

1. Legal Ad

Documents: [PBLEGALAD5-10-16.DOCX \(1\).PDF](#)

2. Agenda (Updated)

Documents: [PB AGENDA 5-10-16-REV.PDF](#)

3. 1945 Congress Street

3.I. Report

Documents: [CONGRESS ST. - 1945 \(REPORT\).PDF](#)

3.II. Report Attachments

Documents: [CONGRESS ST. - 1945 \(REPORT ATTACHMENTS\).PDF](#)

3.III. Applicants Submittal

Documents: [CONGRESS ST. - 1945 \(APPLICANTS SUBMITTAL\).PDF](#)

3.IV. Plans

Documents: [CONGRESS ST. - 1945 \(PLANS\).PDF](#)

3.V. Public Comments

Documents: [CONGRESS ST. - 1945 \(PUBLIC COMMENTS\).PDF](#)

4. 636 Riverside Street

4.I. Memo

Documents: [RIVERSIDE ST. - 636 \(MEMO\).PDF](#)

4.II. Report Attachments

Documents: [RIVERSIDE ST. - 636 \(REPORT ATTACHMENTS\).PDF](#)

4.III. Applicants Submittal

Documents: [RIVERSIDE ST. - 636 \(APPLICANTS SUBMITTAL\).PDF](#)

4.IV. Plans

Documents: [RIVERSIDE ST. - 636 \(PLANS\).PDF](#)

5. 62 India Street (TABLING MEMO)

Documents: [INDIA STREET - 62 \(TABLING MEMO\).PDF](#)

6. 40 O'Brion Street (TABLING MEMO)

Documents: [OBRION ST. - 40 \(TABLING MEMO\).PDF](#)

7. 74 West Commercial Street

7.I. Report And Attachments

Documents: [W. COMMERCIAL ST. - 74 \(REPORT AND ATTACHMENTS\).PDF](#)

7.II. Applicants Submittal

Documents: [W. COMMERCIAL ST. - 74 \(APPLICANT SUBMISSION\).PDF](#)

7.III. Plans

Documents: [W. COMMERCIAL ST. - 74 \(PLANS\).PDF](#)

**LEGAL ADVERTISEMENT
PORTLAND PLANNING BOARD MEETING**

The Portland Planning Board will hold a meeting on Tuesday, May 10, 2016, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. **Public comments will be taken at this meeting.**

Workshop – 4:30 p.m.

- i. Level III Site Plan and Subdivision; 1945 Congress Street; Northland Enterprises, LLC., Applicant. (4:30 - 5:30 p.m. estimated time) The Planning Board will hold a workshop on a proposal to renovate the Elks building and add two office buildings. The site is in the Office Park zone and includes information for a master plan under the OP development standards. The condominium office park is proposed with a 15,000 sq. ft. medical office building and a 35,300 sq. ft. general office building.
- ii. Level III Site Plan and Subdivision; Suburban Propane Facility; 636 Riverside Street; Forefront Partners, LP., Applicant. (5:30 - 6:30 p.m. estimated time) The Planning Board will hold a workshop on the proposed relocation of Suburban Propane from Thompson's Point to 636 Riverside Street. The proposed development includes a 7,300 sq. ft. office building, a 2,146 sq. ft. garage with office space, and a 4,000 sq. ft. cylinder storage dock. The plan includes 3 LP fuel storage tanks, each with the capacity of 30,000 gpd.

Public Hearing – 7:00 p.m.

- i. Subdivision Review and Conditional Use Review for Ensuring Affordable Housing; 62 India Street; India/Newbury Residences, LLC., Applicant. (7:00 – 7:30 p.m. estimated time) The Planning Board will hold a public hearing to consider the Subdivision Plan for 29 new residential units in a four-story mixed-use building at 62 India Street. The application is also subject to a conditional use review under the provisions to ensure workforce housing. The site plan is a Level II administrative review under the India Street Form-Based Code zone.
- ii. Level III Site Plan and Subdivision; 40 O'Brion Street; Andrea Casaneuva, Applicant. (7:30 - 8:30 p.m. estimated time) The Planning Board will hold a public hearing on a proposal to build a 3 unit residential building. The 2-bedroom units are proposed on the upper floors with parking for four vehicles proposed on the first level. The proposed building height is under 40 feet. The lot is being split from an existing parcel and is proposed with 3,210 sq. ft. and it is located in the Residential R-6 zone.
- iii. Amended Level III Site Plan for IMT and Conditional Use Review of Unitil Utility Substation; 74 West Commercial Street; Maine Department of Transportation and Northern Utilities, Inc., Applicants. (8:30- 9: 30 p.m. estimated time) The Planning Board will hold a public hearing on the amended site plan and conditional use review of the relocation of the gas regulator control buildings, and associated gas lines at the International Marine Terminal Site at 74 West Commercial Street. The site is in the Waterfront Port Development Zone and a utility substation is a conditional use subject to the applicable conditional use standards of ec. 14-320 and 14-474.

ELIZABETH BOEPPLE, CHAIR - PORTLAND PLANNING BOARD

CITY OF PORTLAND, MAINE

PLANNING BOARD

Elizabeth Boepple, Chair
Sean Dundon, Vice Chair
Carol Morrisette
David Eaton
Kristien Nichols
Maggie Stanley
Lisa Whited

REVISED AGENDA

PORTLAND PLANNING BOARD MEETING

The Portland Planning Board will hold a meeting on Tuesday, May 10, 2016, Council Chambers, 2nd Floor, City Hall, 389 Congress Street. **Public comments will be taken at the workshop and public hearing.**

WORKSHOP - 4:30 p.m.

- i. Level III Site Plan and Subdivision; 1945 Congress Street; Northland Enterprises, LLC., Applicant. (4:30 - 5:45 p.m. estimated time) The Planning Board will hold a workshop on a proposal to renovate the Elks building and add two office buildings. The site is in the Office Park zone and includes information for a master plan under the OP development standards. The condominium office park is proposed with a 15,000 sq. ft. medical office building and a 35,300 sq. ft. general office building.
- ii. Level III Site Plan and Subdivision; Suburban Propane Facility; 636 Riverside Street; Forefront Partners, LP., Applicant. (5:45 - 6:30 p.m. estimated time) The Planning Board will hold a workshop on the proposed relocation of Suburban Propane from Thompson's Point to 636 Riverside Street. The proposed development includes a 7,300 sq. ft. office building, a 2,146 sq. ft. garage with office space, and a 4,000 sq. ft. cylinder storage dock. The plan includes 3 LP fuel storage tanks, each with the capacity of 30,000 gpd.

PUBLIC HEARING – 7:00 p.m.

- 1. ROLL CALL AND DECLARATION OF QUORUM**
- 2. COMMUNICATIONS AND REPORTS**

- 3. REPORT OF ATTENDANCE AT THE MEETING HELD ON APRIL 26, 2016:**

Workshop: Boepple, Dundon, Morrisette, Nichols, Stanley, and Whited present. Eaton recused
Public Hearing: Boepple, Dundon, Eaton, Morrisette, and Whited present. Stanley recused.
Evening Workshop: All present.

- 4. REPORT OF DECISIONS AT THE MEETING HELD ON APRIL 26, 2016:**

- i. Level III Subdivision and Site Plan Amendment; 117 Preble Street; Schlotterbeck Block, LLC., Applicant. Dundon moved and Morrisette seconded a motion to approve the amended site plan with one condition of approval. Vote 6-0, Stanley recused. Dundon moved and Morrisette seconded a motion to approve the subdivision plan with one condition of approval. Vote 6-0, Stanley recused.

5. NEW BUSINESS

- i. **Applicant has asked to have this item tabled:** Subdivision Review and Conditional Use Review for Ensuring Affordable Housing; 62 India Street; India/Newbury Residences, LLC., Applicant. The Planning Board will hold a public hearing to consider the Subdivision Plan for 29 new residential units in a four-story mixed-use building at 62 India Street. The application is also subject to a conditional use review under the provisions to ensure workforce housing. The site plan is a Level II administrative review under the India Street Form-Based Code zone.
- ii. **Applicant has asked to have this item tabled** Level III Site Plan and Subdivision; 40 O’Brion Street; Andrea Casaneuva, Applicant.
The Planning Board will hold a public hearing on a proposal to build a 3 unit residential building. The 2-bedroom units are proposed on the upper floors with parking for four vehicles proposed on the first level. The proposed building height is under 40 feet. The lot is being split from an existing parcel and is proposed with 3,210 sq. ft. and it is located in the Residential R-6 zone.
- iii. Amended Level III Site Plan for IMT and Conditional Use Review of Unitil Utility Substation; 74 West Commercial Street; Maine Department of Transportation and Northern Utilities, Inc, Applicants. (7:00 p.m. estimated time) The Planning Board will hold a public hearing on the amended site plan and conditional use review of the relocation of the gas regulator control buildings, and associated gas lines at the International Marine Terminal Site at 74 West Commercial Street. The site is in the Waterfront Port Development Zone and a utility substation is a conditional use subject to the applicable conditional use standards of Sec. 14-320 and 14-474.

PORTLAND PLANNING BOARD

Memorandum

Planning and Urban Development Department

Planning Division



To: Elizabeth Boepple, Chair, and Members of the Portland Planning Board
From: Nell Donaldson, Planner
Date: May 6, 2016
Re: 1945 Congress Street
Project #: 2016-075 **CBLs:** 216-A-6, 217-A-1
Meeting Date: May 10, 2016

I. INTRODUCTION

Northland Enterprises, LLC appears before the board for a preliminary workshop for the development of an Office Park Planned Unit Development (OPPUD) on a 6.99 acre site at 1945 Congress Street. Under the current proposal, the site, which is occupied by an Elks Lodge, would be redeveloped with two new buildings, a 15,000 SF medical office and a 25,000 SF general office. The Elks Lodge would remain. The site was recently rezoned to Office Park (O-P).

Office Park Planned Unit Developments are subject to review under several provisions of the land use code: the development standards and dimensional requirements of the O-P zone, the subdivision ordinance, and the site plan ordinance. As such, OPPUD proposals are required to include a master plan addressing the O-P development standards, the city's subdivision submittal requirements, and the city's site plan submittal requirements. In their preliminary application, the applicant has elected to submit only the master plan component of the application, on the premise that basic, conceptual elements of the master plan should be resolved prior to delving into site plan- and subdivision-level details. Accordingly, staff has concentrated this preliminary review on the master plan under the development standards of the O-P zone. Following this workshop, the applicant will be required to submit additional plans and materials meeting the submittal requirements for a Level III subdivision and site plan review. It is assumed that these materials, and this review, will be the subject of a second workshop on the proposal.

A total of 160 notices were sent to property owners within 500 feet of the site and a legal ad ran in the *Portland Press Herald* on May 2 and 3, 2016.

II. REQUIRED REVIEWS

<i>Waiver Requests</i>	<i>Applicable Standards</i>
None at this time	

<i>Review</i>	<i>Applicable Standards</i>
O-P Zone Development Standards	<i>Section 14-230.13</i>
Site Plan	<i>Section 14-526</i>
Subdivision	<i>Section 14-497</i>



Figure 1: 1945 Congress Street in context.

III. PROJECT DATA

Existing Zoning	O-P (Office Park)
Existing Use	Elks Lodge #188 (Place of assembly)
Proposed Use	Mixed – Place of assembly, medical office, general office)
Proposed Development Program	15,000 SF medical office 25,300 SF general office* 13,500 SF renovated Elks Lodge
Parcel Size	6.99 acres

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	23,090 SF	46,498 SF	23,408 SF*
Building Floor Area	23,090 SF	53,800 SF	30,710 SF*
Impervious Surface Area	133,241 SF	160,734 SF	27,493 SF
Parking Spaces (on site)	254	280	26
Bicycle Parking Spaces	0	29	29
Estimated Cost of Project	\$6,600,000		
* <i>Figures to be confirmed</i>			

II. BACKGROUND & EXISTING CONDITIONS

1945 Congress Street is approximately 7 acres in size and currently houses Lodge #188 of the Benevolent and Protective Order of Elks, their 254 parking spaces, and an expansive lawn area. Although the site has frontage on Congress Street, access is via a loop driveway from UNUM Park Drive. The site slopes down at the rear to an existing wetland on the northern property line. There is some natural vegetation in this area, as well as along the eastern property boundary. Street trees line both the Congress Street and the UNUM Park Drive frontages.

Residential uses abut the site both to the northeast and southwest. UNUM lies directly to the west, the Jetport lies due south, and several places of assembly sit across Congress Street to the east. The site was recently zoned to Office Park (O-P).

