AGENCY:	PERMIT:	STATUS:
CITY OF LEWISTON	SITE PLAN APPROVAL	SUBMITTED 03/06/18
	SITE LOCATION OF DEVELOPMENT ACT	PENDING
	BUILDING	(BY CONTRACTOR)

CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

2.	03-20-18	REVISED PER CITY COMMENTS JJM
1.	03-06-18	SUBMITTED TO CITY OF LEWISTON JJM

TITLE: COVER SHEET

PROJECT: FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

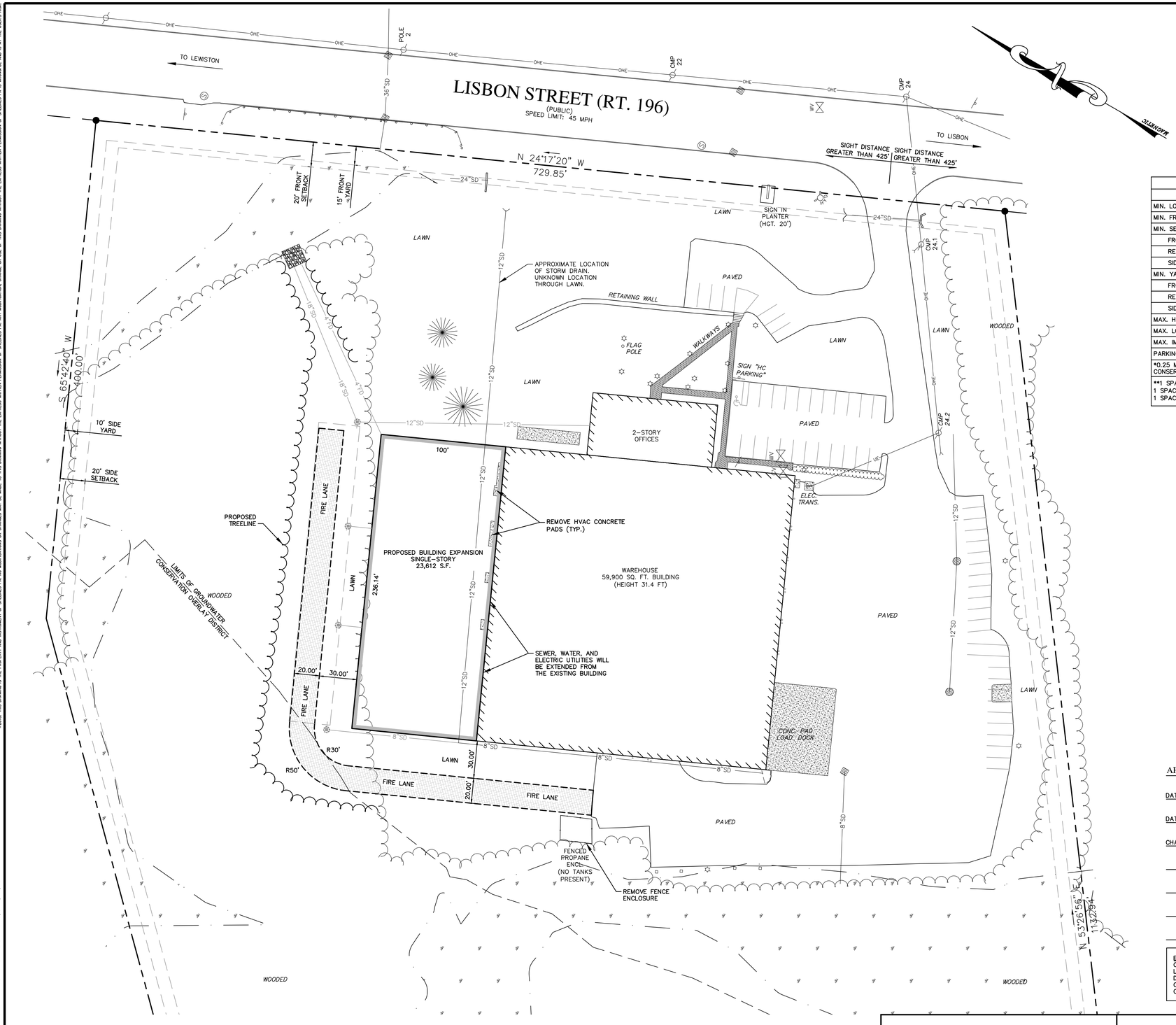
PREPARED FOR: FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

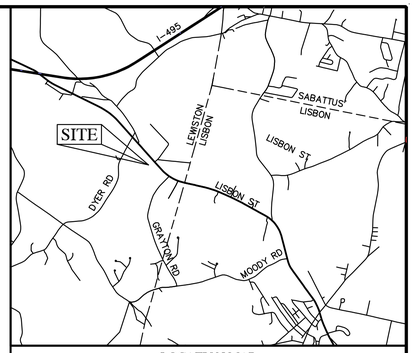
STATE OF MAINE · CURTIS Y. NEUFELD 9779 LICENSED PROFESSIONAL ENGINEER · 03-20-18

SITELINES, PA
ENGINEERS • PLANNERS • SURVEYORS
8 CUMBERLAND STREET, BRUNSWICK, ME 04011
207.725.1200 www.sitelinespa.com

FIELD WK: MC/CR	SCALE: NTS
DRN BY: JJM	JOB #: 2714
CH'D BY: CYN	MAP/LOT: 46/12
DATE: 01-17-18	FILE: 2714-COV-DET

SHEET: C1





LOCATION MAP
NOT TO SCALE

LAYOUT NOTES:

1. ALL DIMENSIONING, UNLESS NOTED OTHERWISE, IS TO THE FACE OF CURB OR FOUNDATION.
2. BOUNDARY INFORMATION ON LAYOUT PLAN IS FOR REFERENCE ONLY, REFER TO CERTIFIED BOUNDARY PLANS FOR BOUNDARY INFORMATION.
3. ALL HANDICAP ACCESSIBLE PARKING SPACES, RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
4. ALL SITE SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. (MUTCD)
5. BUILDING FOUNDATION SHOWN IS NOT FOR FOUNDATION LAYOUT. COORDINATE SITE WORK WITH ARCHITECTURAL DRAWINGS INCLUDING BUILDING FEATURES AND FOUNDATION PLAN.
6. REFER TO SHEET C3 FOR GRADING AND DRAINAGE INFORMATION.

HIGHWAY BUSINESS ZONING DISTRICT (HB)		
ZONING STANDARD	REQUIRED	PROPOSED
MIN. LOT SIZE:	NONE	21.99 AC
MIN. FRONTAGE:	150'	729.85'
MIN. SETBACKS:		
FRONT:	20'	177'
REAR:	20'	751'
SIDE:	20'	191'
MIN. YARD:		
FRONT:	15'	46'
REAR:	10'	625'
SIDE:	10'	37'
MAX. HEIGHT:	65'	<65'
MAX. LOT COVERAGE:	0.50*	0.09
MAX. IMPERVIOUS COVERAGE:	0.75	0.19
PARKING REQUIRED	92 SPACES**	56 SPACES
*0.25 MAXIMUM LOT COVERAGE IF PROPERTY IS WITHIN THE GROUNDWATER CONSERVATION OVERLAY DISTRICT		
**1 SPACE PER 300 GFA OFFICE (10,020/300)=33 SPACES 1 SPACE PER 500 GFA FIRST 3,000 S.F. INDUSTRIAL (3000/500)=6 SPACES 1 SPACE PER 1,000 GFA MORE THAN 3,000 S.F. (51,878/1,000)=52 SPACES		

GENERAL NOTES:

1. TITLE REFERENCE FOR SURVEYED PARCEL:

   BK 8930, PG 32

2. PLAN REFERENCE(S):

   a) PLAN ENTITLED, "PLAN OF LAND ON GAYTON ROAD .. OWNED BY FOURNIER",, DATED AUGUST 8, 1984, BY HOWARD BABBIDGE, RECORDED IN PB 31, PG 14.

   b) PLAN ENTITLED, "WETLANDS SKETCH PLAN FEDERAL DISTRIBUTORS SITE 'A'", DATED JANUARY, 1999, BY TECHNICAL SERVICES, INC., NOT RECORDED.

3. AREA INFORMATION:

   LOT AREA: 957,983 S.F. (21.99 ACRES)

4. TAX MAP REFERENCE:

   TAX MAP 46, LOT 12.

5. BASIS OF BEARINGS:

   BEARINGS ARE REFERENCED TO MAGNETIC.

6. FLOOD ZONE INFORMATION:

   PARCEL IS LOCATED WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) OF THE FLOOD INSURANCE RATE MAPS FOR ANDROSCOGGIN COUNTY, MAINE. THE PROJECT IS LOCATED ON PANEL 342 OF 470 (COMMUNITY PANEL 23001C0342E, EFF. DATE JULY 8, 2013).

7. IMPERVIOUS AREA:

   EXISTING IMPERVIOUS AREA: 147,012 S.F. (3.37 AC)
   PROPOSED IMPERVIOUS AREA: 180,216 S.F. (4.14 AC)
   NET CHANGE IN IMPERVIOUS AREA: +33,204 S.F. (0.76 AC)

UTILITY NOTES:

1. INFORMATION REGARDING THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS A COMPILATION OF THAT FOUND IN THE FIELD AND THAT SHOWN ON A PREVIOUS PLANS, AND SHALL NOT BE CONSIDERED AN AS-BUILT PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. CONTRACTOR SHALL NOTIFY DIG-SAFE (1-888-344-7233) PRIOR TO EXCAVATION.

APPROVED: CITY OF LEWISTON

DATE APPROVED:

DATE SIGNED:

CHAIRMAN:

EXPIRATION OF APPROVAL: IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE LEWISTON CODE OF ORDINANCES WITHIN TWO YEARS, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. NO CONSTRUCTION OR OPERATION OF THE DEVELOPMENT MAY OCCUR UNTIL A NEW APPROVAL IS GRANTED.

ADDRESS OF RECORD OWNER:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207
LEWISTON, ME 04241

2. 03-20-18	REVISED PER CITY COMMENTS	JJM
1. 03-06-18	SUBMITTED TO CITY OF LEWISTON	JJM

TITLE:
SITE LAYOUT PLAN

PROJECT:
FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

PROGRESS PRINT
THIS PLAN IS ISSUED FOR REVIEW AND INFORMATION PURPOSES ONLY. THIS PLAN IS SUBJECT TO CHANGE AND IS NOT FOR PRICING OR CONSTRUCTION. PRICING BASED ON THIS PLAN IS NOT BINDING UNLESS SIGNED BY BOTH CONTRACTOR AND OWNER.

CALL DIG SAFE UTILITY LOCATION
1-888-344-7233
STATE LAW REQUIRES ADVANCE NOTICE OF AT LEAST 3 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND UTILITIES

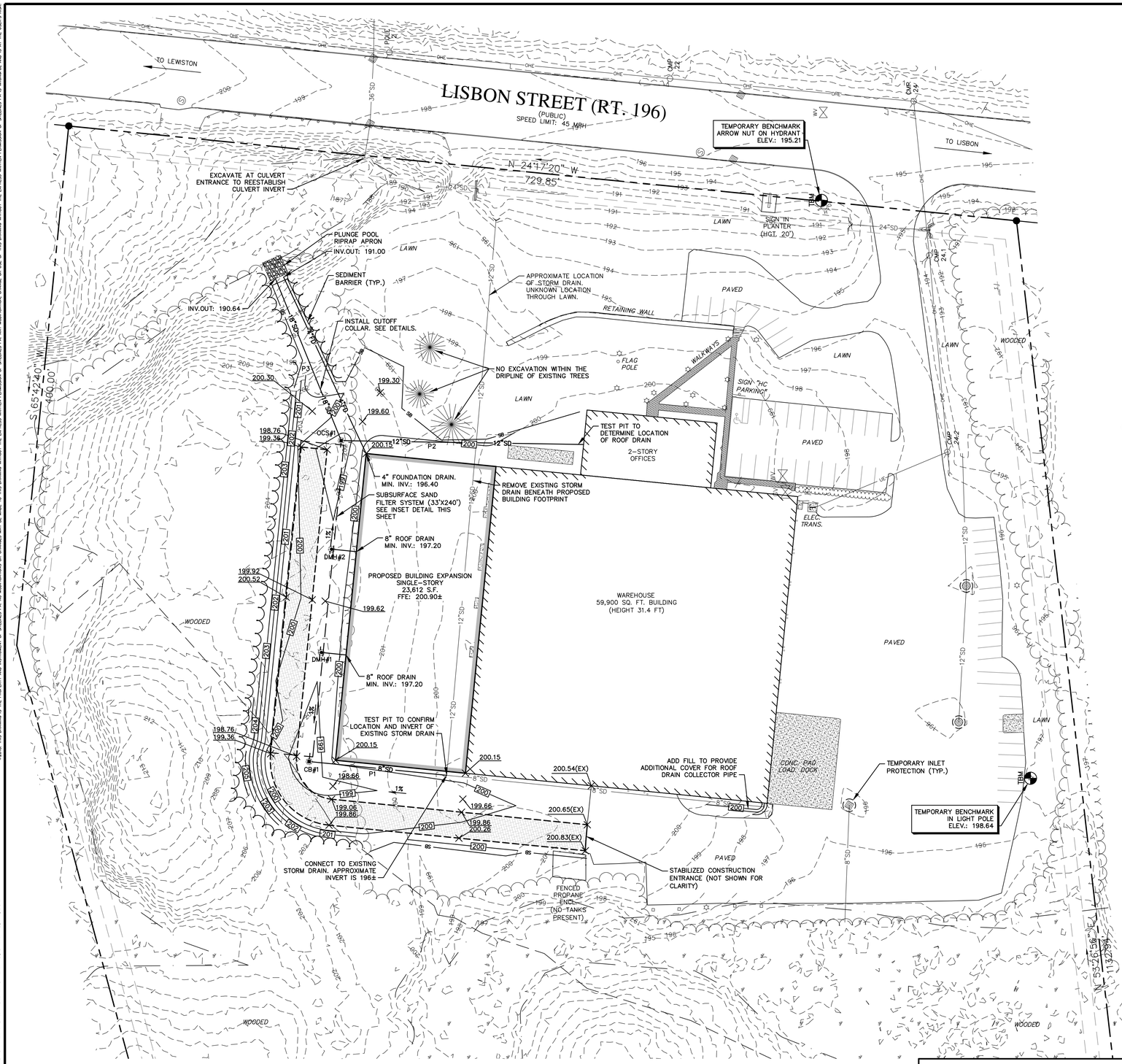
GRAPHIC SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 ft.

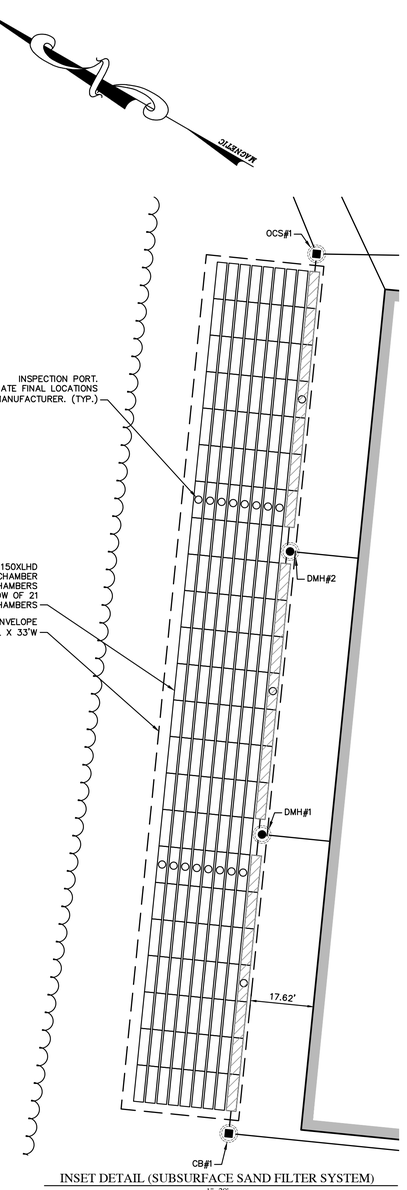
ISSUED FOR:
PERMITTING REVIEW

STATE OF MAINE
CURTIS Y. NEUFELD
9779
LICENSED PROFESSIONAL ENGINEER
03-20-18

SITELINES, PA
ENGINEERS • PLANNERS • SURVEYORS
8 CUMBERLAND STREET, BRUNSWICK, ME 04011
207.725.1200 www.sitelinespa.com

FIELD WK: MC/CR	SCALE: 1"=40'	SHEET: C2
DRN BY: JJM	JOB #: 2714	
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-SITE	





INSET DETAIL (SUBSURFACE SAND FILTER SYSTEM)
1"=20'

GRADING AND DRAINAGE NOTES:

1. THE CONTRACTOR SHALL PHASE GRADING EFFORTS SUCH THAT TOTAL SITE DISTURBANCE IS MINIMIZED. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO GRADING EFFORTS OR WITHOUT DELAY UPON THEIR COMPLETION, DEPENDENT UPON THE SITUATION.

2. ALL FILL SLOPES SHALL BE A MINIMUM OF 3:1 HORIZONTAL TO VERTICAL UNLESS OTHERWISE NOTED OR DIRECTED.

3. THE LIMITS OF DISTURBANCE SHALL GENERALLY BE THE MINIMAL EXTENT NECESSARY ONLY TO PERFORM THE GRADING EFFORTS SHOWN ON THE DRAWINGS. SPECIAL CARE SHALL BE TAKEN TO AVOID DISTURBANCE OF OBJECTS AND AREAS NOT SPECIFICALLY IDENTIFIED FOR MODIFICATION OR REMOVAL.

4. ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED IN ACCORDANCE WITH THE DRAWINGS, UNLESS INTENDED FOR OTHER SURFACE COVER.

5. STORM DRAINS SHALL BE CONSTRUCTED CONCURRENTLY WITH GRADING EFFORTS TO PROVIDE ADEQUATE CONVEYANCE FOR ANY SITE RUNOFF CONDITIONS.

6. WHERE FINAL GRADING HAS BEEN COMPLETED, SURFACE RESTORATION FOR DISTURBED AREAS WILL BE COMPLETED AS SOON AS PRACTICABLE. FOR VEGETATIVE AREAS, VEGETATION WILL BE PROGRESSIVELY ESTABLISHED.

7. UNLESS OTHERWISE NOTED, ALL STORM DRAIN PIPE SHALL BE IN ACCORDANCE WITH MDOT SPECIFICATIONS SECTION 603. PIPE CULVERTS AND STORM DRAINS, LATEST REVISION WITH ACCEPTABLE TYPES OF PIPE ARE AS FOLLOWS:

SMOOTH BORE POLYETHYLENE PIPE – HDPE N-12 ADS

8. BENCHMARK INFORMATION: SEE PLAN

9. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL DRAINAGE STRUCTURES AND PIPING PRIOR TO ORDERING.

10. RIM ELEVATIONS OF PROPOSED DRAINAGE STRUCTURES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.

11. TRANSITIONS BETWEEN SLOPES ARE TO BE GENERALLY GRADUAL AND RESULT IN A SMOOTH, ROUNDED APPEARANCE.

DRAINAGE STRUCTURE DATA:

CB#1
RIM: 198.39
INV.IN: 194.52 (8" FROM ROOF DRAIN)
INV.OUT: 194.42 (12" TO CHAMBER SYSTEM)

DMH#1
RIM: 199.22
INV.IN: 195.55 (8" FROM ROOF DRAIN)
INV.IN: 194.42 (12" FROM CHAMBER SYSTEM)
INV.OUT: 194.42 (12" TO CHAMBER SYSTEM)

DMH#2
RIM: 199.22
INV.IN: 195.55 (8" FROM ROOF DRAIN)
INV.IN: 194.42 (12" FROM CHAMBER SYSTEM)
INV.OUT: 194.42 (12" TO CHAMBER SYSTEM)

OCS#1
RIM: 198.39
BAFFLE: 195.80
INV.IN: 194.42 (12" FROM CHAMBER SYSTEM)
INV.IN: 194.42 (12" FROM ROOF DRAIN)
INV.IN: 191.40 (6" FROM UNDERDRAIN)
INV.OUT: 191.30 (18" TO OUTLET)

P1: 8" HDPE L=104±' S=0.0100 MIN.
P2: 12" HDPE L=185±' S=0.0100 MIN.
P3: 18" HDPE L=132' S=0.0050

= CULTEC SEPARATOR ROW (61 TOTAL CHAMBERS)

2.	03-20-18	REVISED PER CITY COMMENTS	JJM
1.	03-06-18	SUBMITTED TO CITY OF LEWISTON	JJM

TITLE: GRADING, DRAINAGE, & EROSION CONTROL PLAN

PROJECT:
FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

PROGRESS PRINT
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(IN FEET)
1 inch = 40 ft.

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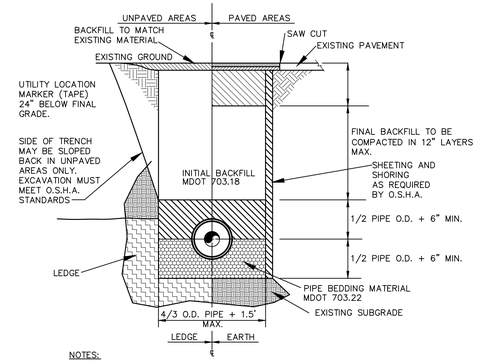
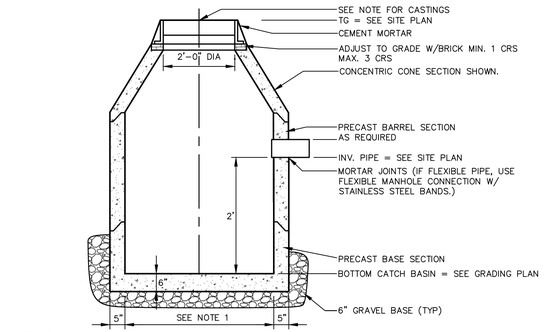
FIELD WK: MC/CR	SCALE: 1"=40'	SHEET: C3
DRN BY: JJM	JOB #: 2714	
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-SITE	

X:\LAND PROJECTS\2714 SHERIDAN LEWISTON FED DIST\DWG\2714-SITE.DWG, GRADING, ---, JOE



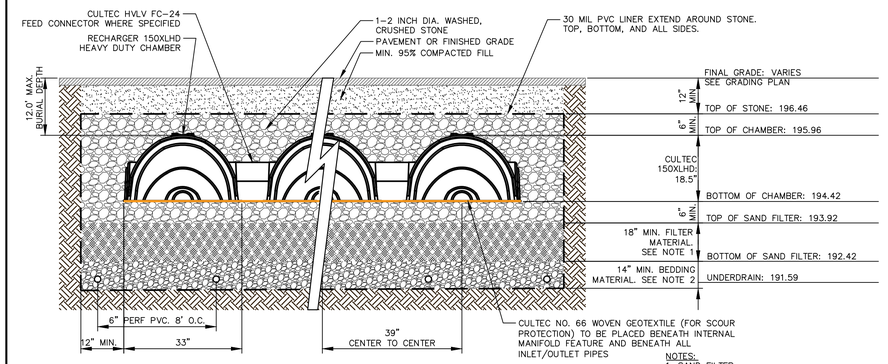
NOTES:
1. INSTALL 3 FOOT LONG IMPERVIOUS DAMS IN BEDDING/INITIAL BACKFILL MATERIAL EVERY 100 FEET TO PREVENT TRENCH GROUNDWATER FROM BEING CHANNELED ALONG BEDDING/INITIAL BACKFILL
2. REFER TO LATEST MDOT SPECIFICATIONS FOR BEDDING AND BACKFILL REQUIREMENTS.
3. INITIAL BACKFILL TO BE 12 INCHES OVER TOP OF PVC PIPE ONLY.

A TYPICAL PIPE TRENCH DETAIL
N.T.S.



NOTES:
1. 4'–0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H–20 LOADING.
3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
4. CATCH BASIN FRAME AND GRATE TO BE LABARON FOUNDARY MODEL LF–244–S GRATE OR APPROVED EQUAL.
5. DRAINAGE MANHOLES TO HAVE SOLID ROUND FRAME AND COVER AND BE H20 LOADED WITH "DRAIN" LABELED ON COVER.

B CATCH BASIN OR DRAINAGE MANHOLE
N.T.S.



CHAMBER NOTES
1. RECHARGER 150XLHD BY CULTEC, INC. OF BROOKFIELD, CT.
STORAGE PROVIDED = 4.89 CF/FT (0.45 m³/m) PER DESIGN UNIT.
REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES.
MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12'.
THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

2.ALL RECHARGER 150XLHD HEAVY DUTY UNITS ARE MARKED WITH A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL RECHARGER 150XLHD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

FILTER MEDIA GRADATION (MDOT 703.01)	
SIEVE SIZE	% PASSING BY WEIGHT
3/8"	100
#4	95–100
#8	80–100
#16	50–85
#30	25–60
#60	10–30
#100	2–10
#200	0–5 (8–10% IS PREFERRED)

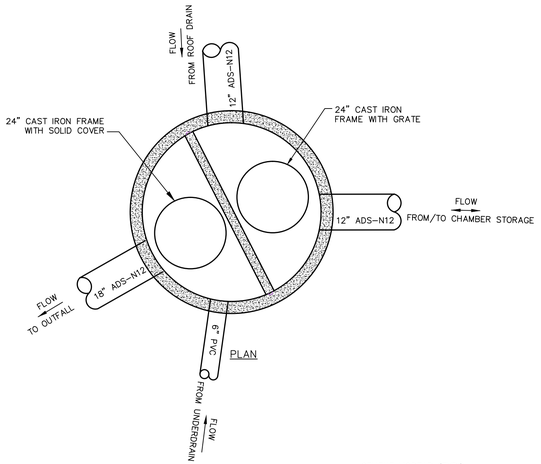
BEDDING GRADATION (MDOT 703.22 TYPE C)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90–100
3/8"	0–75
#4	0–25
#10	0–5

NOTES:
1. SAND FILTER:
THE SAND FILTER SHALL BE A UNIFORM MIX, FREE OF STONES. STUMPS. ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. THE SAND FILTER SHALL HAVE MINIMAL CLAY CONTENT, BUT SHALL CONTAIN BETWEEN 8% AND 10% FINES PASSING THE #200 SIEVE AND MEET SPECIFICATIONS OF MEDOT # 703.01 AGGREGATE AS SHOWN IN TABLE THIS SHEET. THE FILTER MATERIAL SHALL CONTAIN NO MORE THAN 2% CLAY CONTENT. ON SITE MATERIAL MAY BE USED UPON WRITTEN SUBMISSION OF GRADATION TESTING.

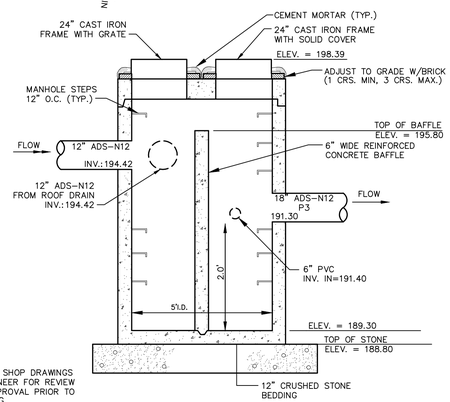
2. BEDDING MATERIAL:
UNDERDRAIN BEDDING MATERIAL SHALL BE CLEAN, COARSE GRAVEL MEETING MEDOT 703.22 TYPE C (SEE TABLE THIS SHEET). BEDDING MATERIAL SHALL BE PLACED TO 4 INCHES MINIMUM BELOW AND ABOVE UNDERDRAIN PIPING.