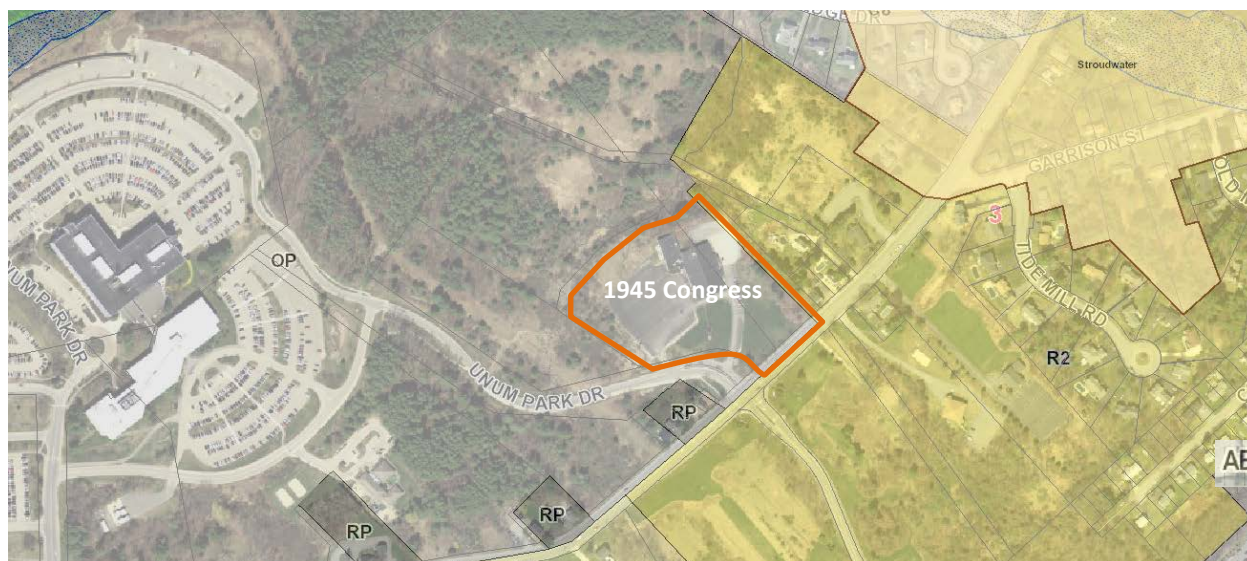


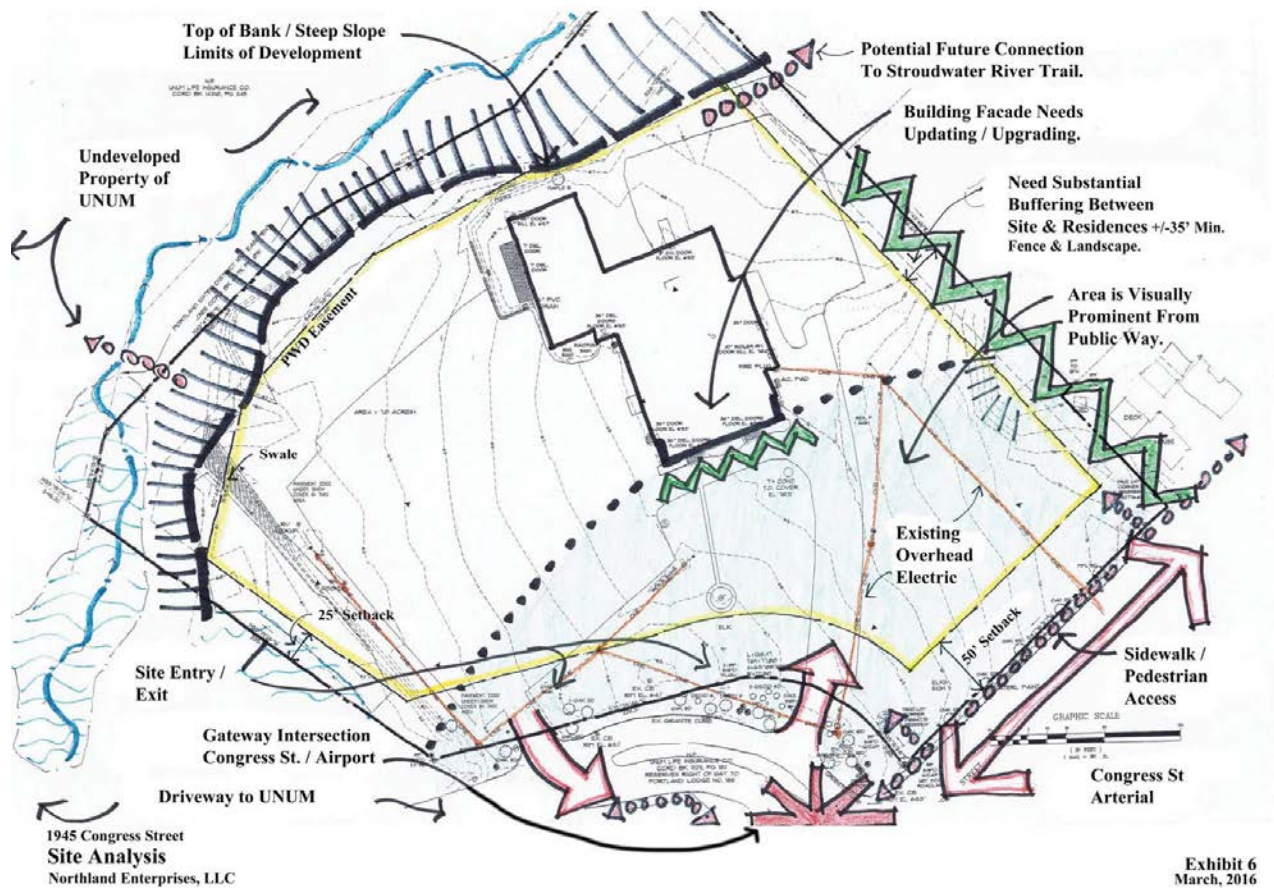
Figure 2: 1945 Congress Street, existing zoning

V. PROPOSED DEVELOPMENT

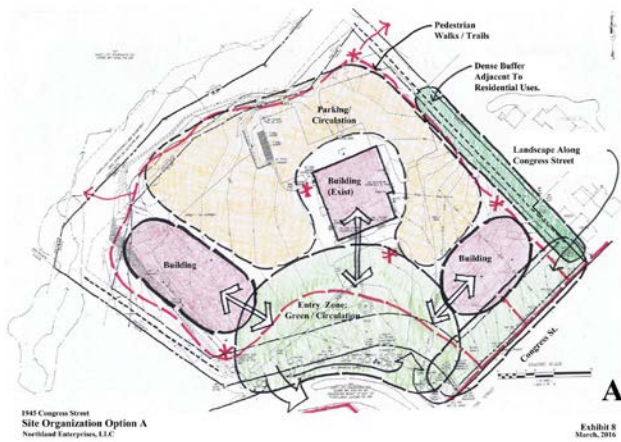
The applicant is proposing to develop the site as an Office Park Planned Unit Development (OPPUD) under the provisions of the O-P zone. The site will remain one lot, with two new buildings and the Elks to remain. Each of these buildings would ultimately constitute a separate condominium unit (*Plan 28*). The driveway, some site parking, landscaping, and circulation would be held in common.

Under the land use code, OPPUDs are required to develop a master plan of the office park as a precursor to buildout under site plan and subdivision review. In their preliminary submittal, the applicant has submitted this master plan and a draft subdivision plat. The master plan includes a description of the planning process which led to its creation, including site and context analysis (*Figures 3 and 4*), an examination of opportunities and constraints, and the development of various conceptual plan options (*Figures 5, 6, and 7*). The master plan also outlines a series of goals, including preserving a portion of the existing Elks building, designing with sensitivity to the surrounding neighborhood, preserving existing wetlands and mature vegetation, unifying the grounds and landscape character and buffering neighboring uses, and developing design guidelines that integrate the buildings with their surroundings. Ultimately, the master plan presents a conceptual site plan, defined by these goals, that will form the basis for the development of future site and subdivision plans (*Figure 8*). The plan also includes conceptual-level descriptions of the proposed treatment of landscaping and landscape preservation, building design, traffic and parking, lighting, stormwater, signs, and other “site improvements.”

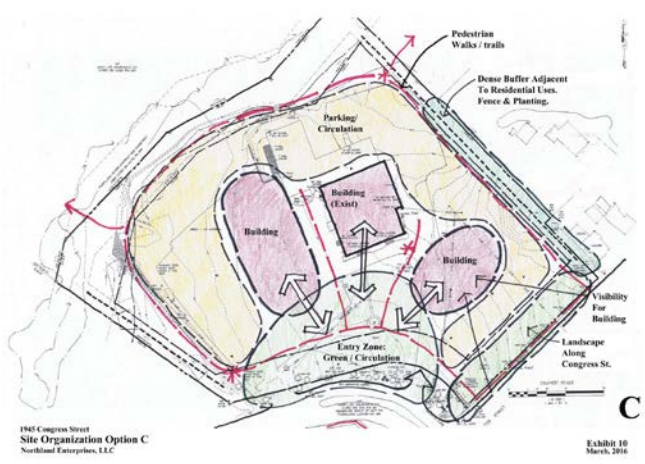
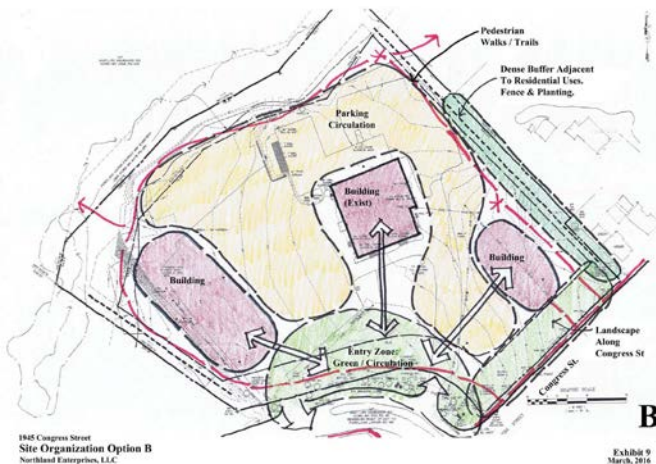
The conceptual site plan includes a new 25,300 SF general office building, to house Clark Insurance, on the site’s western property line, a 15,000 SF medical office building on the site’s Congress Street frontage, and a renovated and downsized Elks Lodge in its existing location at the center of the site (*Figure 8*). These three basic site elements are proposed with a single point of access from UNUM Park Drive and 263 car, 4 bus, and 13 motorcycle parking spaces connected with a continuous circulation system. The applicant has proposed a broad landscaped area on the Congress Street frontage and significant buffering on the eastern property line. Existing vegetation at the rear of the site would be preserved.



Figures 3 & 4: Site analysis (top) and existing site conditions (bottom)



Figures 5, 6, 7, & 8: Site organization options (left and center), showing potential building envelopes, parking, site entrances, and green space; conceptual site plan (bottom)



VII. PUBLIC COMMENT

Staff received two public comments on the current application (*Attachments PC-1 and PC-2*). These raised concerns about the amount of parking proposed on the site, the extent to which the conceptual plan creates a campus-like setting as prescribed by the O-P zone, integration with the surrounding built and natural context, and traffic impacts.

The applicant held their neighborhood meeting on Thursday, May 5. Minutes from this meeting were not available at the writing of this memo.

It should be noted that, over the course of the zone change review which preceded this application, the Planning Board received a significant number of public comments on the proposal for the site. Many of these raised questions about potential traffic impacts of the development; pedestrian safety in the area; building design, parking, and siting with respect to the O-P development standards; buffering from adjacent residential properties; and the effects on what many perceive as an important gateway with valuable natural resource and open space attributes.

VIII. RIGHT, TITLE, & INTEREST

The applicant has provided a purchase and sale agreement as evidence of right, title, and interest (*Attachment C*). It should be noted that there is an existing Portland Water District easement on the property. It appears that the applicant may intend to encroach into this easement area. Staff has requested that the applicant verify that this is permissible under the terms of the easement.

IX. OFFICE PARK ZONE REVIEW

1. Zoning Analysis

A full zoning review will be conducted at the time of site plan submittal. However, staff did perform a cursory review of the site development diagram submitted in the master plan to ensure that, at least preliminarily, the proposal meets the dimensional requirements of the O-P zone. The site development diagram shows the medical office building setback 57 feet from the Congress Street property line, and 72 feet from the property line on the east side (*Plan 18*). Parking is proposed 35' from the property line on the east side. All of these dimensions meet the O-P zone's dimensional requirements.

2. Development Standards

Staff has conducted a preliminary review of the master plan as submitted under the O-P development standards. Findings of this review are discussed below.

- a. Master plan:** *Development proposals shall include a master plan of the office park. The master plan shall include...[t]he location of the building(s) on the site; infrastructure of the site; identification of common areas; traffic circulation, architectural character and treatment of the building(s); proposed building envelopes; phasing and timing of the development; private development restrictions; and such other information necessary and sufficient to ensure compliance with the standards in this section...*

The applicant has submitted a master plan which includes the basic elements required under the O-P development standards. Staff has requested that, in their next submittal, the applicant provide additional information on proposed site drainage/grading, stormwater treatment, and utility infrastructure (*Attachments 3, 5, and 6*). These systems will be further discussed under site plan review.

- b. Design relationship to site:** *Development proposals shall demonstrate a reasonably unified design of the site, including the architecture, the layout of the buildings, pedestrian and vehicular circulation plan, open space, drainage, and the topography, soil conditions, vegetation and other natural features of the site. Integration of open spaces and natural features shall be achieved by incorporation of outdoor amenities for the benefit of users of the site, such as jogging and walking trails, gardens and benches. The master plan prescribes the use of common elements which are meant to create coherence between disparate uses on site, including consistent furniture (e.g. benches, bike racks, trash receptacles, and picnic pavilions), signs, lighting, architectural features, landscaping, and walkways and trails. In*

preliminary comments, however, staff has noted that additional work may be necessary with respect to achieving a unified site design in the spirit of the O-P zone, which calls for professional offices in a “park- or campus-like setting which are of the highest quality, are well designed and maintained, and are compatible with their natural surroundings.” Staff has questioned whether the parking, in particular, might be better integrated with existing and proposed landscaping to relieve its impacts both visually and environmentally. Staff has also noted inconsistency in the architectural elements of the plan. This is further discussed below.

- c. Landscaping:** *Development proposals shall include a landscape program. All land areas not covered by structures, parking areas or circulation facilities shall be landscaped and maintained. In order to soften the visual impact of large expanses of pavement in parking lots, vegetation shall be planted or retained in islands or planting strips where required by article IV (subdivisions) and article V (site plan).* The master plan includes, at a conceptual level, a landscaping program which shows that all land areas not covered by structures, parking, or circulation are proposed either as landscaped or to be left in their natural vegetated state. The conceptual site plan demonstrates the applicant’s intent to buffer the properties to the east of the site with evergreen and deciduous vegetation and a fence, as needed. The plans also include buffering on the Congress Street façade, where “gentle” raised, landscaped berms are proposed.

As noted above, staff has requested that the plans integrate additional landscaping into parking areas to soften the impact of this site element. Jeff Tarling, the city’s arborist, writes

We would request a landscape plan in the next phase. Noted the conceptual diagram and cross section. Wanted to explore parking lot alignments to see if there are any ways to improve the overall function of parking circulation and additional green space. Creating parking lot 'cells' that may curve with the property and terrain shape vs large rectangle is always recommended. Recalling the work nearby UNUM conducted for their corporate master plan by Andropogon Associates that focused on a 'natural / native' landscape approach, it would be important to consider a similar approach to this project area. The Andropogon plan included the roadside treatment to the former Elks Club property. Shared surface parking should be considered to the extent possible. Parking areas would also strive to meet the applicable 'parking lot' standards to reduce heat island effects.

Plans will be required to meet the landscaping requirements of the site plan ordinance.

- d. Impervious surface ratio:** *Development proposals may have an impervious surface ratio of up to sixty (60) percent and shall meet the following criteria:*
- 1. No pavement may be located closer than fifteen (15) feet from the property line and from a public street right-of-way, excepting approved entrance drives;*
 - 2. Parking may not be located in the required front yard setback. If parking is provided in the area between the building and minimum setback line, the parking area must be adequately screened with landscaping materials and permanently maintained.*

Staff has requested that the applicant document that the impervious surface ratio limit of the O-P zone is being met. The conceptual plan does not show pavement closer than 15 feet from any property line, and no parking is proposed in the area between the medical office building and Congress Street.