3. LABORATORY TESTING OF THE SAND FILTER MEDIA SHALL BE COMPLETED TO CONFIRM THE REQUIRED FLOW THROUGH RATES (TARGET 0.75 TO 1.5 IN/HR). UPON COMPLETION OF INSTALLATION OF THE SYSTEM, THE CONTRACTOR SHALL FLOOD THE SYSTEM TO THE DESIGN ELEVATION WITH CLEAN WATER AND ADJUST THE OUTFLOW TO OBTAIN A 24–HOUR TO 48–HOUR RELEASE TIME.

C SUBSURFACE SAND FILTER - SECTION A-A
N.T.S.



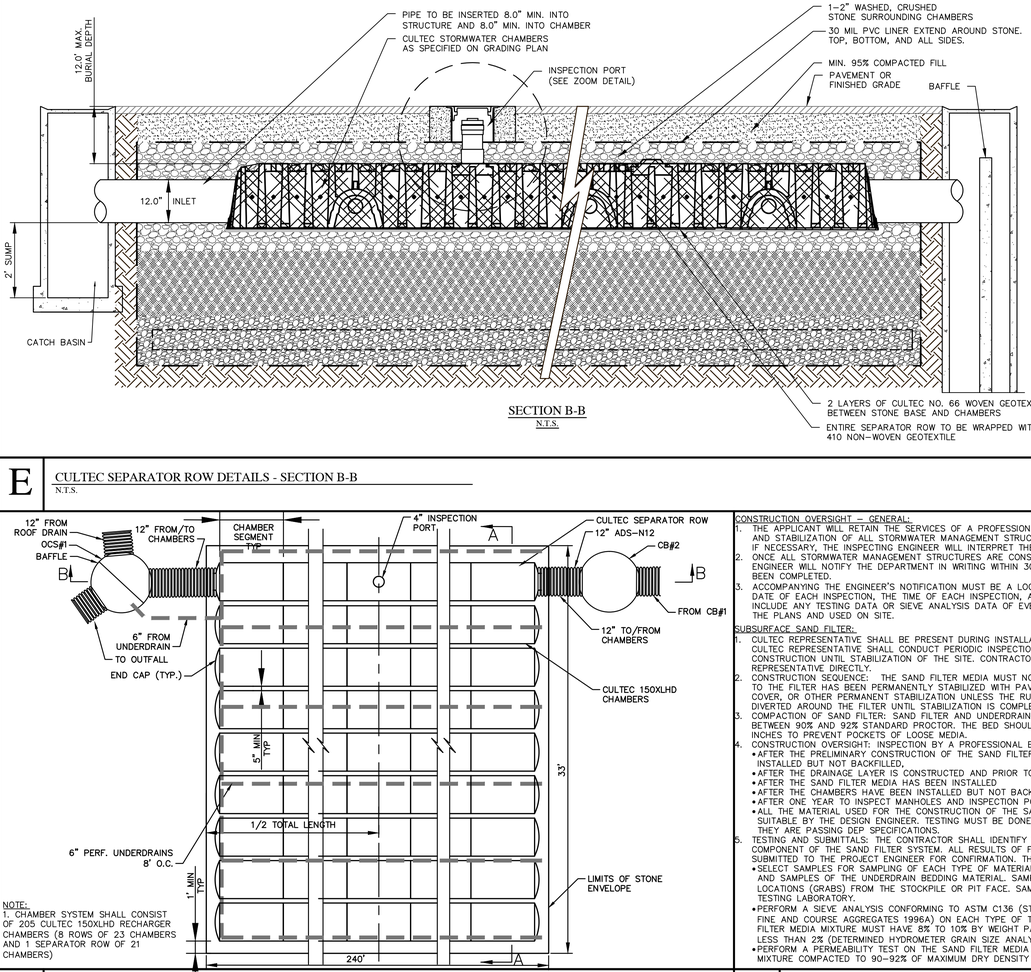
PLAN



NOTE: PROVIDE SHOP DRAWINGS TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ORDERING

NOTES:
1. 5'–0" I.D. TYPICAL. SOME STRUCTURES MAY REQUIRE LARGER I.D. PROVIDE SHOP DRAWINGS.
2. DRAINAGE STRUCTURES TO BE DESIGNED FOR H–20 LOADING.
3. PIPE SIZES AND INVERTS AS NOTED ON PLANS.
4. CATCH BASIN FRAME AND GRATE TO BE LEBARON FOUNDARY MODEL LF–244–2 GRATE OR APPROVED EQUAL.

D OUTLET CONTROL STRUCTURE SECTION (OCS#1)
N.T.S.



SECTION B-B
N.T.S.

E CULTEC SEPARATOR ROW DETAILS - SECTION B-B
N.T.S.

NOTE:
1. CHAMBER SYSTEM SHALL CONSIST OF 205 CULTEC 150XLHD RECHARGER CHAMBERS (8 ROWS OF 23 CHAMBERS AND 1 SEPARATOR ROW OF 21 CHAMBERS)

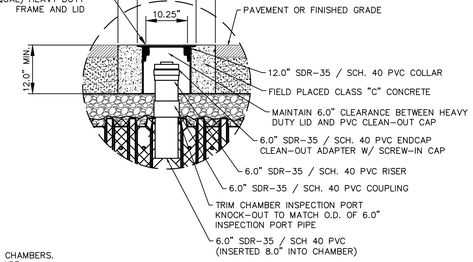
F SUBSURFACE SAND FILTER - PLAN VIEW
N.T.S.

CONSTRUCTION OVERSIGHT – GENERAL:
1. THE APPLICANT WILL RETAIN THE SERVICES OF A PROFESSIONAL ENGINEER TO INSPECT THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES TO BE BUILT AS PART OF THE PROJECT. IF NECESSARY, THE INSPECTING ENGINEER WILL INTERPRET THE CONSTRUCTION PLANS FOR THE CONTRACTOR.
2. ONCE ALL STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS TO STATE THAT THE STRUCTURES HAVE BEEN COMPLETED.
3. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF EVERY MINERAL SOIL AND SOIL MEDIA SPECIFIED IN THE PLANS AND USED ON SITE.

SUBSURFACE SAND FILTER:
1. CULTEC REPRESENTATIVE SHALL BE PRESENT DURING INSTALLATION OF CULTEC SEPARATOR ROW(S). THE CULTEC REPRESENTATIVE SHALL CONDUCT PERIODIC INSPECTIONS OF THE SYSTEM DURING AND AFTER CONSTRUCTION UNTIL STABILIZATION OF THE SITE. CONTRACTOR SHALL COORDINATE WITH CULTEC REPRESENTATIVE DIRECTLY.
2. CONSTRUCTION SEQUENCE: THE SAND FILTER MEDIA MUST NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURE, 90% VEGETATION COVER, OR OTHER PERMANENT STABILIZATION UNLESS THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA IS DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED.
3. COMPACTION OF SAND FILTER: SAND FILTER AND UNDERDRAIN BEDDING MATERIAL MUST BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR. THE BED SHOULD BE INSTALLED IN AT LEAST 2 LIFTS OF 9 INCHES TO PREVENT POCKETS OF LOOSE MEDIA.
4. CONSTRUCTION OVERSIGHT: INSPECTION BY A PROFESSIONAL ENGINEER WILL OCCUR AT A MINIMUM:
- AFTER THE PRELIMINARY CONSTRUCTION OF THE SAND FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED,
- AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE SAND FILTER MEDIA,
- AFTER THE SAND FILTER MEDIA HAS BEEN INSTALLED
- AFTER THE CHAMBERS HAVE BEEN INSTALLED BUT NOT BACKFILLED,
- AFTER ONE YEAR TO INSPECT MANHOLES AND INSPECTION PORTS, AND
- ALL THE MATERIAL USED FOR THE CONSTRUCTION OF THE SAND FILTER SYSTEM MUST BE CONFIRMED AS SUITABLE BY THE DESIGN ENGINEER. TESTING MUST BE DONE BY A CERTIFIED LABORATORY TO SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
5. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE SAND FILTER SYSTEM. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
- SELECT SAMPLES FOR SAMPLING OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE SAND FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY.
- PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COURSE AGGREGATES 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SAND FILTER MEDIA MIXTURE MUST HAVE 8% TO 10% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS).
- PERFORM A PERMEABILITY TEST ON THE SAND FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90–92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

G CONSTRUCTION OVERSIGHT NOTES
N.T.S.

NOTE: FOR FURTHER INFORMATION ON CHAMBER INSTALLATION OR SPECIFICATIONS, CONTACT CULTEC, INC (203–775–4416)



NOTE:
1. DETAIL SHOWN IS FOR CULTEC CHAMBERS. ALTERNATIVE CHAMBER SYSTEMS ARE PERMITTED BUT SHALL BE APPROVED BY ENGINEER. ALTERNATIVE CHAMBER SYSTEMS MAY HAVE ADDITIONAL REQUIREMENTS TO MEET MAINE DEP STANDARDS.

INSPECTION PORT DETAIL
N.T.S.

2.	03–20–18	REVISED PER CITY COMMENTS	JJM
1.	03–06–18	SUBMITTED TO CITY OF LEWISTON	JJM

TITLE:
SITE DEVELOPMENT DETAILS 1

PROJECT:
FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

STATE OF MAINE
CURTIS Y. NEUFELD
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PROFESSIONAL ENGINEER
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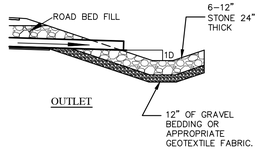
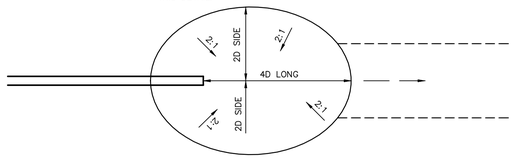
FIELD WK: MC/CR	SCALE: N/A	SHEET: C4
DRN BY: JJM	JOB #: 2714	
CH'D BY: CYN	MAP/LOT: 46/12	
DATE: 01-17-18	FILE: 2714-COV-DET	

A — CULVERT INLET/OUTLET PROTECTION
N.T.S.



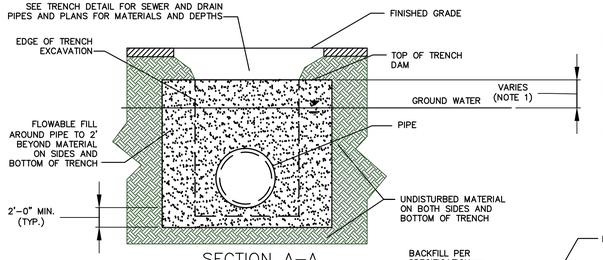
NOTE:
1. REFER TO TRENCH DETAIL FOR BACK FILL & COMPACTION.

2. ALL CULVERT INLETS AND OUTLETS SHALL HAVE RIPRAP PROTECTION AS SPECIFIED WITH THIS DETAIL.



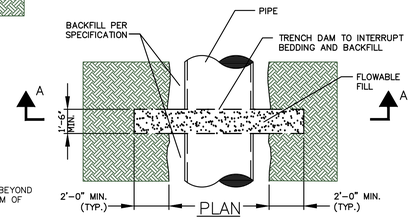
OUTLET	DIA.	D50	X	1D DEEP	2D SIDE	4D LONG
18" CULVERT	18"	6"	3'	1.5'	3'	6'

B — ANTI-SEEP COLLAR
N.T.S.



SECTION A–A

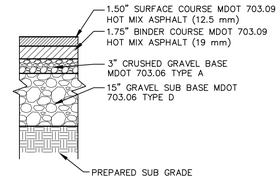
NOTES:
1. THE TOP OF THE TRENCH DAM SHALL EXTEND A MINIMUM OF 1'–0" ABOVE THE GROUND WATER LEVEL, AS DETERMINED BY THE NEAREST BORING OR BY THE ENGINEER, BUT SHALL NOT BE ABOVE 1'–0" BELOW FINISHED GRADE.
2. TRENCH DAMS SHALL BE INSTALLED AS INDICATED ON THE CONTRACT DRAWINGS OR AS DIRECTED BY THE ENGINEER.
3. IF PIPE MATERIAL IS DUCTILE IRON USE A NON FLY ASH BASED FLOWABLE FILL
4. ALTERNATIVE ANTI-SEEP COLLAR DESIGNS MUST BE REVIEWED AND APPROVED BY DESIGN ENGINEER



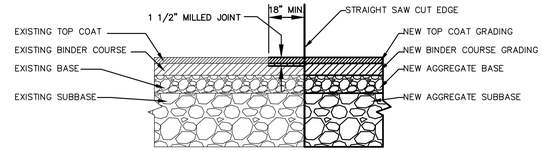
PLAN

NOTES:
1. NOTCH TRENCH DAM A MINIMUM OF 2'–0" BEYOND UNDISTURBED MATERIAL ON SIDES AND BOTTOM OF TRENCH.

C — TYPICAL PAVEMENT DETAILS
N.T.S.



FIRE LANE PAVEMENT SECTION
N.T.S.



PAVEMENT SAW CUT SECTION "FULL DEPTH RECONSTRUCTION"
N.T.S.

D — NOT USED
N.T.S.

E — NOT USED
N.T.S.

F — NOT USED
N.T.S.

G — NOT USED
N.T.S.

H — NOT USED
N.T.S.

I — NOT USED
N.T.S.

J — NOT USED
N.T.S.