- e. Sidewalks:** *Development proposals shall include internal sidewalks, illustrating the manner in which the developer will provide this amenity to take advantage of the topography and natural features of the site.*

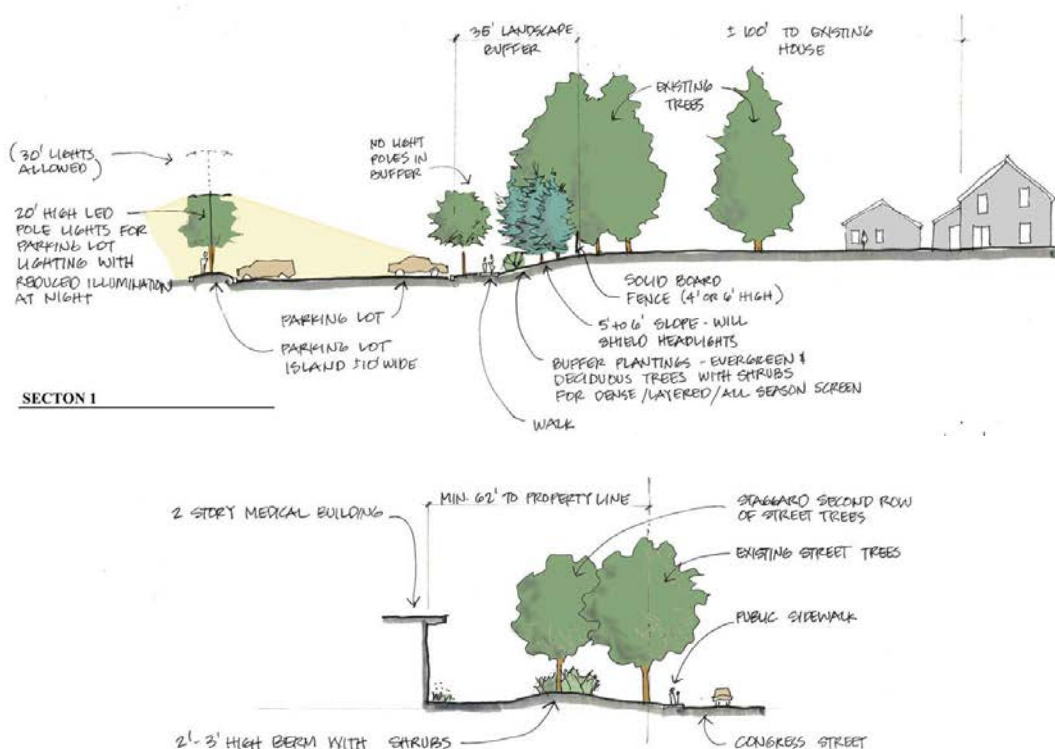
The conceptual site plan includes internal sidewalks from Congress Street to the medical office building and from there to other buildings on site. This sidewalk network also includes “future” links to the Portland Trails and UNUM trail systems to the north and east of the site. Staff has noted that sidewalks should connect to all building entrances on site. Tom Errico, the city’s consulting traffic engineer, has

also noted that sidewalks may be required on UNUM Park Drive. He writes,

The applicant shall investigate the feasibility of providing a crosswalk and sidewalk connecting into the site at the driveway on UNUM Drive.

- f. **Buffers and screens:** Development proposals shall include buffering yard areas abutting a residential zone or residential use and to screen parking lots and driveways from public view, identifying the location, composition and maintenance of the buffer. The buffer and screening shall be of a dense and continuous nature and shall incorporate trees, shrubs, fencing, berms and related elements deemed necessary.

The master plan identifies buffering as a goal and, as noted above, includes buffers on both the eastern and southern property lines, where the project will abut existing residential uses and Congress Street respectively (Figures 9 and 10). The buffer on the residential boundary is proposed with evergreen and deciduous trees and shrubs, a fence “where needed,” and a gentle slope to shield headlight glare. No lighting is proposed within the buffer area. The Congress Street buffer is suggested with shallow raised berms, planted with shrubs. A second row of street trees is also proposed. Staff has requested additional information on the location, composition, and maintenance of the buffers and renderings which depict how the development, including its parking, will be screened from abutting residences and Congress Street.



Figures 9 and 10: Proposed buffering at eastern property line (top) and along Congress Street (bottom)

- g. **Preservation of natural features:** Development proposals shall identify the extent to which the developer shall preserve natural features including, but not limited to, existing vegetation, flood plains, rock outcroppings, surface water bodies, drainage swales and courses, and wetlands; provided any such

program shall consider and be sensitive to the need to preserve such natural features

The master plan identifies existing natural resources on site, including wet areas, steep slopes, drainage courses, and mature vegetation, and the conceptual plan is generally sensitive to the need for preservation in these areas. The plan retains natural vegetation on the northern edge of the property, the eastern edge of the property, and existing mature plantings on Congress Street and UNUM Park Drive. With respect to wetlands, Lauren Swett, the city's consulting civil engineer, has noted that a "wetland delineation report should be provided as part of the site plan application and that the project should be coordinated with Maine DEP" (Attachment 3).

- h. Traffic:** *Development proposals shall identify all proposed traffic controls, parking areas, interior traffic circulation, and demonstrate that additional traffic generated by the project itself can be reasonably accommodated on existing public streets.*

The master plan narrative includes a broad discussion of traffic, parking, and internal circulation. The conceptual site plan shows only one point of access from UNUM Park Drive, located at the second of the Elks' two existing access points. The internal circulation provides multiple means of traversing the site.

Staff has met with the applicant to discuss the potential traffic impacts of the development. Preliminary work on the part of the applicant's traffic engineer shows that trip generation will approach the threshold for a traffic movement permit (TMP) and, as a result, the applicant has elected to submit a TMP application. Additional traffic analysis will be conducted as a product of the TMP process. Mr. Errico has reviewed the cursory traffic information included with the master plan and writes,

A meeting was held with the applicant regarding traffic generation and the scope of work for a traffic study. Based upon preliminary trip generation findings and credit for the existing site, it does not appear a Traffic Movement Permit will be required for the project. The applicant will be required to conduct a traffic evaluation of the Congress Street/International Parkway intersection. I would note that the Congress Street/Westbrook Street intersection was not included for evaluation based upon the fact that MaineDOT will be upgrading the signal system and the City will be implementing streetscape improvements in the near future.

The City is currently planning on including the Congress Street and International Parkway intersection within a Regional Traffic Management System. The applicant make be required to assist in the implementation of the System.

In the master plan, the applicant has included a lengthy explanation of the 280 parking spaces proposed on site. Parking will be discussed in detail under site plan review, but, in preliminary comments, staff have noted the extent of the parking supply depicted in the conceptual plan. The applicant proposes to exceed the parking required under the land use code by almost 100 spaces, or over 50%. Per conversations with the applicant, staff understands that the peak parking demand which, at least in part, drives the parking plan is a function of coterminous office use and weekly events planned at the Elks Lodge. Given that this peak demand period is relatively short and infrequent, staff has requested that the applicant demonstrate that every option short of building parking supply on-site has been explored. For example, a Transportation Demand Management Plan will be required under the site plan ordinance, and staff has suggested using TDM (e.g. modifying event times/work hours, shuttling) to maximize shared parking and eliminate demand for on-site spaces. Mr. Errico writes,

The applicant has provided an estimate of parking needs for the project - generally based upon individual needs for each on-site business use. The applicant should specifically document possible parking management strategies that reduce the overall parking supply and why implementation is not feasible. Strategies should, at a minimum include: time-of-day and day-of-week business work/event hour adjustments for shared parking use; and use of off-site parking areas for peak parking events.

Given that the proposed tenants currently operate businesses in the area, actual parking demand surveys are suggested to help quantify the parking supply requirements.

It should also be noted that, per the site plan ordinance, a transit facility will be required of the development.

As noted above, staff has also raised concerns around the design of the parking areas as presented, particularly in the large expanses between the Elks and Clark Insurance. Mr. Errico writes,

Although specific details on parking lot dimensions are not provided, I would suggest the applicant consider compact parking spaces and investigate other dimensional reductions. The demand for the full parking supply will only occur for a few hours one day a week and having less pavement may be beneficial.

The applicant may want to consider providing a portion of the parking area with a grass/structured surface. The demand for the full parking supply will only occur for a few hours one day a week and having a non-bituminous surface may be beneficial.

- i. **Architectural design:** All buildings shall be designed or approved by a registered architect in the State of Maine and shall be in conformance with the proposed master plan. The scale, texture, color and massing of the buildings shall be coordinated. The full range of high-quality, permanent, and traditional or contemporary building materials and technology may be incorporated in a manner so that the development as a whole embodies distinguishing attributes that achieve the developer's desired degree of excellence and are in conformance with the architectural guidelines provided in the private development restrictions. Particular emphasis shall be placed on the appearance of building facades from public streets, from driveway and parking areas, and from other nearby buildings. Building elevation drawings shall be submitted which indicate architectural style, exterior finishes and color, building height and scale, and location and scale of window and door openings. Samples of exterior building materials shall also be submitted.

The master plan includes design guidelines intended to create a relationship between the three buildings proposed on site. These guidelines specify simple forms, "contemporary New England in style, and designed so that they share a common material on part, or all, of the building facades." The guidelines also suggest common entrance treatments, details, materials, and "natural colors."

The applicant has submitted renderings which depict preliminary concepts for the three buildings proposed on site. It should be noted that these drawings predate the development of the master plan. These renderings show the Clark Insurance building on UNUM Park Drive with gabled roof forms and siding in brick and clapboard, the renovated Elks Lodge with a shallow-pitched gabled roof, as current exists, and clad in EIFS, and the medical office building on the Congress Street frontage with a combination of gabled and flat roof forms and cladding in brick and, presumably, fiber cement panel (Figures 11, 12, and 13).

Caitlin Cameron, the city's urban designer, has reviewed the master plan and the drawings, and writes,

Context Compatibility

Material – There is very little brick in surrounding context for any type of buildings – residential or otherwise. Staff suggests other material choices such as clapboard or shingle



Figures 11, 12, and 13: Renderings of Clark Insurance building, renovated Elks Lodge, and medical office building or something more contemporary. This is of particular concern for the Congress Street building which is the most visible from the street.

Unified Design Character

Overall Design – the review panel did not see strong enough visual relationship between the two new buildings. The Congress Street building was considered the more successful in

meeting the Master Plan design guidelines and suggest the second building adopt more of

the language and elements of the Congress Street building whether roof forms, entrance design, fenestration pattern, scale, and proportion.

Roofs – The roof forms of the two new buildings are different in character – is there a way to unify the buildings using the roof characteristics (pitch, orientation, etc.)?

Entrances – The Master Plan design guidelines stipulate that all three structures shall have common entrance treatments to emphasize main entry points. Currently, the entry designs vary quite a bit and do not provide a common element, whether form, material, or style. More information is needed for the entrances of the Congress Street building.

Trim and Detailing – There is a consensus that the details could be made more unified and contemporary. For example, at the Elks building, the use of the pilasters at the building corners and the “Doric” columns at the entry seem out of character with the era and style of the building – is there a more contemporary detail that could be used?

Quality

Elks Lodge – The Master Plan design guidelines state that the Elks Lodge material and trim shall be different from the new construction. EIFS is proposed to resurface the building – there is some concern about the quality, durability, and contextually of this material choice. More information is requested regarding this material selection and whether other materials were considered. Could more windows be proposed in the renovation of this building? In addition, the question was raised about the various entrances shown for this building which currently all have different treatments of different scales – are all of these going to be active entrances? Can their design be more unified?

Congress Street Building – The review panel supported the general design direction of this building and suggest the second new construction should adopt some of the design characteristics of this building for continuity/uniformity.

- *Material – as stated above, consider replacing the brick with either a more contextual clapboard or a more contemporary choice.*
- *Window details – The panel felt the lintel/header detail on the windows was traditional and that these kinds of details could be more contemporary as per the Master Plan guidelines.*
- *Entrances – more information is needed regarding the two building entrances and their design (not visible in the current submission).*

Clark Insurance Building – This building differs quite a bit in character from the other two campus buildings and the review panel felt that several elements - gabled dormers, brick, and gable for the main roof form – were not successful and could be modified to be more similar in character of the Congress Street building.

Ms. Cameron has also requested additional drawings, including aerial perspective views and/or building elevations in order to review the building entries and overall design.

- j. Lighting:** *Development proposals shall identify the location and style of lighting to be used in the development. All light fixtures shall be hooded or shielded so that the light shines downward.*

The master plan includes a narrative and plan showing proposed lighting for the site, with the goal of minimizing lighting to the extent possible “to reflect the context, and the adjoining residential uses.” A photometric plan and cut sheets will be reviewed under site plan review. At least preliminarily, light fixtures appear to meet the city’s *Technical Manual*.

- k. Signs:** *Development proposals shall identify all proposed signage. Signs shall be designed in proportion and character with the building facades. All signs shall be constructed of permanent materials and shall be coordinated with the building and landscaping design through the use of appropriate materials and finishes.*

The master plan also includes a sign plan proposing property identification signs, business identification signs, and wayfinding signs. Staff has requested that the applicant document that the number and placement of signs meets the provisions of the sign ordinance. Staff has also noted that, per the sign ordinance, building signs are to be designed in proportion and character with building facades. This is of particular concern on the medical office building, where multiple possible tenants are proposed with individual signs.

XIII. NEXT STEPS

1. Applicant to address staff comments and additional comments of the Planning Board;
2. Applicant to prepare complete subdivision and site plan submission, including requirements as included in 14-496(a) and (b) and 14-527(e) and (f), for review by the Planning Authority and Planning Board; and
3. Planning Board to hold follow up workshop for preliminary site plan and subdivision review.

XIV. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. City Arborist review (memo from Jeff Tarling, 4/29/16)
2. Traffic Engineer review (memo from Thomas Errico, 4/29/16)
3. Civil Engineer review (memo from Lauren Swett, 4/29/16)
4. Urban Design review (memo from Caitlin Cameron, 4/27/16)
5. Department of Public Services review (memo from David Margolis-Pineo, 4/29/16)
6. Fire Prevention Bureau review (memo from Keith Gautreau, 4/27/16)
7. Planning review (memo from Nell Donaldson, 5/2/16)

APPLICANT’S SUBMITTALS

- A. Cover Letter
- B. Level III Development Review Application
- C. Right, Title, and interest
- D. Master Plan
- E. Wastewater Capacity Application
- F. Stormwater Management Narrative
- G. Preliminary Traffic Analysis

PLANS

- Plan 1. Boundary Survey
- Plan 2. City Context Plan
- Plan 3. Neighborhood Context Plan
- Plan 4. Project Site Aerial
- Plan 5. Site Analysis: Existing Conditions
- Plan 6. Site Analysis: Regulatory Restrictions
- Plan 7. Site Analysis
- Plan 8. Site Analysis: Development Considerations
- Plan 9. Site Organization Option A
- Plan 10. Site Organization Option B

- Plan 11. Site Organization Option C
- Plan 12. Site Plan Option A
- Plan 13. Site Plan Option B
- Plan 14. Site Plan Option C
- Plan 15. Site Plan Option D
- Plan 16. Site Plan Option E
- Plan 17. Site Analysis: Parking
- Plan 18. Site Development Diagram
- Plan 19. Conceptual Site Plan
- Plan 20. Section at Buffer
- Plan 21. Section at Congress Street
- Plan 22. Lighting Concept
- Plan 23. Design Guidelines: Lighting
- Plan 24. Design Guidelines: Site Improvements
- Plan 25. Design Guidelines: Site Improvements
- Plan 26. Signage Diagram
- Plan 27. Parking Table
- Plan 28. Parking Plan
- Plan 29. Draft Subdivision Plat
- Plan 30. Group Rendering
- Plan 31. Site Building Perspective
- Plan 32. Medical Building Rendering
- Plan 33. Clark Insurance Rendering
- Plan 34. Elks Rendering

PUBLIC COMMENT

- PC-1. Email from Bill Linnell, 5/2/16
- PC-2. Letter from Eugenia O'Brien, 5/4/16

Hi Nel -

We would request a landscape plan in the next phase,(quite sure Steve Mohr is doing that). Noted the conceptual diagram and cross section. Wanted to explore parking lot alignments to see if there are any ways to improve the overall function of parking circulation and additional green space. Creating parking lot 'cells' that may curve with the property and terrain shape vs large rectangle is always recommended. Recalling the work nearby UNUM conducted for their corporate master plan by Andropogon Associates that focused on a 'natural / native' landscape approach, it would be important to consider a similar approach to this project area. The Andropogon plan included the roadside treatment to the former Elks Club property. Shared surface parking should be considered to the extent possible. Parking areas would also strive to meet the applicable 'parking lot' standards to reduce heat island effects.