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1.	03–06–18	SUBMITTED TO CITY OF LEWISTON	JJM

TITLE:
SITE DEVELOPMENT DETAILS 2

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2019 LISBON STREET, LEWISTON, ME 04241

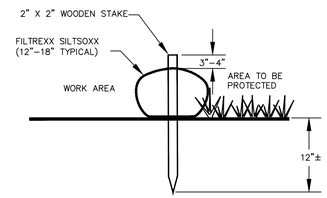
PREPARED FOR:
FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

STATE OF MAINE · CURTIS Y. NEUFELD 9779 LICENSED PROFESSIONAL ENGINEER
03–20–18

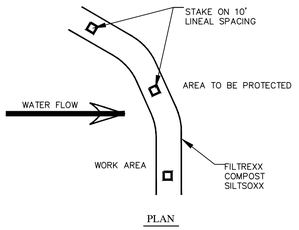
SITELINES, PA
ENGINEERS ▪ PLANNERS ▪ SURVEYORS
8 CUMBERLAND STREET, BRUNSWICK, ME 04011
207.725.1200 www.sitelinespa.com

FIELD WK: MC/CR	SCALE: N/A
DRN BY: JJM	JOB #: 2714
CH'D BY: CYN	MAP/LOT: N/A
DATE: 01-17-18	FILE: 2714-COV-DET

SHEET: C5



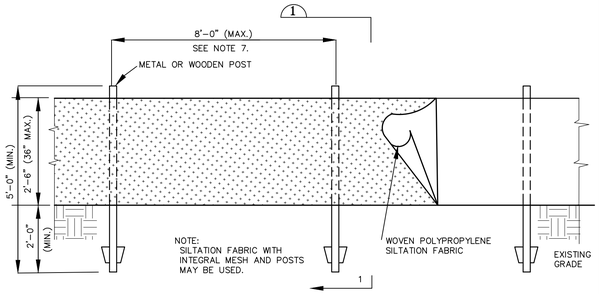
SECTION



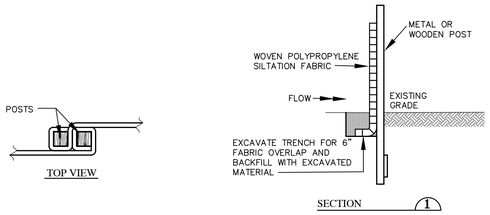
PLAN

NOTES:
1. ALL MATERIALS TO MEET FILTREXX SPECIFICATIONS
2. SILTSOXX COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMEY TS
3. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES. GREATER SLOPES MAY REQUIRE LARGER SOCKS PER THE ENGINEER.
4. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

A FILTREXX SILTSOXX DETAIL "SEDIMENT BARRIER OPTION"
N.T.S.



ELEVATION

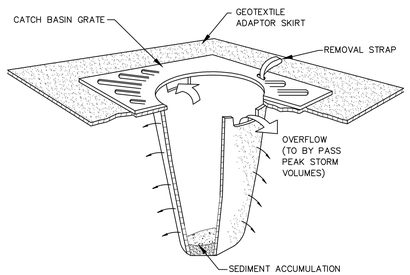


TOP VIEW

SECTION 1

INSTALLATION:
1. EXCAVATE A 6" X 6" TRENCH ALONG THE LINE OF PLACEMENT FOR THE FILTER BARRIER.
2. UNROLL A SECTION AT A TIME AND POSITION THE POSTS AGAINST THE BACK (DOWNSTREAM) WALL OF THE TRENCH.
3. DRIVE POSTS INTO THE GROUND UNTIL APPROXIMATELY 2" OF FABRIC IS LYING ON THE TRENCH BOTTOM.
4. LAY THE TOE–IN FLAP OF FABRIC ONTO THE UNDISTURBED BOTTOM OF THE TRENCH. BACK FILL THE TRENCH AND TAMP THE SOIL.
5. JOIN SECTION AS SHOWN IN TOP VIEW.
6. BARRIER SHALL BE MIRAFI SILT FENCE (100X) OR APPROVED EQUIVALENT.
7. A STONE "FILLET" MAY BE USED FOR ANCHORING FABRIC IF IT CANNOT BE KEYED IN.

B SILT FENCE DETAIL "SEDIMENT BARRIER OPTION"
N.T.S.

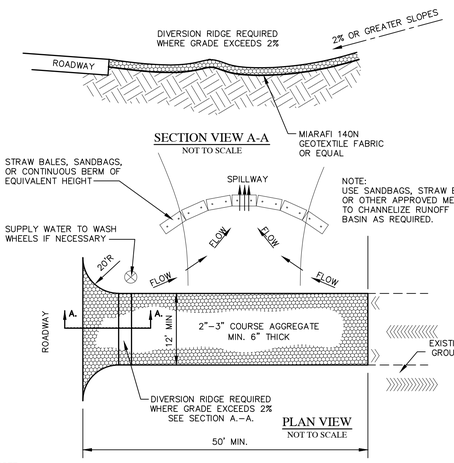


NOTES:
1. CATCH BASIN PROTECTION TO BE "SILTSACK" (BY ACF ENVIRONMENTAL) OR "STREAM GUARD" (BY FOSS ENVIRONMENTAL SERVICES).

2. INSERT TO BE EMPTIED IN AN APPROVED MANNER WHEN IT IS 1/2 FULL OF SEDIMENT.

3. INSPECT INSERT AFTER ALL RAINFALL EVENTS, REPAIR AND MAINTAIN AS REQUIRED.

C TEMPORARY INLET PROTECTION DETAIL
N.T.S.



NOTE:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR, AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAYS.

3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR BASIN.

D STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

EROSION AND SEDIMENTATION NOTES:
1. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES OF THE CUMBERLAND COUNTY SOIL CONSERVATION SERVICE AND THE MAINE DEP BEST MANAGEMENT PRACTICES HANDBOOK.

GENERAL EROSION AND SEDIMENTATION CONTROL PRACTICES:
EROSION/SEDIMENT CONTROL DEVICES:
THE FOLLOWING EROSION SEDIMENTATION CONTROL DEVICES ARE PROPOSED FOR CONSTRUCTION ON THIS PROJECT. INSTALL THESE DEVICES AS INDICATED ON THE PLANS.

1 SEDIMENT BARRIER: SILT SOXX OR APPROVED EQUAL WILL BE INSTALLED ALONG THE DOWN GRADING EDGES OF DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS STABILIZED. IN AREAS WHERE STORMWATER DISCHARGES THE SEDIMENT BARRIER WILL BE REINFORCED WITH HAY BALES TO HELP MAINTAIN THE INTEGRITY OF THE SEDIMENT BARRIER AND TO PROVIDE ADDITIONAL TREATMENT.

2. HAY BALES: HAY BALES TO BE PLACED IN LOW FLOW DRAINAGE SWALES AND PATHS TO TRAP SEDIMENTS AND REDUCE RUNOFF VELOCITIES. DO NOT PLACE HAY BALES IN FLOWING WATER OR STREAMS.

3. RIPRAP: PROVIDE RIPRAP IN AREAS WHERE CULVERTS DISCHARGE OR AS SHOWN ON THE PLANS.

4. LOAM, SEED, & MULCH: ALL DISTURBED AREAS, WHICH ARE NOT OTHERWISE TREATED, SHALL RECEIVE PERMANENT SEEDING AND MULCH TO STABILIZE THE DISTURBED AREAS. THE DISTURBED AREAS WILL BE REVEGETATED WITHIN 5 DAYS OF FINAL GRADING. SEEDING REQUIREMENTS ARE PROVIDED AT THE END OF THIS SPECIFICATION.

5. STRAW AND HAY MULCH: USED TO COVER DENUDED AREAS UNTIL PERMANENT SEED OR EROSION CONTROL MEASURES ARE IN PLACE. MULCH BY ITSELF CAN BE USED ON SLOPES LESS THAN 15% IN SUMMER AND 8% IN WINTER. JUTE MESH IS TO BE USED OVER MULCH ONLY.

6. IN LIEU OF MULCH, USE EROSION CONTROL BLANKET (EQUAL TO NORTH AMERICAN GREEN SC150) TO STABILIZE AREAS OF CONCENTRATED FLOW AND DRAINAGE WAYS.

TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES:
PROVIDE THE FOLLOWING TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION OF THE DEVELOPMENT:

1. SEDIMENT BARRIER ALONG THE DOWNGRADIENT SIDE OF THE PARKING AREAS AND OF ALL FILL SECTIONS. THE SEDIMENT BARRIER WILL REMAIN IN PLACE UNTIL THE SITE IS 85% REVEGETATED.

2. HAY BALES PLACED AT KEY LOCATIONS TO SUPPLEMENT THE SEDIMENT BARRIER.

3. PROTECT TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION AS FOLLOWS:
   A. SOIL STOCKPILE SIDE SLOPES SHALL NOT EXCEED 2:1.
   B. AVOID PLACING TEMPORARY STOCKPILES IN AREAS WITH SLOPES OVER 10 PERCENT, OR NEAR DRAINAGE SWALES. SEE ITEM 3 IN CONSTRUCTION PHASE NOTES BELOW.
   C. STABILIZE STOCKPILES WITHIN 15 DAYS BY TEMPORARILY SEEDING WITH A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
   D. SURROUND STOCKPILE SOIL WITH SEDIMENT BARRIER AT BASE OF PILE.

4. ALL DENUDED AREAS WHICH HAVE BEEN ROUGH GRADED AND ARE NOT LOCATED WITHIN THE BUILDING PAD, OR PARKING AND DRIVEWAY SUBBASE AREA SHALL RECEIVE MULCH WITHIN 30 DAYS OF INITIAL DISTURBANCE OF SOIL OR WITHIN 15 DAYS AFTER COMPLETING THE ROUGH GRADING OPERATIONS. IN THE EVENT THE CONTRACTOR COMPLETES FINAL GRADING AND INSTALLATION OF LOAM AND SOD WITHIN THE TIME PERIODS PRESENTED ABOVE, INSTALLATION OF MULCH AND NETTING, WHERE APPLICABLE, IS NOT REQUIRED.

5. IF WORK IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15, ALL DENUDED AREAS ARE TO BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE, AND ANCHORED WITH FABRIC NETTING. THE PERIOD BETWEEN FINAL GRADING AND MULCHING SHALL BE REDUCED TO A 15 DAY MAXIMUM.

6. TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED ONCE THE SITE HAS BEEN STABILIZED OR IN AREAS WHERE PERMANENT EROSION CONTROL MEASURES HAVE BEEN INSTALLED.

PERMANENT EROSION CONTROL MEASURES:
THE FOLLOWING PERMANENT CONTROL MEASURES ARE REQUIRED BY THIS EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.), WILL BE LOAMED, LIMED, FERTILIZED AND SEEDED. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

2. SLOPES GREATER THAN 2:1 WILL RECEIVE RIPRAP. (NONE ANTICIPATED)

POST-CONSTRUCTION REVEGETATION:
THE FOLLOWING GENERAL PRACTICES WILL BE USED 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, OR STONE WILL BE PLACED ON SLOPES TO STABILIZE SURFACES.

2. IF FINAL GRADING IS REACHED DURING THE NORMAL GROWING SEASON (4/15 TO 9/15), PERMANENT SEEDING WILL BE DONE AS SPECIFIED BELOW. PRIOR TO SEEDING, LIMESTONE SHALL BE APPLIED AT A RATE OF 138 LBS/1000 SQ. FT. AND 10:20:20 FERTILIZER AT A RATE OF 18.4 LBS/1000 SQ.FT WILL BE APPLIED. BROADCAST SEEDING AT THE FOLLOWING RATES:

LAWNS SHALL BE: ALLEN, STERLING & LATHROP 'TUFFTURF', 70% DIAMOND TALL FESCUE, 20% PLEASURE OLUS PERENNIAL RYEGRASS, 10% BARON KENTUCKY BLUEGRASS. SEEDING RATE SHALL BE 7–LBS./1,000 SQ. FT.

SWALES SHALL BE: WILDFLOWER MEADOW: (SEED) FESTUCA OVINA SHEEP FESCUE; SOW AT A RATE OF 12 OZ. PER 1,000 SQFT. TRIFOLIUM REPENS WHITE CLOVER; SOW AT A RATE OF ½ OZ.PER 1,000 SQFT. (FLOWERS) ACHILLEA MILLEFOLIUM YARROW, AQUILEGEA CANADENSIS COLUMBINE, ASCLEPIAS TUBEROSE BUTTERFLY MILKWEED, ASTER NOVAE–ANGLIAE NEW–ENGLAND ASTER, BAPTISIA AUSTRALIS WILD INDIGO, BOLTONIA ASTEROIDS FALSE ASTER, CHRYSANTHEMUM LEUCANTHEMUM OXEYE DAISY, DIGITALIS PURPUREA FOXGLOVE, ECHINACEA PURPUREA PURPLE CONEFLOWER, LUPINUS PERENNIS LUPINE, MONARDA FISTULOSA BERGAMOT, PAPAVER ORIENTALE ORIENTAL POPY, RUDBECKIA HIRTA BLACK–EYED SUSAN, SALVIA OFFICINALIS SAGE; SOW AT A RATE OF 1/3 OZ. EACH PER 1,000 SQFT. OR 4 OZ. PER 1,000 SQFT. IN COMBINATION

3. AN AREA SHALL BE MULCHED IMMEDIATELY AFTER IS HAS BEEN SEEDED. MULCHING SHALL CONSIST OF HAY MULCH, HYDRO–MULCH, JUTE NET OVER MULCH, PRE–MANUFACTURED EROSION MATS OR ANY SUITABLE SUBSTITUTE DEEMED ACCEPTABLE BY THE DESIGNER.
   A. HAY MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE. HAY MULCH SHALL BE SECURED BY EITHER: (NOTE: SOIL SHALL NOT BE VISIBLE)
      I. BEING DRIVEN OVER BY TRACKED CONSTRUCTION EQUIPMENT ON GRADES OF 5% AND LESS.
      II. BLANKETED BY TACKED PHOTODEGRADABLE/BIODEGRADABLE NETTING, OR WITH SPRAY, ON GRADES GREATER THAN 5%
      III. SEE NOTE 6, GENERAL NOTES, AND NOTE 8, WINTER CONSTRUCTION.
   B. HYDRO–MULCH SHALL CONSIST OF A MIXTURE OF EITHER ASPHALT, WOOD FIBER OR PAPER FIBER AND WATER SPRAYED OVER A SEEDED AREA. HYDRO–MULCH SHALL NOT BE USED BETWEEN 9/15 AND 4/15.

4. CONSTRUCTION SHALL BE PLANNED TO ELIMINATE THE NEED FOR SEEDING BETWEEN SEPTEMBER 15 AND APRIL 15. SHOULD SEEDING BE NECESSARY BETWEEN SEPTEMBER 15 AND APRIL 15 THE FOLLOWING PROCEDURE SHALL BE FOLLOWED. ALSO REFER TO NOTE 9 OF WINTER CONSTRUCTION.
   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/1000 SQ.FT) SHALL BE ADDED TO THE PREVIOUSLY NOTED AREAS.
   D. WHERE TEMPORARY SEEDING IS REQUIRED, ANNUAL WINTER RYE (2.6 LBS/1000 SQ. FT.) SHALL BE SOWN INSTEAD OF THE PREVIOUSLY NOTED SEEDING RATE.
   E. FERTILIZING, SEEDING AND MULCHING SHALL BE APPLIED TO LOAM THE DAY THE LOAM IS SPREAD BY MACHINERY.
   F. ALTERNATIVE HAY MULCH SHALL BE SECURED WITH PHOTODEGRADABLE/BIODEGRADABLE NETTING. TRACKING BY MACHINERY ALONE WILL NOT SUFFICE.

5. FOLLOWING FINAL SEEDING, THE SITE WILL BE INSPECTED EVERY 30 DAYS UNTIL 85% COVER HAS BEEN ESTABLISHED. RESEEDING WILL BE CARRIED OUT BY THE CONTRACTOR WITHIN 10 DAYS OF NOTIFICATION BY THE ENGINEER THAT THE EXISTING CATCH IS INADEQUATE.

MONITORING SCHEDULE:
THE CONTRACTOR IS 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. AFTER EACH RAINFALL, A VISUAL INSPECTION WILL BE MADE OF ALL EROSION AND SEDIMENTATION CONTROLS AS FOLLOWS:

1. HAY BALE BARRIERS, SEDIMENT BARRIER, AND STONE CHECK DAMS SHALL BE INSPECTED AND REPAIRED ONCE A WEEK OR IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL. SEDIMENT TRAPPED BEHIND THESE BARRIERS SHALL BE EXCAVATED WHEN IT REACHES A DEPTH OF 6" AND REDISTRIBUTED TO AREAS UNDERGOING FINAL GRADING. SHOULD THE HAY BALE BARRIERS PROVE TO BE INEFFECTIVE, THE CONTRACTOR SHALL INSTALL SEDIMENT BARRIER BEHIND THE HAY BALES.

2. VISUALLY INSPECT RIPRAP ONCE A WEEK OR AFTER EACH SIGNIFICANT RAINFALL AND REPAIR AS NEEDED. REMOVE SEDIMENT TRAPPED BEHIND THESE DEVICES ONCE IT ATTAINS A DEPTH EQUAL TO 1/2 THE HEIGHT OF THE DAM OR RISER. DISTRIBUTE REMOVED SEDIMENT OFF–SITE OR TO AN AREA UNDERGOING FINAL GRADING.

3. REVEGETATION OF DISTURBED AREAS WITHIN 25' OF DRAINAGE–COURSE/STREAM WILL BE SEEDED WITH THE "MEADOW AREA MIX" AND INSPECTED ON A WEEKLY BASIS OR AFTER EACH SIGNIFICANT RAINFALL AND RESEEDED AS NEEDED. EXPOSED AREAS WILL BE RESEEDED AS NEEDED UNTIL THE AREA HAS OBTAINED 100% GROWTH RATE. PROVIDE PERMANENT RIPRAP FOR SLOPES IN EXCESS OF 3:1 AND WITHIN 25' OF DRAINAGE COURSE.

CONSTRUCTION PHASE:
THE FOLLOWING GENERAL PRACTICES WILL BE USED TO PREVENT EROSION DURING CONSTRUCTION OF THIS PROJECT.

1. ONLY THOSE AREAS UNDER ACTIVE CONSTRUCTION WILL BE CLEARED AND LEFT IN AN UNTREATED OR UNVEGETATED CONDITION. IF FINAL GRADING, LOAMING AND SEEDING WILL NOT OCCUR WITHIN 15 DAYS, SEE ITEM NO. 4.

2. PRIOR TO THE START OF CONSTRUCTION IN A SPECIFIC AREA, SEDIMENT BARRIER AND/OR HAY BALES WILL BE INSTALLED AT THE TOE OF SLOPE AND IN AREAS AS LOCATED ON THE PLANS TO PROTECT AGAINST ANY CONSTRUCTION RELATED EROSION. IMMEDIATELY FOLLOWING CONSTRUCTION OF CULVERTS AND SWALES, RIP RAP APRONS SHALL BE INSTALLED, AS SHOWN ON THE PLANS.

3. TOPSOIL WILL BE STOCKPILED WHEN NECESSARY IN AREAS WHICH HAVE MINIMUM POTENTIAL FOR EROSION AND WILL BE KEPT AS FAR AS POSSIBLE FROM THE EXISTING DRAINAGE COURSE. NO STOCKPILE SHALL BE CLOSER THEN 100' OF A RESOURCE INCLUDING, BUT NOT LIMITED TO, WETLANDS, STREAMS, AND OPEN WATER BODIES. ALL STOCKPILES SHALL HAVE A SEDIMENT BARRIER BELOW THEM REGARDLESS OF TIME OF PRESENCE. ALL STOCKPILES EXPECTED TO REMAIN LONGER THAN 15 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.
   C. INSTALL SEDIMENT BARRIER AROUND STOCKPILE AT BASE OF PILE. STOCKPILES TO HAVE SEDIMENT BARRIER INSTALLED AT TIME OF ESTABLISHMENT AT BASE OF PILE.

4. ALL DISTURBED AREAS EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE EITHER:
   A. TREATED WITH ANCHORED MULCH IMMEDIATELY, OR
   B. SEEDED WITH CONSERVATION MIX OF ANNUAL RYE GRASS (0.9 LBS/1000 SQ. FT) AND MULCHED IMMEDIATELY.

5. ALL GRADING WILL BE HELD TO A MAXIMUM 2:1 SLOPE WHERE PRACTICAL. ALL SLOPES WILL BE STABILIZED WITH PERMANENT SEEDING, OR WITH STONE, WITHIN 5 DAYS AFTER FINAL GRADING IS COMPLETE. (SEE POST–CONSTRUCTION REVEGETATION FOR SEEDING SPECIFICATION.)

6. ALL CULVERTS WILL BE PROTECTED WITH STONE RIPRAP (D50 = 6" UNLESS OTHERWISE SPECIFIED) AT INLETS AND OUTLETS.

EROSION CONTROL DURING WINTER CONSTRUCTION:
1. WINTER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.

2. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

3. EXPOSED AREA SHALL BE LIMITED TO THOSE AREAS TO BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. AT THE END OF EACH WORK WEEK NO AREAS MAY BE LEFT UNSTABILIZED OVER THE WEEKEND.

4. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.

5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1000 S.F. (WITH OR WITHOUT SEEDING) OR DORMANT SEEDED, MULCHED AND ANCHORED SUCH THAT SOIL SURFACE IS NOT VISIBLE THROUGH THE MULCH. NOTE: AN AREA IS ALSO CONSIDERED STABLE IF SODDED, COVERED WITH GRAVEL (PARKING LOTS) OR STRUCTURAL SAND.

6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1 AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINAL GRADED WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED. IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHALL BE CONTINUOUSLY GRADED BEFORE FREEZING AND THE SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH. SLOPES SHALL NOT BE LEFT UNEXPOSED OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER. UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW, DITCHES TO BE FINISHED WITH THE PERMANENT SURFACE TREATMENT, EROSION SHALL BE CONTROLLED BY THE INSTALLATION OF BALES OF HAY, SEDIMENT BARRIER OR STONE CHECK DAMS IN ACCORDANCE WITH THE STANDARD DETAILS SHOWN ON THE DESIGN DRAWINGS. NOTE: DORMANT SEEDING SHOULD NOT BE ATTEMPTED UNLESS SOIL TEMPERATURE REMAINS BELOW 50 DEGREES AND DAY TIME TEMPERATURES REMAIN IN THE 30'S.

7. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS, SLOPES GREATER THAN 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 8% VEGETATED DRAINAGE SWALES SHALL BE LINED WITH EXCELSIOR OR CURLEX.

8. BETWEEN THE DATES OF OCTOBER 15 TO NOVEMBER 1, WINTER RYE IS RECOMMENDED FOR STABILIZATION. AFTER NOVEMBER 1, WINTER RYE IS NOT EFFECTIVE. AROUND NOVEMBER 15 OR LATER, ONCE TEMPERATURES OF THE AIR AND SOIL PERMIT, DORMANT SEEDING IS EFFECTIVE.

9. IN THE EVENT OF SNOWFALL (FRESH OR CUMULATIVE) GREATER THAN 1 INCH DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM THE AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.

SITE INSPECTION AND MAINTENANCE:
1. WEEKLY INSPECTIONS, AS WELL AS ROUTINE INSPECTIONS FOLLOWING RAIN FALLS, SHALL BE CONDUCTED BY THE GENERAL CONTRACTOR OF ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES UNTIL FINAL ACCEPTANCE OF THE PROJECT (85% GRASS CATCH). NECESSARY REPAIRS SHALL BE MADE TO CORRECT UNDERMINING OR DETERIORATION. FINAL ACCEPTANCE SHALL INCLUDE A SITE INSPECTION TO VERIFY THE STABILITY OF ALL DISTURBED AREAS AND SLOPES. UNTIL FINAL INSPECTION, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL IMMEDIATELY BE CLEANED, AND REPAIRED BY THE GENERAL CONTRACTOR AS REQUIRED. DISPOSAL OF ALL TEMPORARY EROSION AND CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

IT IS RECOMMENDED THAT THE OWNER HIRE THE SERVICES OF THE DESIGN ENGINEER TO PROVIDE COMPLIANCE INSPECTIONS (DURING ACTIVE CONSTRUCTION) RELATIVE TO IMPLEMENTATION OF THE STORMWATER AND EROSION CONTROL PLANS. SUCH INSPECTIONS SHOULD BE LIMITED TO ONCE A WEEK OR AS NECESSARY AND BE REPORTABLE TO THE OWNER, TOWN AND DEP.

2. SHORT–TERM SEDIMENTATION MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT ALL SWALES AND STRUCTURES PRIOR TO TURNING PROJECT OVER.

3. LONG–TERM PROVISIONS FOR PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL DEVICES AFTER ACCEPTANCE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE OWNER.

2.	03–20–18	REVISED PER CITY COMMENTS JJM
1.	03–06–18	SUBMITTED TO CITY OF LEWISTON JJM

TITLE: EROSION CONTROL DETAILS AND NOTES

PROJECT: FEDERAL DISTRIBUTORS BUILDING EXPANSION
2019 LISBON STREET, LEWISTON, ME 04241

PREPARED FOR: FEDERAL DISTRIBUTORS, INC.
PO BOX 207, LEWISTON, ME 04241

STATE OF MAINE · CURTIS Y. NEUFELD 9779 LICENSED PROFESSIONAL ENGINEER · 03–20–18

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CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Planning Board**
FROM: **David Hediger, City Planner**
DATE: **March 23, 2018**
RE: **Recommendation regarding the disposition of 115 Shawmut Street, 175 Stetson Road, 86 Nichols Street, 227 Lincoln Street and 264 Lincoln Street.**

Pursuant to Article VII, Section 4(h) of the Zoning and Land Use Code, the board shall review and make a recommendation to the city council with regard to the disposition of all public ways, lands, buildings and other municipal facilities.

On March 6, 2018 the City Council voted to take possession of 115 Shawmut Street, 175 Stetson Road, 86 Nichols Street, 227 Lincoln Street, and 264 Lincoln Street based on matured liens. The vote was subject to a positive recommendation from the Planning Board, upon which these properties will be offered for sale through a formal sealed bid process.

ACTION NECESSARY:

Make a motion pursuant to Article VII, Section 4(h) of the Zoning and Land Use Code to provide a favorable the recommendation on the disposition of 115 Shawmut Street, 175 Stetson Road, 86 Nichols Street, 227 Lincoln Street, and 264 Lincoln Street and for these properties be offered for sale through a formal sealed bid process.

INFORMATION ON SPECIFIC PROPERTY TO BE TAX ACQUIRED

7. 227 Lincoln St, 00-004361 Owner: Kenneth Sweet Sr Zoning: **RF**
Property Description: Land – .11 Acres

Assessing Department:
Property Description: Vacant Rectangular Lot Lot Size: .11 Acres
Tax Assessment: $ 18,000

Treasury Department:
Real Estate Taxes:

FY2014	Principal: $ 2,501.16	Net Due:	$ 3,101.26
FY2015	Principal: $ 2,521.09	Net Due:	$ 2,956.49
FY2016	Principal: $ 2,586.26	Net Due:	$ 2,867.24
FY2017.1	Principal: $ 37,405.81	Net Due:	$ 37,405.81 (Special Tax Lien)
FY2017	Principal: $ 580.02	Net Due:	$ 602.62
FY2018	Principal: $ 504.36	Net Due:	$ 511.32
		Total:	$ 47,444.74

Utilities
Bill dates from 4/11/12 – 1/15/16 Net Due: $ 2,906.52
(4 Liens – All matured)

TOTAL DUE (taxes & utilities): *$ 50,351.26*

Mr. Sweet states he has no interest in the property. He has signed for all the documents sent via certified mail regarding the tax liens against the property, reflecting his full knowledge of the liens and foreclosure dates.