Thanks

Jeff Tarling
City Arborist

See:

Andropogon lists UNUM on their web site for corporate office planning:
https://issuu.com/andropogon/docs/andropogon_selected_projects_april

Arborday Foundation recommendations:
<https://www.arborday.org/programs/treecityusa/bulletins/documents/024-summary.pdf>

Creative parking lot designs
https://las.depaul.edu/centers-and-institutes/chaddick-institute-for-metropolitan-development/programs/mdrn/Documents/Glenview_Design_Guidelines--Parking_Lots.pdf

Nearby parking lot study
http://www.kitteryme.gov/Pages/KitteryME_Manager/handbook/iii.pdf



Helen Donaldson <hcd@portlandmaine.gov>

1945 Congress Street - Preliminary Traffic Comments

2 messages

Tom Errico <thomas.errico@tylin.com>

Fri, Apr 29, 2016 at 1:45 PM

To: Helen Donaldson <HCD@portlandmaine.gov>

Cc: David Margolis-Pineo <dmp@portlandmaine.gov>, Katherine Earley <KAS@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>, Jeff Tarling <jst@portlandmaine.gov>

Nell – I have reviewed the application materials and offer the following preliminary traffic comments.

- A meeting was held with the applicant regarding traffic generation and the scope of work for a traffic study. Based upon preliminary trip generation findings and credit for the existing site, it does not appear a Traffic Movement Permit will be required for the project. The applicant will be required to conduct a traffic evaluation of the Congress Street/International Parkway intersection. I would note that the Congress Street/Westbrook Street intersection was not included for evaluation based upon the fact that MaineDOT will be upgrading the signal system and the City will be implementing streetscape improvements in the near future.
- The applicant has provided an estimate of parking needs for the project - generally based upon individual needs for each on-site business use. The applicant should specifically document possible parking management strategies that reduce the overall parking supply and why implementation is not feasible. Strategies should, at a minimum include: time-of-day and day-of-week business work/event hour adjustments for shared parking use; and use of off-site parking areas for peak parking events.
- Given that the proposed tenants currently operate businesses in the area, actual parking demand surveys are suggested to help quantify the parking supply requirements.
- Although specific details on parking lot dimensions are not provided, I would suggest the applicant consider compact parking spaces and investigate other dimensional reductions. The demand for the full parking supply will only occur for a few hours one day a week and having less pavement may be beneficial.
- The applicant may want to consider providing a portion of the parking area with a grass/structured surface. The demand for the full parking supply will only occur for a few hours one day a week and having a non-bituminous surface may be beneficial.
- The applicant shall investigate the feasibility of providing a crosswalk and sidewalk connecting into the site at the driveway on UNUM Drive.
- The City is currently planning on including the Congress Street and International Parkway intersection within a Regional Traffic Management System. The applicant make be required to assist in the implementation of the System.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
 T.Y. Lin International

12 Northbrook Drive

Falmouth, ME 04105

[207.781.4721](tel:207.781.4721) (main)

[207.347.4354](tel:207.347.4354) (direct)

[207.400.0719](tel:207.400.0719) (mobile)

[207.781.4753](tel:207.781.4753) (fax)

thomas.errico@tylin.com

Visit us online at www.tylin.com

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"One Vision, One Company"

Please consider the environment before printing.

Helen Donaldson <hcd@portlandmaine.gov>
To: Tom Errico <thomas.errico@tylin.com>

Mon, May 2, 2016 at 8:28 AM

Thanks, Tom.

[Quoted text hidden]

—

Nell Donaldson
Planner, City of Portland
874-8723
hcd@portlandmaine.gov

MEMORANDUM



TO: Nell Donaldson, Planner
FROM: Lauren Swett, PE
DATE: April 29, 2016
RE: 1945 Congress Street, Master Plan Submission

Woodard & Curran has reviewed the Master Plan Submission for the proposed redevelopment of the Elks Lodge Site located at 1945 Congress Street in Portland, Maine. The project involves the renovation of the Elks building and the addition of a 15,000 SF medical building and a 35,300 SF general office building.

Documents Reviewed by Woodard & Curran

- Master Plan Submission and attachments, dated April 5, 2016, prepared by Pinkham & Greer Civil Engineers, on behalf of Northland Enterprises, LLC.

Comments

- 1) The proposed project will disturb more than one acre. The Applicant should note that a Maine Construction General Permit will be required from the MaineDEP, and that copies of all permits should be provided to the City upon receipt.
- 2) The Master Plan Overview refers to existing wetland areas that will be preserved. Based on the Site Analysis Figure (Exhibit 5 – Regulatory Restrictions), it does not appear that any wetland impacts are proposed at this time. The Applicant should note that a wetland delineation report should be provided as part of the Site Plan Application, and that the project should be coordinated with the MaineDEP to determine whether permits may be required for work adjacent to natural resources.
- 3) The Applicant has submitted a City of Portland Wastewater Capacity Application. The Applicant should note that they will be required to provide evidence of capacity to serve and approval of the proposed design from the Portland Water District as part of the Site Plan Application.
- 4) The proposed project will result in approximately 27,493 square-feet of new impervious area. As such, it will be required to demonstrate compliance with the Basic, General, and Flooding Standards of the MaineDEP Chapter 500 Rules in accordance with Section 5 of the City of Portland Technical Manual.

We offer the following comments:

- a) Basic Standard: Plans, notes, and details should be provided as part of the Site Plan Application to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in accordance with Appendix A, B, & C of MaineDEP Chapter 500.
- b) General Standard: The project is required to include stormwater management features for stormwater quality control. The Applicant is proposing a combination of underdrained soil filters and proprietary filtration systems to provide stormwater treatment. The Applicant has also provided calculations demonstrating that the proposed redevelopment will require treatment of 60% of the site per Chapter 500. Woodard & Curran finds this approach acceptable. However, the Applicant should consider the following in the design of the stormwater management system:
 - Per Chapter 500 Redevelopment Standards, priority for treatment must be given to areas with the highest pollutant ranking to the maximum extent practicable;
 - Per Chapter 500 Redevelopment Standards, if a redevelopment project is located in geographically separate watersheds, treatment requirements must be calculated for each separate watershed; and
 - The proposed stormwater BMPs should be designed per the MaineDEP Stormwater BMP Manual.
- c) Flooding Standard: The project is required to include stormwater management features to control the rate or quantity of stormwater runoff from the site. The Applicant is proposing a combination of underdrained soil filters and proprietary filtration systems to provide stormwater treatment and



anticipates that some peak flow control will be provided by these systems. Woodard & Curran finds this approach acceptable. The Applicant should note that evidence, such as a HydroCAD model, will be required with the Site Plan Application, demonstrating that the peak rate of runoff from the proposed site will not exceed the peak rate of runoff from the existing site.

Planning and Urban Development Department Planning Division



Subject: OP Design Review – 1945 Congress Street

Written by: Caitlin Cameron, Urban Designer

Date of Review: Wednesday, April 27, 2016

The proposed new construction of a commercial office in the Portland Technology Park was reviewed according to the *Portland Technology Park Design Guidelines*. The project was reviewed by Caitlin Cameron, Urban Designer, Nell Donaldson, Planner, and Barbara Barhydt, Development Review Manager.

APPLICABLE STANDARDS

The OP zoning standards also apply. Of particular concern:

- **14-230.10 Purpose:** The purpose of the O-P zone is to provide substantial areas for integrated development of professional offices in a park of campus-like setting which are of the highest quality, and are well-designed and maintained and are compatible with their natural surroundings.
- **14-230.13 Development standards. (b) Design relationship to site:** Development proposals shall demonstrate a reasonable unified design of the site, including the architecture, the layout of the buildings, pedestrian and vehicular circulation plan, open space, drainage, and the topography, soil conditions, vegetation and other natural features of the site.
- **14-230.13 Development standards. (i) Architectural design:** . . . The scale, texture, color and massing of the buildings shall be coordinated. The full range of high-quality, permanent, and traditional or contemporary building materials and technology may be incorporated in a manner so that the development as a whole embodies distinguishing attributes that achieve the developer's desired degree of excellence and are in conformance with the architectural guidelines provided in the private development restrictions. Particular emphasis shall be placed on the appearance of building facades from public streets, from driveway and parking areas, and from other nearby buildings. Building elevation drawings shall be submitted which indicate architectural style, exterior finishes and color, building height and scale, and location and scale of window and door openings.

The Property Master Plan Overview expresses the following goals related to design for new development projects:

- **A2.** Design a project that is sensitive to the neighborhood concerns regarding context and compatibility;
- **A6.** Develop comprehensive design guidelines for the treatment of the existing Elks Lodge building to be retained, and the new structures to be built on the parcel based upon building locations and relationship to the site features.

- **B5.** Create guidelines for the architectural character, including restrictions to ensure compatibility of the new buildings with each other, for the two (2) new buildings with respect to compatible materials, colors and forms, treatment strategies for the Elks building, similarly detailed building entrances, and utilization of common site elements for the exterior of the buildings;

FINDINGS OF THE DESIGN REVIEW:

More information is requested in order to better assess the proposed designs. This should be in the form of additional aerial perspective views and/or building elevations in order to review the building entries and overall design.

Context Compatibility

Material – There is very little brick in surrounding context for any type of buildings – residential or otherwise. Staff suggests other material choices such as clapboard or shingle or something more contemporary. This is of particular concern for the Congress Street building which is the most visible from the street.

Unified Design Character

Overall Design – the review panel did not see strong enough visual relationship between the two new buildings. The Congress Street building was considered the more successful in meeting the Master Plan design guidelines and suggest the second building adopt more of the language and elements of the Congress Street building whether roof forms, entrance design, fenestration pattern, scale, and proportion.

Roofs – The roof forms of the two new buildings are different in character – is there a way to unify the buildings using the roof characteristics (pitch, orientation, etc.)?

Entrances – The Master Plan design guidelines stipulate that all three structures shall have common entrance treatments to emphasize main entry points. Currently, the entry designs vary quite a bit and do not provide a common element, whether form, material, or style. More information is needed for the entrances of the Congress Street building.

Trim and Detailing – There is a consensus that the details could be made more unified and contemporary. For example, at the Elks building, the use of the pilasters at the building corners and the “Doric” columns at the entry seem out of character with the era and style of the building – is there a more contemporary detail that could be used?

Quality

Elks Lodge – The Master Plan design guidelines state that the Elks Lodge material and trim shall be different from the new construction. EIFS is proposed to resurface the building – there is some concern about the quality, durability, and contextually of this material choice. More information is requested regarding this material selection and whether other materials were considered. Could more windows be proposed in the renovation of this building? In addition, the question was raised about the various entrances shown for this building which currently all have different treatments of different scales – are all of these going to be active entrances? Can their design be more unified?

Congress Street Building – The review panel supported the general design direction of this building and suggest the second new construction should adopt some of the design characteristics of this building for continuity/uniformity.

- o Material – as stated above, consider replacing the brick with either a more contextual clapboard or a more contemporary choice.
- o Window details – The panel felt the lintel/header detail on the windows was traditional and that these kinds of details could be more contemporary as per the Master Plan guidelines.
- o Entrances – more information is needed regarding the two building entrances and their design (not visible in the current submission).

Clark Insurance Building – This building differs quite a bit in character from the other two campus buildings and the review panel felt that several elements - gabled dormers, brick, and gable for the main roof form – were not successful and could be modified to be more similar in character of the Congress Street building.

April 29, 2016

Memo To: Shukria Wiar
Barbara Barhydt
From: David Margolis-Pineo
Re: 1945 Congress Street – Office, Medical Buildings, (2016-075)

The Department of Public Work has the following preliminary comments on this proposed project.

1. Survey comments will be submitted under a separate cover by William Clark of this office.
2. The Wastewater Capacity Application has been received and is being reviewed.
3. The current application submittal is mostly conceptual drawing and various exhibit options lacking actual proposed utility, drainage and road right of way impacts. More information will be required for review. At a minimum, the following items:
 - a) Site drainage/grading with proposed stormwater treatment.
 - b) Site utilities including underground electric, water, sanitary sewers, etc.
 - c) Landscaping
 - d) City owned road right of way impacts including elimination or proposed driveway cuts. All proposed right of way work shall meet City of Portland Technical Manual standards.

More comments will follow with a more complete application.

MEMORANDUM

To: FILE
From: Nell Donaldson
Subject: Application ID: 2016-075
Date: 4/28/2016

Comments Submitted by: Keith Gautreau/Fire on 4/27/2016

I would like an analysis done on the water supply.
2009 NFPA 1 18.4 Fire Flow Requirements for Buildings
Upon conducting a fire flow analysis this may require additional installation of fire hydrants to meet fire flow requirements.

Comments Submitted by: Keith Gautreau/Fire on 4/27/2016

Construction Management Plan
Streets must maintain a 20' width for Fire Department access at all times.
Fire Hydrants shall not be blocked or enclosed by fencing. A 3' foot clearance must be kept at all times around the fire hydrant.
If gates are locked, a Portland Fire Department Knox padlock must be purchased by the applicant to allow access for the Fire Department.
The Construction Company' emergency contact information shall be posted on the property in case of an after hours emergency.
All construction shall comply with 2009 NFPA 1 Chapter 16 Safeguards During Building Construction, Alteration, and Demolition Operations.
Any cutting and welding done will require a Hot Work Permit from Fire Department.

Comments Submitted by: Keith Gautreau/Fire on 4/27/2016

Emergency access to the proposed Medical and Office building does not meet the technical standard for a minimum of 2 sides of access points for emergency vehicles. The Fire Dept. will sign off on the proposed buildings for access to only one side as they are not residential.
The access to the existing assembly occupancy (Elks) is adequate.

O-P DEVELOPMENT STANDARDS (14-230.13) OP Planned Unit Development	
	Preliminary Review
Master Plan	- Concern about achieving the purpose of the zone – ‘campus-like setting’ ‘compatible with natural surroundings.’ Is there a way to bring more green into the middle of the development? Make the parking feel smaller in scale and more integrated into the natural environment? - MP should include some discussion of utility infrastructure
Design relationship to site	More work to be done on unifying the site architecture, open space, parking, and buildings to create an integrated campus (see above).
Landscaping	
Impervious surface ratio	Document that impervious surface ratio standard is being met
Sidewalks	Internal walkway system should link all doors (see Elks?)
Buffers and screens	- Ultimately, will need information on location, composition, and maintenance of buffer - Parking should also be screened from public view – will ultimately need renderings to show how the screening elements (e.g. berm, plantings) work in all seasons to screen parking areas
Preservation of natural features	
Traffic	- As discussed, need to further develop traffic study - Dominance of parking in site design continues to be a concern, particularly the large expanses between the Elks and Clark Insurance, especially as parking supply seems to be built around a very short peak demand. - Programmatically, has every option short of building additional spaces been explored? Need more background on efforts to use parking demand management strategies to offset (i.e. using a shuttle for Bingo, locating Bingo off-site, changing Bingo time). - Is there a way to integrate parking with naturalized landscaping at rear of the site? - Dimensionally, is parking sized down as possible (e.g. waivers are possible for aisle width, compact spaces)
Architectural design	See Caitlin Cameron comments
Lighting	
Signs	- Document that number and placement of signs meet the provisions of the sign ordinance. - Note that, per ordinance, building signs shall be designed in proportion and character with building facades.