Last payment Real Estate	$ 1,148.17	3/06/13	Northeast Bank
Utilities	$ 250.00	9/05/12	

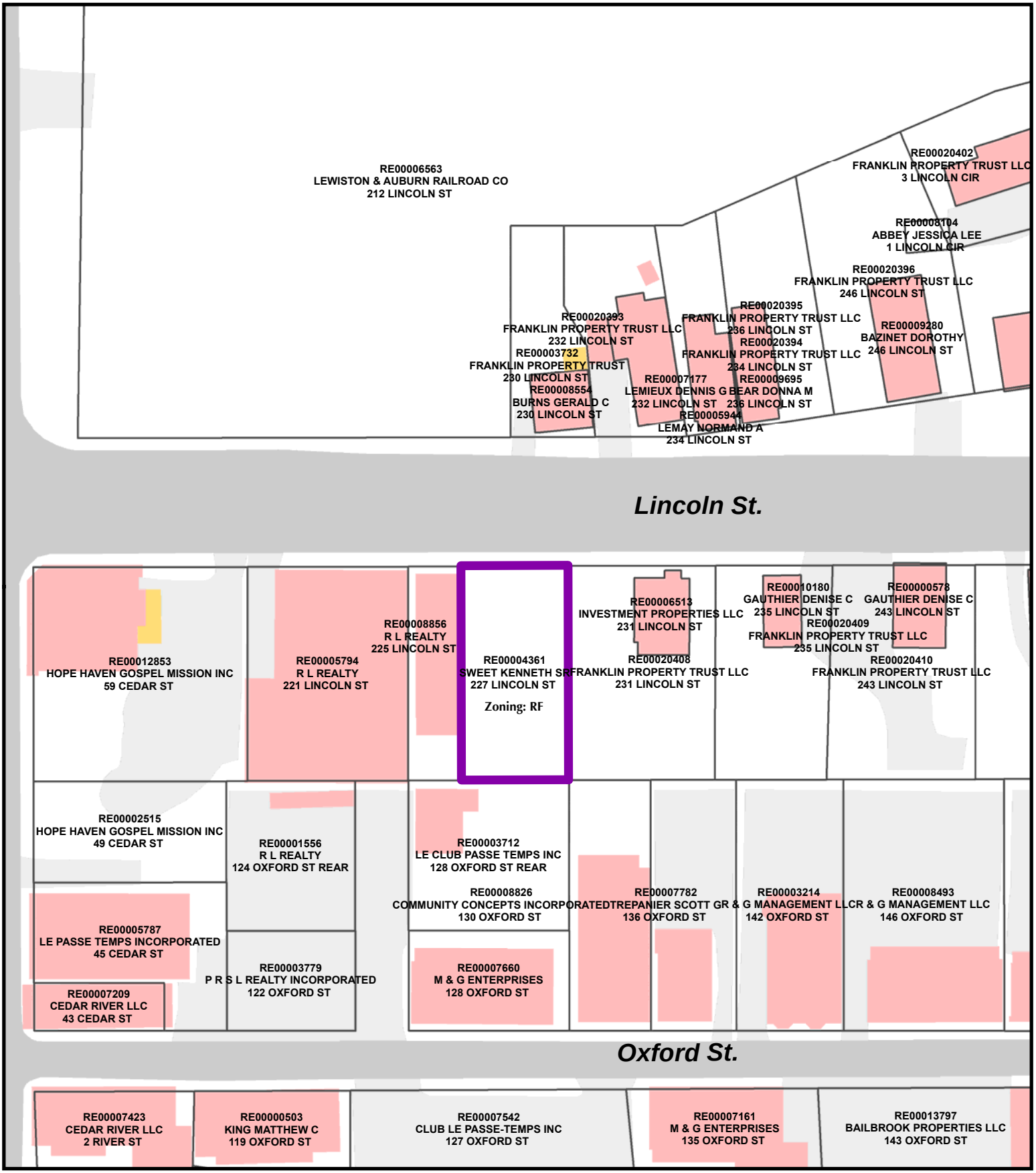
Fire Department:

Code Enforcement:

Density currently limits the site to no more than four dwelling units, upon other zoning provisions being met. Approximately, 3/4 of site is in the 100-year floodzone. Residential development must be elevated. Non-residential must be flood proofed or elevated. Flood zone provisions may limit site to open space or non-residential development.

Public Works Department:

No utilities across property



Tax-Aquired Acquisition

227 Lincoln Street

February 2018

INFORMATION ON SPECIFIC PROPERTY TO BE TAX ACQUIRED

6. <u>264 Lincoln St</u>, 00-000719 Owner: Eric V Rickards Zoning: **M**

<u>Assessing Department</u>:

Property Description: Vacant Parallelogram Lot Lot Size: .13 Acres
Tax Assessment: $ 14,640

<u>Treasury Department:</u>

Real Estate Taxes:

FY2015	Principal: $ 919.62	Net Due:	$ 1,070.86
FY2016	Principal: $ 940.12	Net Due:	$ 1,037.72
FY2017	Principal: $ 484.28	Net Due:	$ 502.66
FY2017.1	Principal: $ 10,448.30	Net Due:	$ 10,448.30 (Special Tax Lien)
FY2018	Principal: $ 410.21	Net Due:	$ 415.87
		Total:	$ 13,475.41

<u>Utilities</u>

Bill dates from 9/25/13 – 1/15/03/2016 Net Due: $ 834.02
(1 Water Lien, 2 Sewer Lien, 2 Stormwater Liens – All matured)

TOTAL DUE (taxes & utilities): <u>*$ 14,309.43*</u>

The multiple letters and documents sent have yielded neither payments nor much response from owner. We have been unable to connect with him by phone.
Last signature on certified mail of 30 day tax lien notice was on 05/18/15. All other documents sent to owner certified were unclaimed and resent regular mail.

Last payment	Real Estate	$ 522.25	12/07/15	Eric V Rickards
	Utilities	$ 1,069.76	1/24/13	

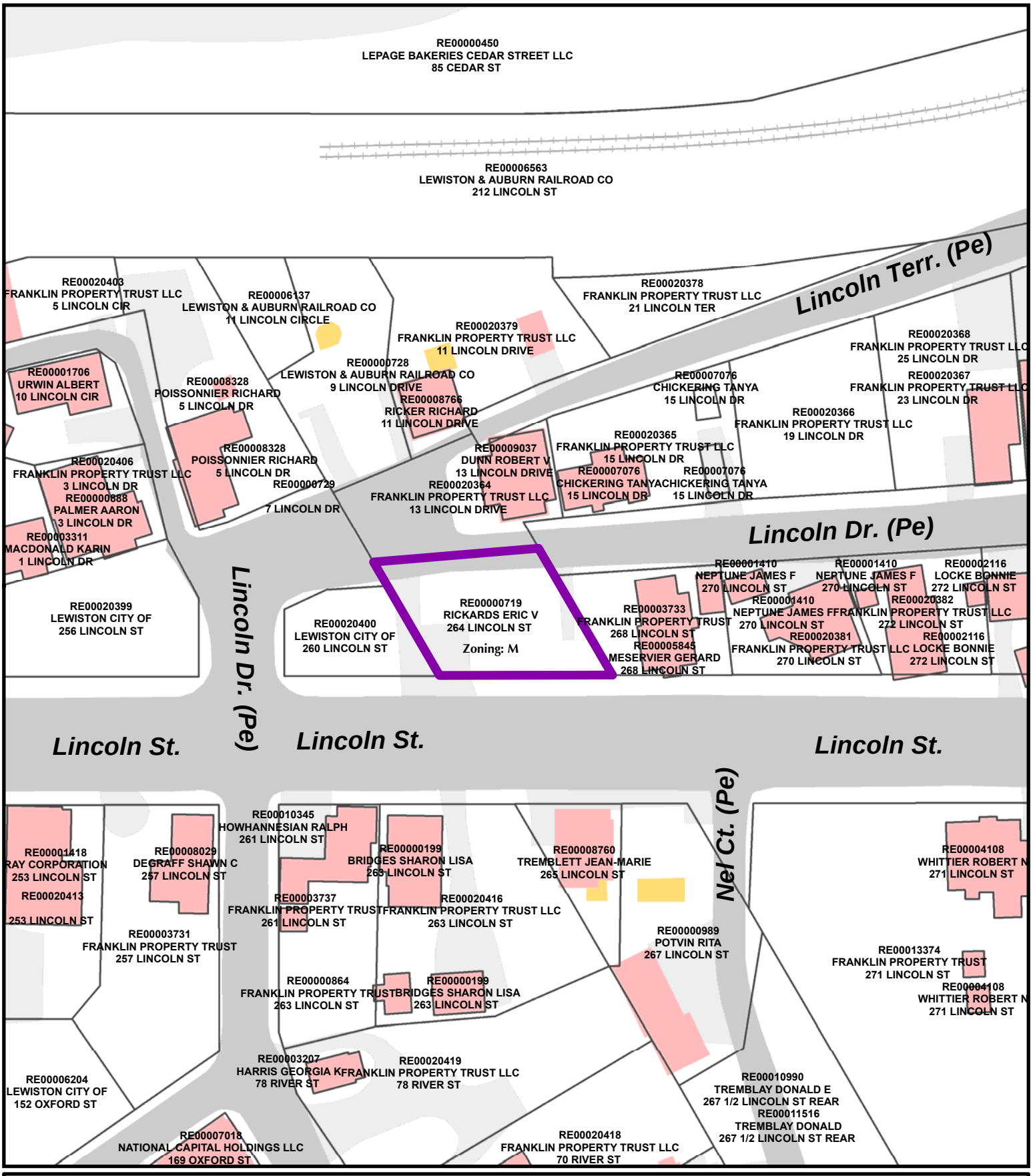
<u>Fire Department:</u>

<u>Code Enforcement:</u>

Residential uses limited to multifamily; non single or two-family dwellings allowed. Non-residential uses ae allowed, too. However, given small lots size, property will be challenging to develop. Small portion located in the 100-year floodzone.

<u>Public Works Department</u>:

Sewer & water lines are close to back property line and should have easement.



Tax-Aquired Acquisition

264 Lincoln Street

February 2018

INFORMATION ON SPECIFIC PROPERTY TO BE TAX ACQUIRED

2. <u>86 Nichols St</u>, 00-007258 Owner: Julia Sprague Zoning: **NCB**

<u>Assessing Department:</u>

Property Description: Vacant Rectangular Corner Lot Lot Size: .09 Acres

Tax Assessment: $ 14,800

<u>Treasury Department:</u>

Real Estate Taxes:

FY2015.1	Principal: $ 53,242.36	Net Due:	$ 53,242.36 (Special Tax Lien)
FY2016	Principal: $ 483.19	Net Due:	$ 529.89
FY2017	Principal: $ 488.84	Net Due:	$ 507.42
FY2018	Principal: $ 414.70	Net Due:	$ 420.42
		Total:	$ 54,700.09

<u>Utilities</u>

No Balances Due

TOTAL DUE (taxes): ***<u>$ 54,700.09</u>***

The multiple letters and documents sent have yielded neither payments nor response from owner. We have been unable to contact them by phone; there are no listed telephone numbers. Last signature on certified mail of special tax bill was on 02/09/2015. All other documents sent to owner certified were unclaimed and resent regular mail.

Last payment:	Real Estate	$ 576.77	11/07/16	COL Setoff Prog.
	Utilities	$ 3,934.90	03/08/13	

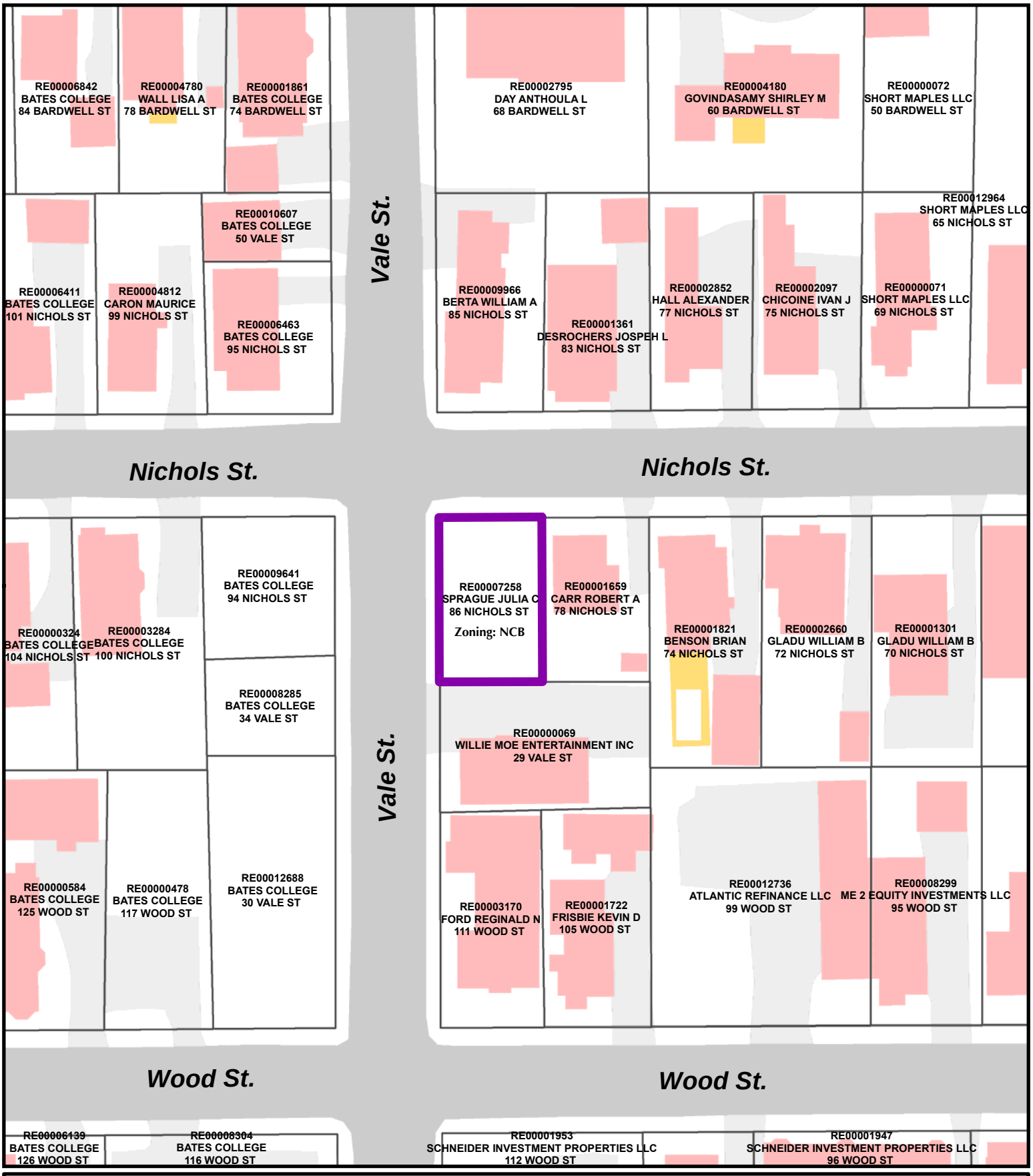
<u>Fire Department:</u>

<u>Code Enforcement:</u>

Density currently limits the site to no more than one dwelling unit, upon other zoning provisions being met

<u>Public Works Department:</u>

Corner lot, no utilities across property



Tax-Aquired Acquisition

86 Nichols Street

February 2018

INFORMATION ON SPECIFIC PROPERTY TO BE TAX ACQUIRED

5. 115 Shawmut St, 00-003204 Owner: Robert B. Campbell Zoning: **NCB**

Assessing Department:

Property Description: Vacant Rectangular Lot Lot Size: .11 Acres
Tax Assessment: $ 17,040

Treasury Department:

Real Estate Taxes:

FY2016.1	Principal: $ 31,998.78	Net Due:	$ 31,998.78 (Special Tax Lien)
FY2017	Principal: $ 552.66	Net Due:	$ 574.06
FY2018	Principal: $ 477.46	Net Due:	$ 484.05
		Total:	$ 33,056.89

Utilities

Bill dates from 9/17/13 – 1/31/18 Net Due: $ 2,959.14
(7 Liens – (3) Unmatured, (4) matured)

TOTAL DUE (Taxes & utilities): *$ 36,016.03*

The multiple letters and documents sent have yielded neither payments nor much response from owner. We have been unable to connect with him by phone.
Last signature on certified mail of 30 day tax lien notice was on 05/14/16. All other documents sent to owner certified were unclaimed and resent regular mail.