LEVEL II/III REVIEW (14-526): 1945 Congress (25,300 SF general office, 15,000 SF medical office, 13,500 ELKS)		
		Preliminary Review (In next submittal, provide narrative relating to site plan standards and all required documentation from application checklist)
Transportation	a. Impact on Surrounding Street Systems	See Tom Errico comments
	b. Access and Circulation	
	c. Public Transit Access	As a commercial development over 20KSF, required to provide a transit facility. Will require coordination with METRO on location.
	d. Parking	- See Tom Errico comments - See comments above re parking demand management and design of parking supply. Ordinance requires applicants to justify parking supply if exceeding requirement. Need to document that other options for managing supply are not workable. - Will need to meet bike parking standard: Commercial – 2 spaces/10 vehicle spaces required
	e. Transportation Demand Management (TDM)	Since planning for over 100 employees, a transportation demand management plan is required
Environmental Quality	a. Preservation of Significant Natural Features	
	b. Landscaping and Landscape Preservation	In next submittal, provide documentation that landscaping standards are met. Will need formal landscaping plan which shows plantings, buffers
	c. Water Quality, Storm Water Management and Erosion Control	- See Lauren Swett comments. - In next submittal, will need stormwater management plan and supporting documentation
Public Infrastructure and Community Safety	a. Consistency with Master Plans	
	b. Public Safety and Fire Prevention	See Keith Gautreau comments.
	c. Availability and Adequate Capacity of Public Utilities	- See David Margolis-Pineo comments - In next submittal, will need utility plan and capacity letters documenting adequate capacity to serve the site
Site Design	a. Massing, Ventilation and Wind Impact	
	b. Shadows	
	c. Snow and Ice Loading	
	d. View Corridors	
	e. Historic Resources	
	f. Exterior Lighting	Will need photometric plan
	g. Noise and Vibration	
	h. Signage and Wayfinding	As above, will need verification that sign plan meets Division 22
	i. Zoning Related Design Standards	

SUBDIVISION REVIEW (14-497)	
	Preliminary Review (As with site plan review, in next submittal, provide narrative relating to the subdivision review standards and all submission requirements per ordinance)
1. Water/Air Pollution	•
2. & 3. Water Supply	•
4. Erosion	•
5. Transportation Impacts	•
6. Sanitary Sewer/Stormwater	•
7. Solid Waste	•
8. Scenic Beauty	•
9. Comprehensive Plan	•
10. Financial and Technical Capacity	•
11. Wetland Impacts	•
12. Groundwater Impacts	•
13. Flood-Prone Area?	
14. & 15. ID Wetlands & Rivers	

In the next submittal, revise the subdivision plat to show tree save areas, clearly delineate common areas. Condo docs will need to be developed to address shared parking, TDM, common areas, design, landscaping, etc. See plat review comments attached.

Permits

In the revised submittal, identify any other permits required

Waivers

Additional Submittals Required

See above.

Zoning

On revised plans, show distances to property lines

Easements

In revised plans, provide descriptions of any easements encumbering the site. It appears that the parking areas may encroach on the PWD easement. Confirm that this is permissible under the terms of the easement.

1. LANDSCAPING SHALL MEET THE "LANDSCAPE ARCHITECTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE AND LANDSCAPE GUIDELINES" OF THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.

2. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEFINED ON THE APPLICABLE APPROVED PLANS. THE CITY ENGINEER OR PLANNING BOARD SHALL BE REQUIRED FOR ANY ALTERATION TO OR DEVIATION FROM THE APPROVED SITE PLANS INCLUDING, WITHOUT LIMITATION, TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF EXISTING LAWN, ACCESS, CIRCULATION, AND SURFACING OF PARKING AREAS AND LOCATION AND SIZE OF BUILDINGS.

3. ALL POWERLINE UTILITIES SHALL BE UNDERGROUND.

- TI. ADD NOTE RE CONDO DOCS, WHICH
CONDO UNIT SHOULD RE
PARKING INFORMATION

	REQUIRED	PROVIDED
PROFESSIONAL OFFICES	1 PER 400 SQ. FT.	1 PER 75 SQ. FT.
AUTOMOBILE	103	266
BICYCLE		40
2-WHEELER MOTORIZED		11



(NOTES, CONTINUED.)
12. STORMWATER MAINT AGREEMENT N/A.

1. [Download the software](#) from the [official website](#) of the [National Center for Health Statistics](#). The software is available for Windows, Mac, and Linux.

-

1. STANDARD BOUNDARY SURVEY OF PORTLAND LODGE NO. 168 FOR UNIM. CORP. DATED THROUGH 189-18 SURVEY BY BEEBAG TECHNCS RECORDED IN CORP FB 180, PG 365.
2. STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF B.F.O.E. PARCEL MADE FOR UNIM LIFE INSURANCE CO. DATED APRIL 1935 SURVEY BY OMEN HARKELL, INC.
3. PLAN OF PROPERTY MADE FOR PORTLAND WATER DISTRICT DATED 12-22-1950 BY HL & E.C. JORDAN.
4. DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP DATED APRIL 1935 D.O.T. FILE NO. 3-425.

1. ELEVATIONS REFER TO NAVD 88 COMPUTED USING GEOIDRA

1. ELEVATIONS REFER TO NAVD 88 COMPUTED USING GEOIDRA

EXISTING	PROPOSED
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© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 111–118

ZONE: O-P, OFFICE PARK PERMITTED USE: PROFESSIONAL BUILDINGS GRANDFATHERED USE: ASSEMBLY		
SPACE STANDARDS	REQUIRED	PROVIDED
MINIMUM LOT SIZE	15 ACRES	6.88 ACRES
MINIMUM STREET FRONTAGE	100 FEET	296 FEET
MINIMUM FRONT YARD	50 FEET	53 FEET
MINIMUM REAR YARD	50 FEET	100 + 154 FEET
MINIMUM SIDE YARD	25 FEET ^①	90, 112 + 30 FEET
MAXIMUM BUILDING HEIGHT	35 FEET	30 FEET±

- ① EXCEPT WHERE A SIDE YARD ABUTS A RESIDENTIAL ZONE OR USE, IN WHICH CASE IT SHALL BE 40 FEET.

EXISTING IMPERVIOUS	133,241 SQ. FT.
PROPOSED IMPERVIOUS	160,134 SQ. FT.
NET IMPERVIOUS	-27,483 SQ. FT.

1. OWNER: PORTLAND LODGE #88 BENEVOLENT AND PROTECTIVE ORDER OF ELKS OF UNITED STATES OF AMERICA, 1945 CONGRESS STREEET, PORTLAND MAINE. DEED RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS BK. 26151, PG. 31, DATE 4/28/1983.
2. DEVELOPER: NORTHLAND ENTERPRISES, LLC, 11 SOUTH STREET, PORTLAND MAINE, 04101
3. ENGINEER: PINKHAM & GREER CIVIL ENGINEERS, 28 VANNAH AVENUE, PORTLAND, MAINE, 04103.
4. ARCHITECT: ARCHETYPE ARCHITECTS, 48 UNION WHARF, PORTLAND, MAINE 04101.
5. TOPOGRAPHIC AND BOUNDARY INFORMATION PROVIDED BY MAINE SURVEY CONSULTANTS, INC, P.O. BOX 488, HARRISON, MAINE. REFERENCE IS MADE TO "BOUNDARY PLAN & TOPOGRAPHIC SURVEY FOR PINKHAM & GREER ENGINEERS 28 VANNAH AVE. PORTLAND, MAINE 04103 OWNER OF RECORD: PORTLAND LODGE #88 B.P.O.E. OF USA" DATED DECEMBER 2014.
6. UNDERLYING BOILS MAPPING TAKEN FROM SOIL CONSERVATION STUDY OF CUMBERLAND COUNTY.
7. ZONE: OP, OFFICE PARK, PROPOSED USE: PROFESSIONAL OFFICES
8. TAX MAP REFERENCE: MAP 216 / BLOCK A / LOT 6 AND MAP 211 / BLOCK A / LOT 1.
9. TOTAL PARCEL = 6.93 acres
10. BUILDINGS TO BE SERVICED BY PUBLIC WATER, SEWER, AND GAS. THESE SERVICES, INCLUDING HYDRANTS, ARE AS SHOWN ON SHEET C13, GRADING AND UTILITIES PLAN.
11. POWER, TELEPHONE, AND CABLE SERVICES ARE TO BE UNDERGROUND. THESE SERVICES ARE SHOWN ON SHEET C13, GRADING AND UTILITIES PLAN.
12. CALL DIG-SAFE PRIOR TO COMMENCING WORK, 1-800-DIG-SAFE.
13. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
14. THE SUBJECT PARCEL SHOWN AS 1945 CONGRESS STREET IS SUBJECT TO A CITY OF PORTLAND LEVEL III SITE PLAN AND SUBDIVISION PERMIT.
15. DETAILS OF STREET TREES ARE INCLUDED ON THE LANDSCAPE PLAN AS PART OF THE APPROVAL FOR 1945 CONGRESS STREET SITE PLAN.
16. FLOODPLAIN: THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL 230251 0012 C, EFFECTIVE DATE DECEMBER 8, 1998. IT IS NOT IN A SPECIAL FLOOD HAZARD ZONE.
17. SNOW CLEARANCE REQUIREMENTS ARE AS NOTED ON THIS SHEET UNDER SNOW CLEARANCE NOTES.
18. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL ENFS" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION, 3/2003.
19. THIS APPROVAL IS CONTINGENT UPON, AND LIMITED TO, THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED BY THE APPLICANT AND ANY VARIATION FROM THE PLANS, PROPOSALS AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL BY THE PLANNING BOARD, EXCEPT FOR DE MINIMIS CHANGES WHICH THE DIRECTOR OF PLANNING AND ZONING MAY APPROVE.

NE
JOYCE GAUTHIER
CORD BK 13291, PG 13
TH 2TH, LT. A004

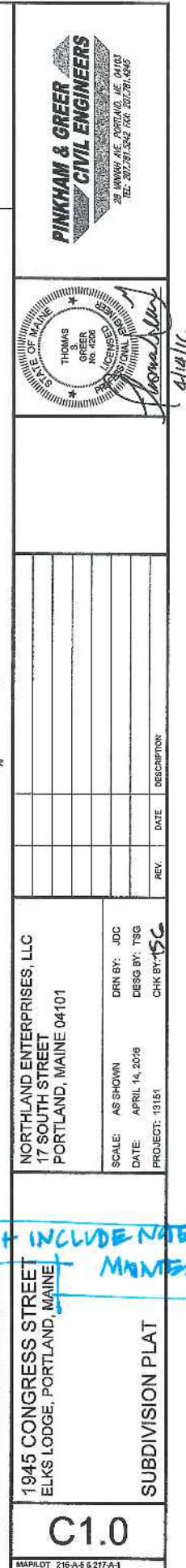
WADVER 5

NF
PAUL DUBOIS
KIMBERLY DUBOIS

- TMP?
- MCP?
- DEP?

LAND PLANNING BOARD TREMA

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File: 13151

April 5, 2016

Ms. Helen Donaldson, Planning Department
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

RE: MASTER PLAN, 1945 CONGRESS STREET

Dear Nell,

Attached is the Master Plan prepared by Mohr & Seredin. It does an excellent job at portraying the existing site relative to the neighbor and puts it in context with the city. It goes on to show the on site development that we are proposing. This includes the 15,000 sq. ft. medical building and the 25,300 sq. office building.

Attached is a preliminary traffic report by Maine Traffic Resources. A full traffic study will be completed as part of the site plan review process.

We will be using a combination of underdrained soil filters and proprietary filtration systems to comply with Chapter 500 of the DEP's stormwater regulations. This project will meet the redevelopment standards in those regulations.

Also attached is a topographic and boundary survey from Maine Survey Consultants.

We have preliminary drawings of the buildings included in the package. We anticipate those will change based on review comments from the City.

This project has public water and public sewer available. We believe those will be adequate for the servicing of the development.

At this time we have no firm commitment to public easements. We are developing trail connections that will be accessible to the public.

Ms. Helen Donaldson
April 5, 2016
Page 2 of 2
File: 13151



We will hold a public informational meeting once the application is accepted.

Please review the Master Plan and let me know if you need anything else.

Sincerely,

PINKHAM & GREER,
CIVIL ENGINEERS

A handwritten signature in black ink, appearing to read "Thomas S. Greer". The signature is fluid and cursive, with a large, stylized initial "T".

Thomas S. Greer, P.E.

Enclosures

cc: Northland, Mohr & Seredin, File

TSG/rjs

PROJECT NAME: 1945 Congress Street

PROPOSED DEVELOPMENT ADDRESS:

1945 Congress Street

PROJECT DESCRIPTION:

The project renovates the Elks building and adds a 15,000 sq. ft. medical building
and a 35,300 sq. ft. general office building.

CHART/BLOCK/LOT: 216-A-6 & 217-A-1

PRELIMINARY PLAN _____ (date)
FINAL PLAN _____ (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Josh Benthien & Rex Bell Business Name, if applicable: Northland Enterprises, LLC Address: 17 South Street City/State : Portland, ME Zip Code: 04101	Applicant Contact Information Work # 207.780.0223 Home# Cell # Fax# e-mail: josh@northlandus.com rex@northlandus.com
Owner – (if different from Applicant) Name: Portland Lodge #1888 PBOE of USA Address: 1945 Congress Street City/State : Portland, ME Zip Code: 04101	Owner Contact Information Work # Home# Cell # Fax# e-mail:
Agent/ Representative Thomas S. Greer Name: Pinkham & Greer, Civil Engineers Address: 28 Vannah Avenue City/State : Portland, ME Zip Code: 04103	Agent/Representative Contact information Work # 207.781.5242 Cell # e-mail: tgreer@pinkhamandgreer.com
Billing Information Name: Same as Applicant Address: City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Pinkham & Greer, Civil Engineers Name: Thomas S. Greer Address: 28 Vannah Avenue City/State : Portland, ME Zip Code: 04103	Engineer Contact Information Work # 207.781.5242 Cell # Fax# 207.781.4245 e-mail: tgreer@pinkhamandgreer.com
Surveyor Maine Survey Consultants, Inc. Name: Del Maxfield Address: PO Box 485 City/State : Harrison, ME Zip Code: 04040	Surveyor Contact Information Work # 207.583.6159 Cell # Fax# e-mail: dmaxfield@mainesurveyconsultants.com
Architect Archetype Architects Name: David Lloyd Address: 48 Union Wharf City/State : Portland, ME Zip Code: 04101	Architect Contact Information Work # 207.772.6022 Cell # Fax# e-mail: llloyd@archetypepa.com
Attorney Murray, Plumb & Murray Name: Drew Anderson Address: PO Box 9785 City/State : Portland, ME Zip Code: 04104	Attorney Contact Information Work # 207.773.5651 Cell # Fax# e-mail: DAA@mpmlaw.com