Last payment	Real Estate	$ 233.19	3/15/16	Corelogic Tax Svcs
	Utilities	$ 200.00	3/07/14	

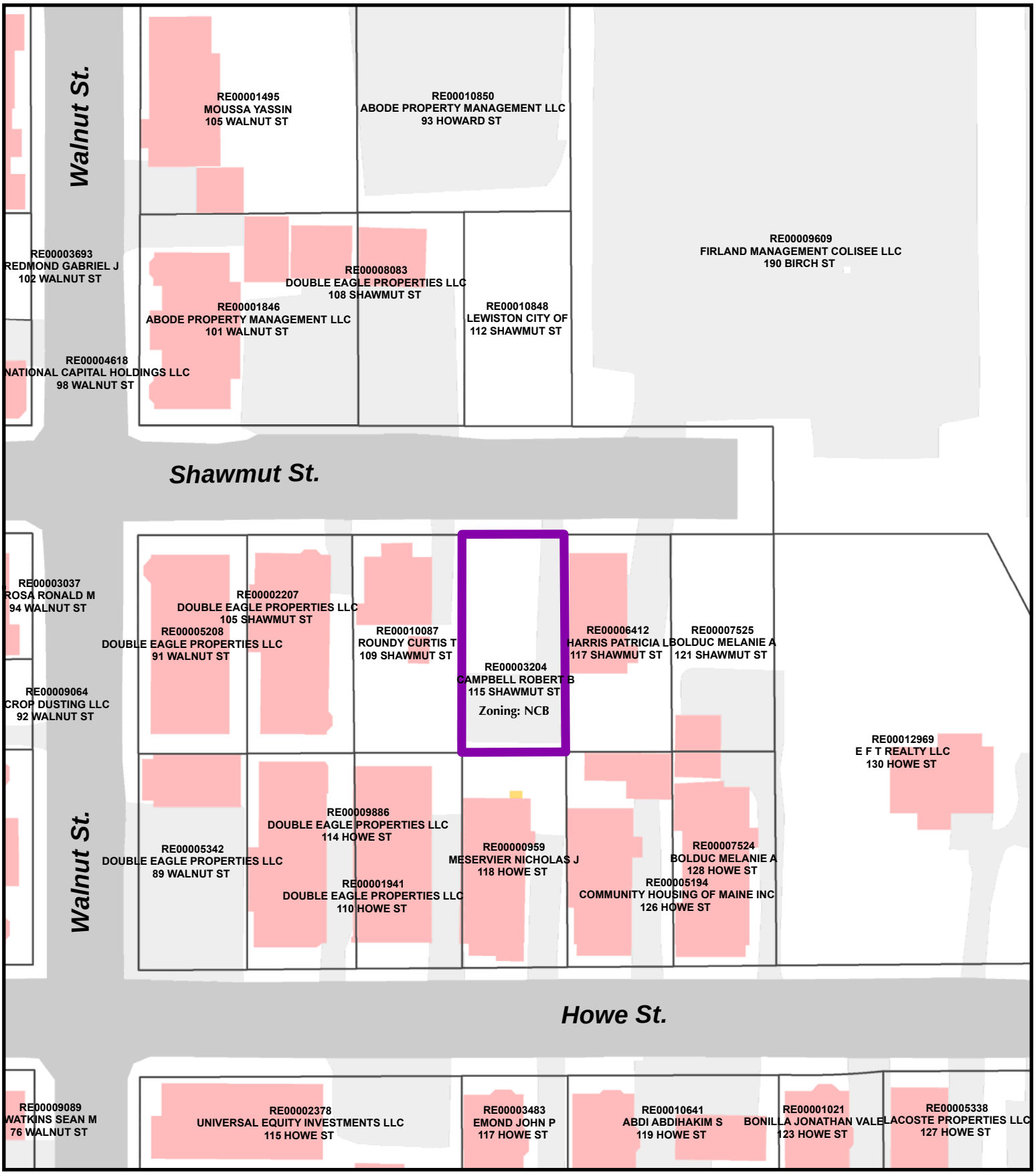
Fire Department:

Code Enforcement:

Density currently limits the site to no more than three dwelling units, upon other zoning provisions being met.

Public Works Department:

No utilities across property



Tax-Aquired Acquisition

115 Shawmut Street

February 2018

INFORMATION ON SPECIFIC PROPERTY TO BE TAX ACQUIRED

8. <u>175 Stetson Rd</u> , 00-003490 Owner: Janet L Morin Zoning **SR**

<u>Assessing Department</u>:

Property Description: Vacant Irregular Shaped Lot Lot Size: 1.56 Acres
Tax Assessment: $ 25,680

<u>Treasury Department:</u>

<u>Real Estate Taxes:</u>

FY2016	Principal: $ 1,108.37	Net Due:	$ 1,226.71
FY2017	Principal: $ 2,204.19	Net Due:	$ 2,298.37
FY2018	Principal: $ 719.55	Net Due:	$ 729.48
FY2017.1	Principal: $ 13,797.06	Net Due:	$ 13,797.06 (Special Tax Lien)
		Total:	$ 18,051.62

<u>Utilities</u>
Bill dates from 10/22/13 – 5/03/2017 Net Due: $ 618.25
(4 Stormwater Liens – (2) Unmatured, (2) matured)

TOTAL DUE (Taxes/Stormwater): ***<u>$ 18,669.87</u>***

The multiple letters and documents sent have yielded neither payments nor response from owner. We have been unable to connect with them by phone.
Last signature on certified mail of 30 day tax lien notice was on 05/18/16. All other documents sent to owner certified were unclaimed and resent regular mail.

Last payment	Real Estate	$ 1,026.38	8/31/15	Wells Fargo Tax Svcs
	Utilities	$ 58.10	11/04/13	

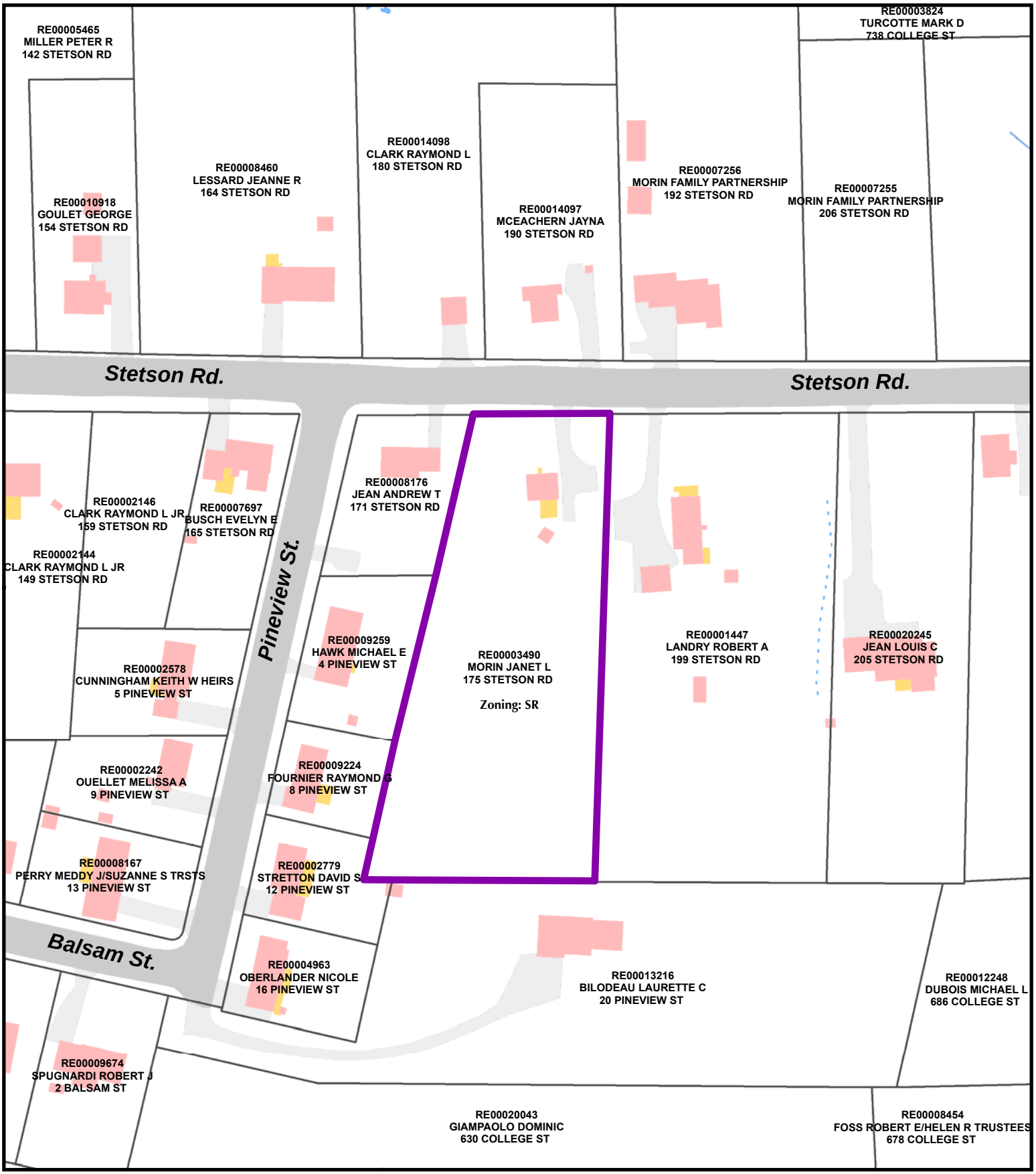
<u>Fire Department:</u>

<u>Code Enforcement:</u>

Single-family house lot.

<u>Public Works Department:</u>

No utilities across property



Tax-Aquired Acquisition

175 Stetson Road

February 2018

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: **Planning Board**
FROM: **David Hediger, City Planner**
DATE: **March 23, 2018**
RE: **Pierce Place Parking Update**

At the Planning Board meeting of March 9, 2015, the Board granted approval to Fay, Spofford & Thorndike and Jim Hatch Associates on behalf of Pierce Place Associates, LP for the construction of 29 dwelling units contained in three buildings and accessory parking at 139 and 149 Bartlett Street and 82, 110 and 118 Pierce Street. A number of conditions were included, one specific to off-street parking:

> *Upon full occupancy, but no later than one year from the City's certificate of occupancy (issued Mary 25, 2017), that the applicant will commission and provide to the City a parking demand study by a qualified independent traffic engineer. If the study and the Planning Board's review find that the spaces located on site are not adequate to the needs of the property, the applicant shall be required to construct the additional 20 spaces. If the study finds that the 38 on-site parking spaces are adequate, then the applicant shall be released from any further obligation to develop the off-site spaces. If determined that the additional spaces are not needed, under the current code provisions, the land must be held in reserve and remain available should future demand require additional parking. Should it be determined additional parking is needed, the development of that parking shall be subject to approval from the Planning Board.*

This condition was placed due to the requirements of Article XII, Section 17(g)(5) which notes that when a specific use requires less parking spaces than otherwise required, the additional parking spaces based upon the listed use may be shown as reserved on the plan. Reserved parking spaces shall not be used for any purpose other than open space, and the reserved area may not be used to meet the minimum open space ratio. If the use changes with respect to the need for the additional spaces, the additional number of spaces shall be constructed in accordance with the applicable design standards. With this in mind, the project was approved with 38 parking spaces on site with the potential for an additional 20 spaces at 82 Pierce Street, if deemed necessary. The following excerpt is from the applicants February 27, 2015 submission to the Board:

> *It is our experience that for inner city rental properties one space per unit and perhaps 20% additional for guests is more than adequate. That would suggest 35 spaces for the 29 units at Pierce Place. Parking will be controlled by issuing permits to households that have a vehicle. Guest parking passes will be made available to tenants for short-term guests. All unauthorized vehicles will be towed.*
>
> *We are therefore proposing to provide 38 spaces on site. We believe that this will adequately meet the need of our residents while still preserving a reasonable amount of*

open space on the site. It is our intention to provide a well-planned, attractive and functional site rather than covering the site with asphalt by cramming in the maximum number of spaces. To meet the letter of the ordinance, the project will also include a remote lot at 82 Pierce Street, within 500 feet of each of the three lots comprising the project. This additional lot could provide the 20 additional spaces necessary to meet the letter of the Ordinance.

The applicant has now provided an analysis demonstrating that the parking demand is well below the capacity of the site. Therefore, consistent with the Board's approval, the applicant shall be released from any further obligation to develop the off-site spaces; however, under the current code provisions, the land must be held in reserve and remain available should future demand require additional parking. Staff recommends the Board make a motion to this effect.

Action Necessary

Make a motion finding that the 38 on-site parking spaces for use by 29 dwelling units contained in three buildings at 139 and 149 Bartlett Street and 82, 110 and 118 Pierce Street are adequate to the current needs of the property, that the additional spaces at 82 Pierce Street are not needed at this time, and that under the current code provisions, the land at 82 Pierce Street must be held in reserve and remain available should future demand require additional parking.

Stantec Consulting Services Inc.
482 Payne Road Scarborough Court, Scarborough ME 04074-8929

February 21, 2018

Mr. James Hatch
Pierce Place Associates, LP
1180 Lisbon Street #11
Lewiston, Maine 04240

Subject: Parking Demand Study
Pierce Place Associates LP – Owner/Applicant
Pierce and Bartlett Streets
Map 196, Lots 108-111 & 124-126 and 128

Dear Jim:

On March 27, 2015 the City of Lewiston issued an Approval letter for the Pierce Place Project. Approval condition #4 stated as follows:

Condition of Approval #4

> *"Upon full occupancy, but no later than one year from the City's certificate of occupancy, that the applicant will commission and provide to the City a parking demand study by a qualified independent traffic engineer. If the study and the Planning Board's review find that the spaces located on site are not adequate to the needs of the property, the applicant shall be required to construct the additional 20 spaces. If the study finds that the 38 on-site parking spaces are adequate, then the applicant shall be released from any further obligation to develop the off-site spaces. If determined that the additional spaces are not needed, under the current code provisions, the land must be held in reserve and remain available should future demand require additional parking. Should it be determined additional parking is needed, the development of that parking shall be subject to approval from the Planning Board."*

In accordance with our June 21, 2017 work scope, a Stantec representative conducted a day long parking evaluation of the Pierce Place apartment complex at Pierce and Bartlett Streets in Lewiston. The study was performed on January 25, 2018. The weather conditions were clear and cold. The evaluation involved visual counts of parked cars at 15-minute intervals within the three parking lots associated with the development. The existing parking lots contain a total of 38 spaces across three lots. The development contains 29 living units across five structures. We understand that residents with vehicles are provided a parking pass to allow them to park within the existing parking lots. Currently 14 parking passes have been issued for 29 occupied units according to information provided by the property manager. The accompanying table summarizes the data collected. We can safely conclude that the current parking demand is far below the available capacity of the site. The maximum number of cars counted during the day was 16 parked cars.

If you have any questions with regards to the information submitted, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Stephen R. Bushey, ME P.E. #7429
Associate
Phone: (207) 887-3478
Fax: (207) 883-3376
Stephen.bushey@stantec.com

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PIERCE PLACE PARKING LOTS - LEWISTON, MAINE
PARKING COUNT 01-25-18 Conducted by Stantec Consulting

TIME:	Parcel A Remote 10 Spaces		Parcel A 11 Spaces + 1 Handicap		Parcel B 14 Spaces + 2 Handicap		Total Parked Vehicles
	# Vehicles W/O Stickers	# Vehicles With Stickers	# Vehicles W/O Stickers	# Vehicles With Stickers	# Vehicles W/O Stickers	# Vehicles With Stickers	
6:30 AM	5			6	1	4	16
6:45 AM	5			6	1	4	16
7:00 AM	5			6	1	4	16
7:15 AM	5			6	1	4	16
7:30 AM	4			4	1	3	12
7:45 AM	3			4	1	4	12
8:00 AM	3			4		4	11
8:15 AM	3			5		3	11
8:30 AM	3			5		3	11
8:45 AM	4			2		4	10
9:00 AM	4			2		4	10
12:00 PM	3		1	2		3	9
12:15 PM	4		2	3	1	3	13
12:30 PM	4		1	3	1	4	13
12:45 PM	4		1	3	1	4	13
1:00 PM	3		1	3	1	4	12
4:00 PM	3			1		4	8
4:15 PM	4			1		3	8
4:30 PM	3			1		4	8
4:45 PM	3			2		3	8
5:00 PM	3			4		3	10
5:15 PM	3			3		4	10
5:30 PM	3			4		5	12
5:45 PM	3			4		5	12
6:00 PM	3			4		5	12

CITY OF LEWISTON

Planning & Code Enforcement

March 27, 2015

Jim Hatch
Jim Hatch Associates/Developers Collaborative
248 Lower Round Pond Road
Bristol, ME 04539

Sent by email to: jimhatch212@gmail.com
sbushey@fstinc.com

Re: Pierce Place Project

Dear Mr. Hatch:

At the Planning Board meeting of March 9, 2015, the Board found that the application meets all of the necessary criteria contained in the Zoning and Land Use Code, including Article IX, Section 3(9)-(11) and Article XIII, Section 4, 5, and 22 of the Zoning and Land Use Code and grants approval to Fay, Spofford & Thorndike and Jim Hatch Associates on behalf of Pierce Place Associates, LP for the construction of 29 dwelling units contained in three buildings and accessory parking at 139 and 149 Bartlett Street and 82, 110 and 118 Pierce Street, subject to the following conditions:

1. Prior to a certificate of occupancy being issued, a surveyed site plan must be provided by a Maine licensed land surveyor showing that all property lines from which modifications of space and bulk standards have been granted.
2. Prior to the release of any signed mylar or issuance of any building permits associated with the proposed development the stormwater design must be reviewed and approved to the City staff's satisfaction.
3. Prior to a certificate of occupancy being issued verification must be provided by a licensed professional engineer that all site and stormwater improvements have been completed in accordance with the approved plans.
4. Upon full occupancy, but no later than one year from the City's certificate of occupancy, that the applicant will commission and provide to the City a parking demand study by a qualified independent traffic engineer. If the study and the Planning Board's review find that the spaces located on site are not adequate to the needs of the property, the applicant shall be required to construct the additional 20 spaces. If the study finds that the 38 on-site parking spaces are adequate, then the applicant shall be released from any further obligation to develop the off-site spaces. If determined that the additional spaces are not

needed, under the current code provisions, the land must be held in reserve and remain available should future demand require additional parking. Should it be determined additional parking is needed, the development of that parking shall be subject to approval from the Planning Board.

Please provide a minimum of one (1) mylar's and one (1) paper copy for the Planning Board Chairman's signature. In addition, to facilitate updates of City GIS, any plans submitted for development review are requested to be accompanied by a digital CAD plan data file on compact disc (AutoCAD 2011 or earlier).

Please be advised that you will need to obtain the proper building and related permits from the Lewiston Planning and Code Enforcement Office before starting any construction or site work. Specifically, a parking lot permit must be obtained from this office.

Please note that if development has not occurred as defined within the scope of this Code within two years, development review approval shall expire. The applicant may not begin construction or operation of the development until a new approval is granted. If necessary, an extension of development review approval must be made within two years of the initial granting of approval. The applicant must state the reasons why the development was not begun within two years from the granting of the initial approval and the reasons why the applicant will be able to begin the activity within two years from the granting of an extension, if granted. Extensions of approval may include information submitted in the initial application by reference. Only one extension of the initial approval shall be allowed under these provisions.

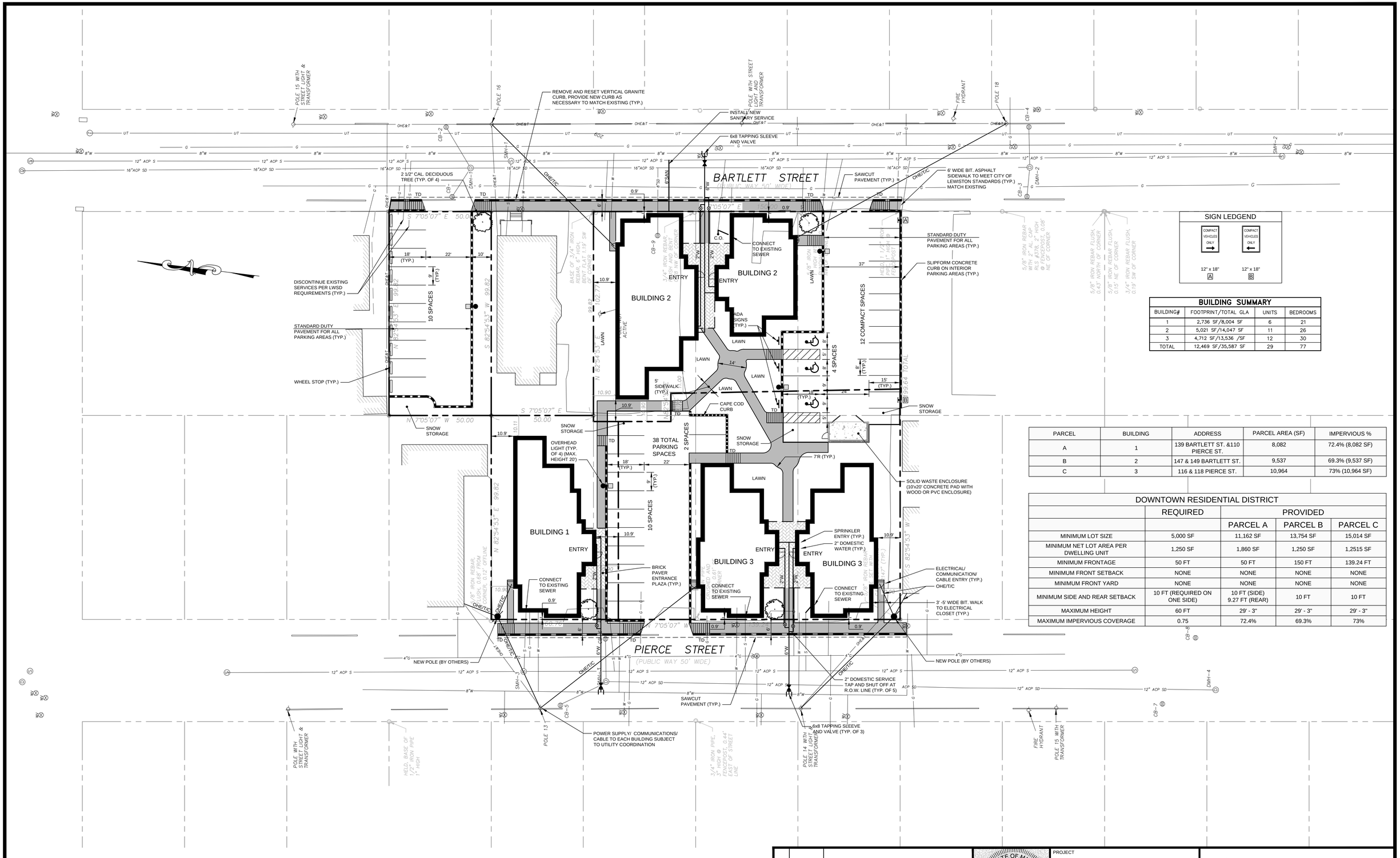
Congratulations on the approval of your project. If you have any questions, please do not hesitate to give me a call at (207) 513-3125, Extension 3223.

Sincerely,

David Hediger

David R. Hediger, City Planner

cc: Lincoln Jeffers – Asst. to the City Adm.
Gildace Arsenault – Director of Planning & Code Enf.
David Chick – Police Dept.
Paul Ouellette/Bruce McKay -Fire Dept.
Rick Burnham/Ryan Barnes – Engineering, Public Services



BUILDING SUMMARY

BUILDING#	FOOTPRINT/TOTAL GLA	UNITS	BEDROOMS
1	2,736 SF/8,004 SF	6	21
2	5,021 SF/14,047 SF	11	26
3	4,712 SF/13,536 /SF	12	30
TOTAL	12,469 SF/35,587 SF	29	77

PARCEL	BUILDING	ADDRESS	PARCEL AREA (SF)	IMPERVIOUS %
A	1	139 BARTLETT ST. &110 PIERCE ST.	8,082	72.4% (8,082 SF)
B	2	147 & 149 BARTLETT ST.	9,537	69.3% (9,537 SF)
C	3	116 & 118 PIERCE ST.	10,964	73% (10,964 SF)

DOWNTOWN RESIDENTIAL DISTRICT				
	REQUIRED	PROVIDED		
		PARCEL A	PARCEL B	PARCEL C
MINIMUM LOT SIZE	5,000 SF	11,162 SF	13,754 SF	15,014 SF
MINIMUM NET LOT AREA PER DWELLING UNIT	1,250 SF	1,860 SF	1,250 SF	1,2515 SF
MINIMUM FRONTAGE	50 FT	50 FT	150 FT	139.24 FT
MINIMUM FRONT SETBACK	NONE	NONE	NONE	NONE
MINIMUM FRONT YARD	NONE	NONE	NONE	NONE
MINIMUM SIDE AND REAR SETBACK	10 FT (REQUIRED ON ONE SIDE)	10 FT (SIDE) 9.27 FT (REAR)	10 FT	10 FT
MAXIMUM HEIGHT	60 FT	29' - 3"	29' - 3"	29' - 3"
MAXIMUM IMPERVIOUS COVERAGE	0.75	72.4%	69.3%	73%

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.27.15	REVISED PER CITY COMMENTS AND RESUBMITTED
1	02.13.15	SUBMISSION TO CITY OF LEWISTON

REVISIONS

STATE OF MAINE — STEPHEN R. BUSHEY — No. 7429 — LICENSED PROFESSIONAL ENGINEER — 2/27/15

P.E. STEPHEN R. BUSHEY
LIC. #7429

PROJECT
PIERCE PLACE HOUSING

SHEET TITLE
SITE LAYOUT, LANDSCAPE AND UTILITY PLAN

CLIENT
PIERCE PLACE ASSOCIATES LP
c/o ST. LAURENT HOUSING ASSOCIATES AND WINTON SCOTT ARCHITECTS

FST 100 YEARS
FAY, SPOFFORD & THORNDIKE
ENGINEERS · PLANNERS · SCIENTISTS
778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN:	DB	DATE:	FEBRUARY 2015
DESIGNED:	-	SCALE:	1" = 20'
CHECKED:	SRB	JOB NO.	SL-M002
FILE NAME:	SL-M002 OVERALL.dwg		
SHEET	C-3.0		

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