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews) ☒ Less than 50,000 sq. ft. (\$500.00) ☐ 50,000 - 100,000 sq. ft. (\$1,000) ☐ 100,000 – 200,000 sq. ft. (\$2,000) ☐ 200,000 – 300,000 sq. ft. (\$3,000) ☐ over 300,00 sq. ft. (\$5,000) ☐ Parking lots over 11 spaces (\$1,000) ☐ After-the-fact Review (\$1,000.00 plus applicable application fee) Plan Amendments (check applicable reviews) ☐ Planning Staff Review (\$250) ☐ Planning Board Review (\$500) The City invoices separately for the following: • Notices (\$.75 each) • Legal Ad (% of total Ad) • Planning Review (\$40.00 hour) • Legal Review (\$75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	Other Reviews (check applicable reviews) ☐ Traffic Movement (\$1,000) ☐ Stormwater Quality (\$250) ☒ Subdivisions (\$500 + \$25/lot) # of Lots <u>3</u> x \$25/lot = \$575.00 ☐ Site Location (\$3,000, except for residential projects which shall be \$200/lot) # of Lots <u> </u> x \$200/lot = <u> </u> ☐ Other <u> </u> ☐ Change of Use ☐ Flood Plain ☐ Shoreland ☐ Design Review ☐ Housing Replacement ☐ Historic Preservation
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APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan and each document submitted as separate files. Naming conventions for the individual files can be found on the **Electronic Plan and Document Submittal** page of the City's website at <http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal>
2. In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

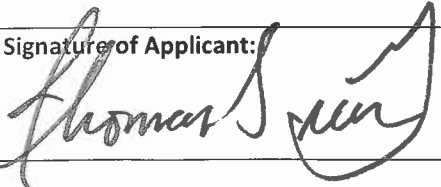
1. One (1) full size site plans that must be folded.
2. One (1) copy of all written materials or as follows, unless otherwise noted:
 - a. Application form that is completed and signed.
 - b. Cover letter stating the nature of the project.
 - c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

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, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement'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 a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant: 	Date: 4/14/16
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PROJECT DATA

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

Total Area of Site	304,207sq. ft.
Proposed Total Disturbed Area of the Site	260,000 sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.	
Impervious Surface Area	
Impervious Area (Total Existing)	133,241 sq. ft.
Impervious Area (Total Proposed)	160,734sq. ft.
Building Ground Floor Area and Total Floor Area	
Building Footprint (Total Existing)	23,090 sq. ft.
Building Footprint (Total Proposed)	46,498 sq. ft.
Building Floor Area (Total Existing)	23,090 sq. ft.
Building Floor Area (Total Proposed)	64,400 sq. ft.
Zoning	
Existing	OP
Proposed, if applicable	OP
Land Use	
Existing	Assembly
Proposed	Office Professional / Assembly
Residential, If applicable	n/a
# of Residential Units (Total Existing)	
# of Residential Units (Total Proposed)	
# of Lots (Total Proposed)	
# of Affordable Housing Units (Total Proposed)	
Proposed Bedroom Mix	n/a
# of Efficiency Units (Total Proposed)	
# of One-Bedroom Units (Total Proposed)	
# of Two-Bedroom Units (Total Proposed)	
# of Three-Bedroom Units (Total Proposed)	
Parking Spaces	
# of Parking Spaces (Total Existing)	254 +/-
# of Parking Spaces (Total Proposed)	263 cars, 4 busses, 13 motorcycles
# of Handicapped Spaces (Total Proposed)	10
Bicycle Parking Spaces	
# of Bicycle Spaces (Total Existing)	0
# of Bicycle Spaces (Total Proposed)	29
Estimated Cost of Project	6,600,000.00

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST
X		1	Completed Application form
X		1	Application fees
X		1	Written description of project
X		1	Evidence of right, title and interest
X		1	Evidence of state and/or federal approvals, if applicable
X		1	Written assessment of proposed project's compliance with applicable zoning requirements
X		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
X		1	Written requests for waivers from site plan or technical standards, if applicable.
X		1	Evidence of financial and technical capacity
X		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST
		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)
			Proposed grading and contours;
			Existing structures with distances from property line;
			Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;
			Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);
			Preliminary infrastructure improvements;
			Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;
			Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);
			Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);
			Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;
			Exterior building elevations.

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
		1	* Completed Application form
		1	* Application fees
		1	* Written description of project
		1	* Evidence of right, title and interest
		1	* Evidence of state and/or federal permits
		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
		1	* Evidence of financial and technical capacity
		1	Construction Management Plan
		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
		1	Stormwater management plan and stormwater calculations
		1	Written summary of project's consistency with related city master plans
		1	Evidence of utility capacity to serve
		1	Written summary of solid waste generation and proposed management of solid waste
		1	A code summary referencing NFPA 1 and all Fire Department technical standards
		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
		1	Final Site Plans including the following:
			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
			Existing and proposed structures on parcels abutting site;
			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
			Location of all snow storage areas and/or a snow removal plan;
			A traffic control plan as detailed in Section 1 of the Technical Manual;
			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
			Location and proposed alteration to any watercourse;
			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
			Proposed buffers and preservation measures for wetlands;
			Existing soil conditions and location of test pits and test borings;
			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
			Grading plan;
			Ground water protection measures;
			Existing and proposed sewer mains and connections;

- Continued on next page -

		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.

REAL ESTATE PURCHASE AND SALE AGREEMENT

This Agreement, dated the 11th day of June, 2014 (the "Contract Date"), is between Portland Lodge No. 188, of the Benevolent and Protective Order of Elks of the United States of America ("Seller"), having a place of business at 1945 Congress Street, Portland, Maine, and Dr. Michael Bedecs having a place of business at 1375 Congress Street, Portland, ME and Northland Enterprises, LLC, or its permitted assignee (collectively, "Purchaser"), having a place of business at 17 South Street, 3rd floor, Portland, Maine 04101. The parties agree as follows:

1. Purchase and Sale of Property; Condominium Conversion.

(a) Subject to the terms and conditions set forth herein, Seller agrees to sell to Purchaser, and Purchaser agrees to purchase from Seller, the following described property owned by Seller (collectively, the "Property"):

- (i) That certain lot or parcel of real property known as 1945 Congress Street, Portland, Maine, being a portion of the property described in a deed from Elks Home, Portland, Maine, Lodge No. 188 Benevolent and Protective order of Elks to Seller, and recorded in the Cumberland County Registry of Deeds at Book 6157, Page 37, provided that the conveyance shall not include the retained portion of the Seller's building (being approximately 13,000 square feet of the total usable footprint of such building including the storage area) (the "Seller's Retained Building"). The property to be conveyed is generally identified on the Concept Plan attached to and made a part hereof as Exhibit A.
- (ii) A portion of the existing building on the real property shall be removed and demolished by Buyer and a new interior and exterior wall installed, with all of the foregoing in a manner acceptable to the parties as set forth in Section 5.1, and the configuration of the Seller's Retained Building to be as shown on the sketch plan attached to and made a part hereof as Exhibit B. All fixtures and improvements situated on the real property owned by Seller are to be retained by Seller and shall be part of Seller's Retained Building.
- (iii) For sake of clarity, Seller is retaining the Seller's Retained Building, an Elk statue and flag and flagpole as well as an Elks sign (such statue, flagpole and sign to be limited common elements under the condominium documents) to be located near Congress Street entrance at the general location designated on Exhibit C (such location to be subject to requirements that may be set out in any permits and approvals for the property and state and local sign ordinances), together with a pro rata

interest in the parking areas and common areas of the real property, all to be set forth in the condominium documents (more fully described below) to be prepared and recorded immediately following recording of the Deed (defined below). Purchaser agrees to cause a Maine Licensed Professional Surveyor to prepare and provide to Seller a metes and bounds description of the Property (including the property to be conveyed by Seller and the property to be retained) within ninety (90) days after the date the Lodge Approvals are obtained.

(b) Contemporaneously with the delivery and recording of the Deed, Purchaser shall cause to be recorded a Declaration of Condominium whereby the Property is converted to condominium ownership. The Condominium documents shall be prepared at Purchaser's cost and expense, shall be delivered in complete form to Seller on or before thirty (30) days after the Zoning Contingency expiration date and shall be subject to Seller's approval, not to be unreasonably withheld, delayed or conditioned. The Condominium documents shall, among other things, create a separate unit for the Seller's Retained Building ("Seller's Unit"), which shall include as limited common elements at a minimum the required number of parking spaces for Seller's Unit to satisfy all applicable zoning requirements, but at a minimum five (5) parking spaces per 1,000 square feet (Purchaser acknowledges, however, Seller's need for additional parking spaces on certain days and on weekends), and a pro-rata share of the common elements of the condominium, as well as provide a budget including anticipated condominium fees that will be due to the Condominium Association. Purchaser shall, as soon as practicable after the Closing and in consultation with Seller as to the schedule of work, perform the work necessary to reduce the size of the Seller's existing building to the Seller's Retained Building and erect a code-compliant exterior wall in form and substance acceptable to Seller as part of Seller's Unit. Purchaser shall also construct a new façade on all sides of Seller's Unit building and separate the utilities so that Seller's Unit is a separate and distinct Unit. Purchaser's work, the new building configuration and the location of the wall shall be more specifically identified in scope and cost as set forth in this Purchase and Sale Agreement (detail attached as Addendum #1).

Purchaser shall submit plans and specifications to Seller with respect to the foregoing work prior to submission to the City of Portland or its lender, which plans and specifications shall be subject to Seller's approval, not to be unreasonably withheld, delayed or conditioned. Purchaser will construct the improvements to Seller's Unit in accordance with the plans and specifications. Purchaser shall conduct such work in such a manner as to minimize as much as possible any disruption to Seller's use and enjoyment of Seller's Unit, in particular at times when any banquets, weddings, or similar revenue producing events are taking place. Work shall be conducted between the hours of 7:00 AM and 5:00 PM, Monday through Friday. Purchaser shall minimize any weekend or night construction activities, and if work is required during those times, Purchaser will notify Seller and to help minimize the impact to Seller's business, Seller's approval shall

be required prior to the performance of any such work. Without limiting the general nature of the foregoing, no blasting, pile driving or similarly loud work shall be performed on Tuesdays between 10:00 am and 4:30 pm [when bingo operates] or on weekends from Friday at 5:00 pm until Monday morning at 7:00 am.

c) Seller shall give Purchaser a right of first refusal to purchase Seller's Unit at Purchaser's option if at any time Seller decides to sell the Seller's Unit. Purchaser shall pay the amount set forth in any written offer made in a purchase and sale agreement Seller receives from a bona fide arms-length third party, minus a credit equal to an amount to be determined (either a dollar amount or a manner for calculating a dollar amount) by the parties in accordance with Section 5.1 of this Agreement ("Purchaser's Improvement Credit"). Without limiting the foregoing, Purchaser's Improvement Credit shall be calculated based upon the costs that Purchaser anticipates it shall pay for work on the common area infrastructure and other common area improvements to the Property, together with the cost of renovations to Seller's Retained Building including erection of new exterior wall and re-skinning of Seller's Retained Building, pro-rated based on the ownership interests allocated to Seller's Unit under the condominium documents. The dollar amount of Purchaser's Improvement Credit shall be reduced by equal 10% increments upon each anniversary of the date Purchaser's renovations to Seller's Retained Building are completed, with the manner of establishing such date to be determined by the parties in accordance with Section 5.1 of this Agreement (such date, the "Completion Date"), such that Purchaser's Improvement Credit shall be reduced to zero upon the tenth anniversary of the Completion Date. Seller and Purchaser agree to enter into a Right of First Refusal Agreement at the Closing in recordable form, containing terms and conditions reasonably satisfactory to the parties.

2. Purchase Price. The agreed purchase price for the Property is One Million Two Hundred Fifty Thousand Dollars (\$1,250,000.00) (the "Purchase Price"), payable as follows:

(a)(1) Fifty Thousand Dollars (\$50,000) has been paid into escrow prior to the date hereof, and an additional Fifty Thousand Dollars (\$50,000), for a total deposit of One Hundred Thousand Dollars (\$100,000.00) shall be paid within two (2) business days of the later to occur of (i) the Additional Contingencies Expiration Date (as defined in Paragraph 5.1) or (ii) the date the Lodge Approvals (as defined in Section 8(a)) are obtained, which amount shall be held by Malone Commercial Brokers ("Escrow Agent") as earnest money deposit hereunder and shall be applied as part payment of the purchase price (the "Deposit"). Purchaser may terminate this Agreement only based upon the grounds set forth below in paragraphs 5, 5.1 and 8, and only prior to the Zoning Contingency Expiration Date (defined below). Upon a timely, valid termination, the refundable portion of the Deposit shall be promptly returned to Purchaser. Nothing herein shall be deemed to limit Purchaser's right to terminate this Agreement pursuant to paragraph 6.

(a)(2)(i) Sixty (60) days after both the Lodge Approvals and UNUM Release as set forth in Paragraph 8 have been obtained (provided this Agreement has not been terminated in accordance with its terms by either party prior thereto), Five Thousand Dollars (\$5,000.00) of the Deposit shall become non-refundable notwithstanding anything in this Agreement to the contrary.

(ii) The remainder of the Deposit shall become non-refundable upon the Zoning Contingency Expiration Date (as defined below) provided this Agreement has not been terminated in accordance with its terms by either party prior thereto, and except for Seller's default under this Agreement or Seller's inability to convey title in accordance with Paragraph 4 of this Agreement; and

(b) The balance of the Purchase Price of \$1,150,000.00 shall be paid at the time of delivery of the deed in good certified or bank check(s), or by wire transfer.

The Deposit shall be placed in a non-interest-bearing escrow account.

3. Adjustments. Real estate taxes for the then current tax period shall be apportioned as of the day of closing under this Agreement and the net amount thereof shall be added to or deducted from, as the case may be, the purchase price payable by the Purchaser at the time of delivery of the Deed.

4. Conveyance: Title.

(a) Seller shall convey the Property to Purchaser by good and sufficient quitclaim deed with covenant (the "Deed"). Title to the Property shall be good and marketable and shall be free and clear of all liens and encumbrances except (i) zoning restrictions, building laws and land use matters, provided same do not prevent or unreasonably interfere with Purchaser's intended use and development of the Property; (ii) easements and restrictions of record; (iii) current taxes and assessments; (iv) any liens for municipal betterments assessed after the date of the Closing under this Agreement; and (v) any "Defects of Title" (defined below) as accepted or waived by Purchaser pursuant to Section 4(b).

(b) Purchaser shall notify Seller of any and all defects in title which are of record, or which would otherwise make Seller unable to give title to the Property as herein stipulated, including, without limitation as provided in Section 4(a) (any of which is called herein a "Defect of Title") within forty-five (45) days of the later to occur of the receipt of the Lodge Approvals or UNUM Release. With respect to the existence of any Defect of Title that does not exist on the date of this Agreement, but which arises prior to Closing, Purchaser shall notify Seller of any such Defect of Title which arises six (6) or more days prior to closing, at least five (5) days prior to closing, and any other defects

arising thereafter, on or prior to the Closing. If Purchaser notifies Seller of any Defects in Title, then the Seller shall use diligent efforts to remove any such Defects in Title (but shall not be required to expend in excess of \$10,000 to remove any such defect which shall be exclusive of any mortgages or liens which may be discharged by the payment of money only), in which event the time for performance hereof shall be extended for a period of time reasonably sufficient to permit the Seller to perform hereunder, not to exceed sixty (60) days in any event. Seller may also elect to use funds from the Closing under this Agreement to remove any Defects in Title, which shall be sufficient to correct such defects and satisfy its obligations under this paragraph. If such Defects of Title are not corrected or remedied as provided herein within such additional 60-day period, then Purchaser shall elect, either (i) to accept title to the Property subject to the uncured Defects of Title, or (ii) to terminate this Agreement, whereupon, notwithstanding Paragraph 2(a)(2)(ii) the entire Deposit, except for the \$5,000 described in Section 2(a)(2)(i) shall be returned to Purchaser and all obligations of the parties hereunder shall cease and neither party shall have any claim against the other by reason of this Agreement, except with respect to any provision hereof that expressly survives the termination of this Agreement.

5. Due Diligence Period, Materials Delivered by Seller, Inspections and Right to Terminate.

(a) Seller shall provide to Purchaser copies of such surveys and plans, and engineering reports (including environmental reports, studies or evaluations) of the Property that Seller may have in its control or possession within seven (7) business days of the Contract Date.

(b) Purchaser and others whom Purchaser may designate may, at Purchaser's option and at its sole risk and expense, retain a person or persons to examine the Property and prepare mechanical, structural, environmental or physical reports of the Property, including without limitation surveying, conducting test borings, wetlands analysis, groundwater sampling, and in general conducting all other tests, analysis and studies of the Property which Purchaser deems prudent in connection with Purchaser's intended use and development of the Property. Purchaser and such designees shall have the right to enter the Property at all reasonable times during normal business hours with at least twenty four (24) hours prior notice to Seller to conduct such tests, studies and investigations. Purchaser shall not interrupt nor unreasonably interfere with Seller's business. Purchaser shall at its own expense restore the Property to its present condition, and agrees to hold Seller harmless and indemnify Seller from any loss or liability resulting from or arising out of the entrance by Purchaser, its agents, members, managers, officers, agents, subcontractors or employees upon the Property for the purposes set forth herein or for any other purpose, including, without limitation, any of their acts or omissions while on or about the Property, and this indemnity provision shall survive the Closing hereunder, or if the Closing does not occur, the termination of this Agreement.

All such inspections shall be done by qualified inspectors chosen and paid for by Purchaser:

(c) At any time on or prior to the date that is 30 days after the Contract Date (the "Due Diligence Period Expiration Date"), Purchaser shall have the right to terminate this Agreement if Purchaser determines, in its sole discretion, that it is not satisfied with (i) the material delivered to Purchaser pursuant to subsection (a) hereof; or (ii) any of the inspections set forth in subsection (b) above, by giving written notice to Seller on or before the end of the Due Diligence Expiration Date. If Purchaser timely gives notice of such dissatisfaction, then the Deposit shall be returned to Purchaser and all obligations of the parties hereunder shall cease and neither party shall have any claim against the other by reason of this Agreement, except with respect to any provision hereof that expressly survives the termination of this Agreement. If Purchaser fails to give such written notice on or before the end of the Due Diligence Expiration Date, Purchaser shall be deemed to have waived its right to terminate this Agreement pursuant to this Section.

(d) Purchaser agrees that all information made available to Purchaser (all of which is referred to herein as "Confidential Information"), will be kept confidential and will be disclosed only to professional advisors engaged in connection with the proposed transaction. Purchaser agrees that it is Purchaser's responsibility to ensure that such advisors shall agree to and shall keep such information confidential. Any provisions herein to the contrary notwithstanding, the provisions of this Section 5(d) shall survive the Closing of this Agreement or if the Closing does not take place, the termination of this Agreement.

(e) For the purposes of this Section 5, the term "Property" shall be deemed to include Seller's Retained Building.

5.1 Seller and Purchaser Additional Contingencies. Seller and Purchaser agree that to expedite the execution of this Agreement, there are certain matters upon which the parties shall work to reach agreement within sixty (60) days of the Contract Date (the "Additional Contingencies Expiration Date") and if the parties are unable to reach such agreement, then either Purchaser or Seller may terminate this Agreement by notice in writing to the other party on or before the Additional Contingencies Expiration Date.

The matters which are to be agreed upon prior to the Additional Contingencies Expiration Date are:

1. The specifications of, and the work to be performed with respect to, the code compliant exterior wall and façade listed in Section 1(b) of the Agreement as well as the specific configuration of the Seller's Retained Building, including the location of the end of Seller's Retained Building;

2. The primary components of the condominium documents described in Section 1(b) of this Agreement, including, without limitation, the composition of ownership, voting and expenses (including the allocation of and responsibility for expenses with respect to buildings, the parking lot, common areas and limited common elements);
3. Purchaser's work schedule and limits on the same to accommodate Seller's business and event schedule;
4. The Right of First Refusal requested by Purchaser, including without limitation agreement on what a "bona fide arms-length third party" means and a mechanism to resolve any dispute over whether a party is a "bona fide arms-length party"; either a dollar amount or a manner for calculating the dollar amount of Purchaser's Improvement Credit; and the manner in which the Completion Date is to be established; and
5. The number of parking spaces to be allocated to Seller, or to which Seller has right to use, under the condominium documents or otherwise and their location.
6. The future retail uses of the Property.

6. Zoning and Land Use Contingency. Except to the extent expressly provided herein, including, without limitation, with respect to the non-refundable character of some of the Deposit as set forth in Section 2 of this Agreement, Purchaser's obligations under this Agreement are subject and conditioned upon the Purchaser's ability to obtain all required local, state and federal permits and approvals, including without limitation FAA approval if required (including expiration of all applicable appeal periods with no appeal having been made) to construct an additional 55,000 square feet (or more if zoning and permitting allow) of commercial space (including but not limited to office, retail (subject to agreement of the parties in accordance with Section 5.1) and medical office space) on the Property (in one or more newly constructed buildings), such approvals to be satisfactory to Purchaser in its sole discretion, within 180 days after the date the Lodge Approvals have been obtained (the "Zoning Contingency Expiration Date"). Such approvals shall include a change in zoning classification to an office park or "O-P" classification. All costs associated with permitting and approvals to be at Purchaser's sole expense. Seller agrees to cooperate and participate in the approval process by attending meetings or causing its legal counsel or other representatives to attend such meetings as shall be reasonably requested by Purchaser, at Seller's reasonable cost and expense (Seller recognizing that all such permits and approvals are to Seller's benefit as well). Seller shall not be required to incur any costs other than those associated with attending such meetings. Purchaser agrees to provide Seller with copies of its development plans and any concept plans, as they may be amended or revised during the permitting process, for Seller's review and approval, such approval not to be unreasonably withheld, delayed or conditioned. Seller's approval to any such development plans shall be deemed granted if Seller has not responded to a request for approval within twenty (20) business days from the date of Purchaser's submission to

Seller. In the event this permit and approval condition is not satisfied by the Zoning Contingency Expiration Date, and provided Purchaser is using diligent good faith efforts to satisfy same, Purchaser shall have the right to extend that deadline by up to an additional ninety (90) days by written notice of extension to Seller, in which event the Zoning Contingency Expiration Date shall be extended to include such 90 day period. If Purchaser for any reason has not obtained all required local, state and federal permits and approvals, including, without limitation site plan approval, and expiration of all applicable appeal periods with no appeal having been made, by the Zoning Contingency Expiration Date, then Purchaser may terminate this Agreement by written notice to Seller within such period (as it may be extended), whereupon the refundable portion of the Deposit shall be returned to Purchaser and this Agreement shall be of no further force and effect.

7. Purchaser's Financial Capacity. Purchaser shall provide to Seller by on or before fifteen (15) days after the Contract Date with documentation reasonably satisfactory to Seller regarding Purchaser's financial capability to pay the Purchase Price and fund the cost of construction as contemplated in this Agreement. If Seller is not reasonably satisfied with Purchaser's evidence of financial capability, then Seller shall have the right to terminate this Agreement, whereupon the Deposit shall be returned to Purchaser and all obligations of the parties hereunder shall cease and neither party shall have any claim against the other by reason of this Agreement, except with respect to any provision hereof that expressly survives the termination of this Agreement.

8. Seller's Authority to Convey; Release of Right of First Refusal.

(a). Seller's obligations under this Agreement are subject and conditioned upon Seller (i) obtaining the consent and approval of the transaction described herein from the members of its Lodge (the "Members' Approval"), and (ii) the Elks Club's Grand Lodge ("the Grand Lodge Approval") (collectively the "Lodge Approvals"). Seller agrees to seek to obtain the Members' Approval within sixty (60) days from the Contract Date and agrees to seek to obtain Grand Lodge Approval within ninety (90) days from Contract Date, provided however that Seller shall have the option by notice to Purchaser to extend each of the Lodge Approval deadlines by up to thirty (30) additional days if it determines such extension to be necessary. If both Lodge Approvals are not obtained within ninety (90) days from the Contract Date (or within such longer period as Seller shall elect as set forth above), Seller and Purchaser shall have the right at any time thereafter to terminate this Agreement, whereupon the Deposit shall be immediately returned to Purchaser and all obligations of the parties hereunder shall cease and neither party shall have any claim against the other by reason of this Agreement, except with respect to any provision hereof that expressly survives the termination of this Agreement.

(b). Seller's obligations under this Agreement are also subject to and conditioned upon Seller obtaining from UNUM a release of its Right of First Refusal (the "UNUM

Release") within sixty (60) days from the Contract Date. If such Right of First Refusal is not obtained within such 60 day period, Seller and Purchaser shall have the right at any time thereafter to terminate this Agreement, whereupon the Deposit shall be immediately returned to Purchase and all obligations of the parties hereunder shall cease and neither party shall have any claim against the other by reason of this Agreement, except with respect to any provision hereof that expressly survives the termination of this Agreement.

(c). Intentionally Omitted.

9. Time for Performance; Delivery of Deed. The transfer of title (the "Closing") shall take place on a date that is thirty (30) days after the Zoning Contingency Expiration Date at ten a.m. at the offices of Murray, Plumb & Murray or at such other place as shall be mutually agreed to by Purchaser and Seller, unless extended as provided herein. TIME IS OF THE ESSENCE.

10. Use of Purchase Money to Clear Title. To enable the Seller to make conveyance as herein provided, the Seller may at the time of delivery of the Deed, use the purchase money or any portion thereof to clear the title of any or all encumbrances or interests, provided that all instruments so procured are recorded simultaneously with the delivery of the Deed.

11. Possession and Condition of Property. Full possession of the Property (subject to Seller's retained ownership and rights set forth herein, including, without limitation, under any condominium documents) free of all tenants and occupants (except for Seller and its members, employees, affiliates and the like) is to be delivered at Closing.

12. Representations.

(a) Seller represents, covenants and warrants to and agrees with Purchaser as follows:

(1) Seller is the current owner of the Property, and except for the approvals and releases that must be obtained as provided herein (including, without limitation, member approval) and to which its obligations hereunder are subject, has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder, and the execution and delivery of this Agreement and the performance by Seller of its obligations hereunder will not conflict with, or result in breach of any regulation, order, judgment, injunction or decree of any court or governmental authority or any agreement or instrument to which Seller is a party or by which it is bound.

(2) There are no tenancies, occupancies or licenses affecting the Property, except as set forth explicitly in this Agreement.

(3) Intentionally Omitted.

(4) No work has been done on the Property which could give rise to any liens on the Property, except those for which Seller intends to pay in the ordinary course of business and no contracts are outstanding or in effect with respect to the doing of any such work except those for which Seller intends to pay in the ordinary course of business.

(5) To the best of Seller's knowledge there is no notice, suit, order, decree, claim, writ, injunction, or judgment relating to material violations of any laws, ordinances, codes, regulations or other requirements with respect to the Property (or any portion thereof) in, of or by any court or governmental authority having jurisdiction.

(6) To the best of Seller's knowledge there is no condemnation proceeding pending or threatened against any portion of the Property.

(7) During the period of Seller's ownership and to the best of Seller's knowledge prior to its ownership of the Property, there has been no leakage, seepage or other release or discharge of any hazardous waste or matter, toxic substance, pesticide or petroleum product or derivative on the Property. The Property has not been used during Seller's ownership, or to Seller's knowledge during any prior period of ownership, for the storage, collection or depositing, whether intentional or unintentional, of any hazardous waste, toxic substance, pesticide or petroleum product or derivative, except for an underground storage tank or to the extent oil or gas products have been stored for heating, cooking or other use by Seller. There are no underground storage tanks located at the Property that have not been removed or filled and Seller is not aware of any underground storage tanks at the Property placed there by Seller or anyone else that have not been removed or filled. If the existing underground storage tank(s) must be removed for any reason, Purchaser shall remove the tank at its cost and expense, but the cost of such removal shall be included in Purchaser's Improvement Credit.

(b) Purchaser represents, covenants and warrants to and agrees with Seller that Purchaser has the legal right, power and authority to enter into this Agreement and to perform all of its obligations hereunder, and the execution and delivery of this Agreement and the performance by Purchaser of its obligations hereunder (i) have been duly authorized by all requisite organizational action; and (ii) will not conflict with, or result in a breach of, any of the terms, covenants and provisions of the by-laws or articles of

organization of Purchaser or any law or any regulation, order, judgment, writ, injunction or decree of any court or governmental authority, or any agreement or instrument to which Purchaser is a party or by which it is bound.

13. Affirmative Covenants of Seller. Seller agrees, pending closing, that:

(a) Unless disputed by Seller, Seller shall pay, when due, all taxes and assessments of every type or nature levied or assessed against the Property of which Seller has actual notice, and unless disputed by Seller, any claim, lien or encumbrance of which Seller has actual notice against the Property that might materially affect Seller's ability to fulfill its obligations hereunder. To the extent Seller disputes such a tax, assessment, claim, lien or encumbrance, Seller agrees to take reasonable steps to contest the same.

(b) Seller (i) shall not commit or suffer waste and (ii) shall comply with all laws, ordinances, regulations, covenants, conditions and restrictions affecting the Property and will not suffer or permit any violation thereof.

14. Broker's Commissions. If this transaction closes, Seller shall be responsible for the payment of a brokerage commission to Malone Commercial Brokers. Seller shall have no obligation to make any payment to the The Boulos Company which Purchaser agrees shall obtain any commission which it may claim solely from Malone Commercial Brokers. If either Seller or Purchaser have employed or engaged any other broker or agent in connection with this transaction or have incurred any other obligation, contingent or otherwise, for a broker's or finder's fee with respect to the matters provided for in this Agreement, the party incurring any such obligation shall be solely responsible therefor. Each party agrees to indemnify and hold the other party harmless from and against any and all costs, expenses, claims, losses or damages, including reasonable attorneys and paralegal fees, resulting from a violation of the representations, warranties and covenants set forth in this Section and this agreement to indemnify and hold harmless shall survive the Closing hereunder, or if the Closing does not occur, the termination of this Agreement.

15. Default.

(a) If Purchaser fails to perform its obligations as set forth in this Agreement, then Seller as its sole remedy at law or in equity shall be entitled to retain the Deposit as liquidated damages as a result of such failure to perform and this Agreement shall be deemed terminated. Purchaser acknowledges that Seller's damages because of Purchaser's failure to perform are difficult to ascertain and agree that the amount of the Deposit represents a reasonable estimate of the minimum amount of Seller's damages as a result thereof.

(b) If Seller fails to perform its obligations as set forth in this Agreement, Purchaser shall, in addition to its remedies in equity to which it is otherwise limited (including the right to specific performance), be entitled to receive the Deposit together with reimbursement for expenses incurred by Purchaser in obtaining the reports referred to in Paragraph 5 which shall not exceed \$5,000. Except for such reimbursement for expenses which shall not exceed \$5,000, Purchaser shall not be entitled to any damages of any kind whatsoever.

(c) In the event either Purchaser or Seller is alleged to have failed to perform its obligations hereunder, the party so claiming shall give notice in writing to the allegedly breaching party and the party shall have ten (10) days following the receipt of such notice in which to cure the alleged breach.

16. Purchaser's Conditions. The obligation of Purchaser to close under this Agreement is subject to the following conditions precedent:

(a) The representations and warranties of Seller shall be materially true in all respects, and Seller shall so certify, unless an event has occurred which makes such representation untrue, in which case Seller shall give notice of the same to Purchaser prior to closing.

(b) Seller shall have performed and complied with all the terms and conditions required by this Agreement to be performed and complied with by Seller at or prior to Closing.

17. Notice. Whenever notice is given or required to be given by either of the parties hereto to the other, it shall be deemed to have been given if in writing and mailed by certified or registered mail, return receipt requested, postage prepaid, or hand delivered, addressed to the parties at the address set forth in the first paragraph above or to such other address(es) as either party shall have last designated by like notice in writing. Copies of all notices to Purchaser shall be sent to Murray, Plumb & Murray, 75 Pearl Street, Portland, Maine 04101, Attention: Drew A. Anderson, Esq. Copies of all notices to Seller shall be sent to Exalted Ruler Timothy Smith, Elk's Lodge, Portland Lodge 188, 1945 Congress Street, Portland, Maine 04103, with a copy to counsel, William H. Leete, Jr., Esq., Leete & Lemieux, P.A., P.O. Box 7740, Portland, Maine 04112. All notices shall be effective upon hand delivery, receipt or two (2) business days after date of mailing, whichever first occurs. The respective attorneys for the parties are authorized to give and receive notices with the same effect as if given or received by the parties hereto.

18. Further Assurances. The parties agree that up to and after the date of Closing, they shall do such things and execute, acknowledge and deliver any and all

additional instruments, documents and materials as either party may reasonably request to fully effectuate the purposes of this Agreement.

19. Construction of Agreement. This instrument, executed in duplicate, is to be construed as a Maine contract, is to take effect as a sealed instrument, sets forth the entire contract between the parties, is binding upon and inures to the benefit of the parties hereto and their respective heirs, devisees, executors, administrators, successors and assigns, and may be cancelled, modified or amended only by a written instrument executed by both the Seller and Purchaser. If two or more persons are named herein as Purchaser and Seller their obligations hereunder shall be joint and several. The captions are used only as a matter of convenience and are not to be considered a part of this Agreement or to be used in determining the intent of the parties to it. This Agreement may not be recorded by Purchaser, and any such recording shall be deemed to automatically terminate this Agreement.

20. Risk of Loss. The risk of loss shall remain on Seller at all times until closing except for loss or damage to the extent either caused by or arising from the act or omission of Purchaser, its members, managers, officers, agents, subcontractors or employees.

21. Miscellaneous:

(a) Seller and Purchaser shall each pay their portion of the Maine State Transfer Tax.

(b) Seller hereby certifies that Seller is a resident of the State of Maine. Seller hereby acknowledges Purchaser's requirement to withhold 2½% of the purchase price pursuant to 36 M.R.S.A. §5250-A if Seller is not a resident of the State of Maine, unless Seller presents to Purchaser at closing a Certificate of Exemption or Certificate of Reduction from the State of Maine Bureau of Taxation.

(c) By signing this Contract, Purchaser acknowledges that Purchaser has been notified of the State of Maine's withholding tax requirement pursuant to 36 M.R.S.A. §5250-A.

(d) Seller hereby certifies that Seller is a resident of the United States of America and is not subject to the 10% withholding tax imposed upon "foreign persons" by Section 1445(a) of the Internal Revenue Code of 1954.

(e) This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective heirs, personal representatives, successors in interest and assigns. Purchaser shall be entitled to assign its right, title and interest herein to any limited liability company, partnership or other entity, whether now existing or hereafter

formed, controlled by, controlling or under common control with Purchaser or its principals. Any assignee shall expressly assume all of Purchaser's duties, obligations and liabilities hereunder. No such assignment shall release the named Purchaser from its obligations hereunder.

(f) It is understood and agreed that all understandings, agreements, warranties or representations, either oral or in writing, including without limitation any letters of intent or prior agreements, heretofore between the parties hereto are merged in and superseded by this Agreement, which document alone fully and completely expresses the parties' agreement with respect to the transactions covered hereby. This Agreement may not be modified in any manner except by a subsequent instrument in writing signed by Seller and Purchaser.

(g) This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be an original; but such counterparts shall constitute but one and the same instrument.

(h) If the date for performance of any obligation hereunder, or the giving of any notice hereunder, falls on a Saturday, Sunday or a legal holiday in the State of Maine, the period for such performance, or the giving of any notice hereunder, shall be extended to the next business day.

(i) This Agreement shall be construed and enforced in accordance with and governed by the laws of the State of Maine.

[Signatures on following page]

IN WITNESS WHEREOF, the parties have executed this Agreement as a sealed instrument as of the date set forth below their respective signatures, to be effective as of the Contract Date.

SELLER:

Portland Lodge No. 188, of the Benevolent
and Protective Order of Elks of the United
States of America

Dated: June 9, 2014

By: *[Signature]* Exalted Ruler
[Signature] Trustee Chair

PURCHASER:

Northland Enterprises, LLC

Dated: June 11th 2014

By: *[Signature]*
[Signature] MANAGER
[Signature]
Dr. Michael Bedecs

ACKNOWLEDGEMENT

The undersigned acknowledges receipt of the \$100,000.00 Deposit and a copy of this Agreement and agrees to hold, account for and deliver the Deposit in accordance with the terms of this Agreement.

Malone Commercial Brokers

By: _____

10

TENTH AMENDMENT TO REAL ESTATE PURCHASE AND SALE AGREEMENT

This Amendment to Purchase and Sale Agreement ("Tenth Amendment") is dated as of April __, 2015, by and between Portland Lodge No. 188, of the Benevolent and Protective Order of Elks of the United States of America (collectively "Seller"), having a place of business at 1945 Congress Street, Portland, Maine and Dr. Michael Bedecs, having a place of business at 1375 Congress Street, Portland, Maine and Northland Enterprises, LLC, and/or its assigns, having a place of business at 17 South Street, 3rd floor, Portland, Maine (collectively "Buyer").

RECITALS

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated as of June 11, 2014, as amended by that certain First Amendment dated August 5, 2014, that certain Second Amendment dated September 22, 2014, Third Amendment dated November 7, 2014, Fourth Amendment dated November 24, 2014, Fifth Amendment dated December 4, 2014, Sixth Amendment dated December 18, 2014, Seventh Amendment dated January 8, 2015, Eighth Amendment dated January 20, 2015, and Ninth Amendment dated January 30, 2015 (hereinafter the "Purchase Agreement"); and

WHEREAS, Seller and Buyer acknowledge and agree that there are certain outstanding contingencies with respect to title, and the zoning and land use contingency set forth in Section 6 of the Purchase Agreement, and certain of the Seller and Purchaser Additional Contingencies set forth in Section 5.1 of the Purchase Agreement as further described in this Amendment; and

WHEREAS, Seller and Buyer wish to confirm Buyer's exercise of its right to extend the Zoning Contingency Expiration Date by 90 days as provided in Section 6 of the Purchase Agreement;

WHEREAS, Seller and Buyer have agreed upon certain of the Seller and Purchaser Additional Contingencies as set forth in Section 5.1(2), (3), (4) and (6) as set forth herein.

WHEREAS, Seller and Buyer wish to extend the date upon which the Seller and Purchaser Additional Contingencies set forth in Section 5.1 (1) and (5) and related matters shall be satisfied and make the Additional Contingencies Expiration Date with respect to those contingencies contemporaneous with the Zoning Contingency Expiration Date;

WHEREAS, Pursuant to paragraph 5.1 of the Purchase Agreement, "Seller and Purchaser Additional Contingencies", the parties have agreed upon extending certain of the Additional Contingencies, and wish to memorialize those agreements in this Amendment; and

WHEREAS, Seller and Buyer acknowledge and agree that all contingency provisions and time periods set forth in the Purchase Agreement other than those set forth above or otherwise preserved under this agreement have expired and that neither Seller nor Buyer have any rights to terminate the Purchase Agreement pursuant thereto.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree as follows:

1. Attached to and made a part of this Amendment are certain additional agreements of Buyer and Seller as follows:

- a. Schedule A – Primary Components of Condominium Documents.
- b. Schedule B – Work Schedule and Property Use.
- c. Schedule C – Form of Right of First Refusal.

Seller and Buyer hereby acknowledge and agree that Schedules A, B and C need not be separately executed, that Buyer and Seller agree to their terms, and further that the signatures of Seller and Buyer on this Tenth Amendment are intended to be and shall be deemed to be effective as though Seller's and Buyer's signatures each appeared upon Schedules A, B and C, and further that such schedules shall be incorporated into this Tenth Amendment as though fully set forth.

Buyer and Seller further agree that Schedules A, B and C satisfy the Additional Contingencies set forth in subparagraphs 2, 3, 4 and 6 of Paragraph 5.1 of the Purchase Agreement and represent the agreement of the parties with respect to such Additional Contingencies.

2. Seller and Buyer confirm Buyer's election to extend the Zoning Contingency Expiration Date by ninety (90) days as provided in Section 6 of the Purchase Agreement, which Zoning Contingency Expiration Date is now June 22, 2015.

3. Seller and Buyer acknowledge and agree that the Seller and Purchaser Additional Contingencies set forth in Section 5.1 (1) (specifications and work to be performed on Seller's Retained Building) and (5) (number of parking spaces to be allocated to Seller) are very likely to be determined only in connection with, and as a part of, Buyer's zoning, permitting and approval process set forth in Section 6 of the Purchase Agreement. Therefore, the parties hereby amend the Purchase Agreement so that the Additional Contingencies Expiration Date with respect to the Section 5.1 (1) and (5) matters (the "Remaining 5.1 Matters") shall be the same as the Zoning Contingency Expiration Date, as extended and modified pursuant to this Amendment.

4. Seller and Buyer further agree that the "Remaining 5.1 Matters" shall be interpreted broadly as follows:

- a) The matters to be agreed upon under Section 5.1(1) shall include all work to be performed with respect to the Elks' Building together with all work to be performed relating to the Building and the area surrounding the Building, including, without limitation the form and location of any sewer, water, or other utility connections in addition to the matters expressly set forth in 5.1(1) and other matters set forth in the Purchase Agreement.
- b) The matters to be agreed upon under Section 5.1(5) shall include the total number, configuration, size, ownership, location, appearance and maintenance of parking spaces, in addition to the matters expressly set forth in 5.1(5) and other matters set forth in the Purchase Agreement.

Nothing in this paragraph is intended to, nor shall be deemed to, terminate or waive any rights either Seller or Buyer have to terminate the Purchase Agreement pursuant to Section 5.1.

5. Buyer agrees to keep Seller apprised of the process of obtaining approvals and shall promptly notify Seller's counsel of any filings with the City of Portland, with any municipal agency or any court filing or appeal.

6. The Purchase Agreement shall remain in full force and effect, except as expressly amended hereby. Without limiting the general nature of the foregoing, any paragraphs of the Purchase Agreement amended by this Tenth Amendment, shall remain unchanged, except for the expressly stated amendments contained herein. Any capitalized terms not defined in this Amendment shall have the meaning given them in the Purchase Agreement.

IN WITNESS WHEREOF, Seller and Buyer have executed this Amendment as of the date first set forth above.

SELLER:

Portland Lodge No. 188, of the Benevolent
and Protective Order of Elks of the United
States of America

By:

Name: Timothy Smith
Title: Exalted Ruler

BUYER:

Northland Enterprises, LLC

By:

Name: Rex Bell
Title: Managing Member


Dr. Michael Bedecs

March 21, 2016

1945 Congress Street is a seven (7) acre site currently owned and used by the Elks Lodge #188. The property abuts the UNUM Campus and is accessed from UNUM Park Drive. In 2016 a zone change was secured for Office Park (OP) zoning to allow new office uses to be located on the parcel, reflecting the City's interest in encouraging economic vitality in this area of Portland. The development plan is to retain the Elks Lodge and construct new facilities for two businesses currently in Portland that want to relocate to this parcel. The purpose of this master plan and the related design guidelines are to create a set of standards that ensure that the development at 1945 Congress Street has a cohesive character appropriate for the site and for the setting in Stroudwater. The development is designed to have a unified campus character although the individual uses now, and may in the future, be quite different. The proposed development will enhance the gateway experience by those using the Jetport access road; it will be welcoming as viewed from Congress Street; the buildings will be complementary in their relationships and appearance, and the project will be integrated with the site to create a campus setting for all of the structures and improvements.

Refer to: *Exhibit 1- City Context Plan*
Exhibit 2- Neighborhood Context Plan
Exhibit 3- Project Site Aerial

II. PLANNING PROGRESS

The Office Park Master Plan is created in response to the Elks Lodge needing to develop its property to its potential in order to preserve the Portland chapter. Two tenants have entered into an agreement with Northland Enterprises, LLC to develop their own buildings on the site with shared infrastructure. One building will house a collection of medical practices, while the second will be for an insurance office. The goal is to create a site plan that allows the Elks Lodge, and two new structures, to be compatible with each other and the surrounding neighborhood, and for the development's character to appear unified by those viewing the site as they travel on Congress Street and from within the development.

The design team approached the planning of the property through a traditional design process, beginning with an analysis of the site context, studying the property's opportunities and constraints, preparing organizational diagrams, and then developing site planning options for the three buildings and their related components. With that information in place, the design team then developed this Master Plan, the Design Guidelines, and the project recommendations.

*Refer to: Exhibits 4 through 7 - Site Analysis
 Exhibits 8 through 15 - Development Options
 Exhibits 17 through 27 - Recommendations*

III. PROPERTY MASTER PLAN OVERVIEW

As set forth in the City's Codes of Ordinances, an Office Park Planned Unit Development (OPPUD) must be designed as an integrated, cohesive project guided by a Master Plan. The structure siting and facilities layout has to be thoughtful and appropriate to the context and environmental conditions of the parcel; there needs to be a consistent and considered architectural treatment; the traffic management, parking and circulation plans must be fully integrated with the uses and adjoining public ways; and the site improvements and landscape treatment need to be designed for the entire property, not on a piecemeal, building by building basis.

A. Goals:

Based upon guidance from the City staff and Planning Board, the program from Northland Enterprises, LLC, and input from the future tenants and the design team, the goals for the redevelopment of 1945 Congress were established, and include the following:

1. Preserve the original portion of the Elks structure and appropriate parking for the Lodge's use;
2. Design a project that is sensitive to the neighborhood concerns regarding context and compatibility;
3. Create two (2) new building envelopes and associated site improvements, designed to meet the specific needs of Clark Insurance and Dr. Bedecs's Medical Group;
4. Preserve existing wetlands, steep slopes and the mature vegetation on the property;
5. Prepare a design response for the site that unifies the grounds and landscape character and appropriately buffers neighboring uses;
6. Develop comprehensive design guidelines for the treatment of the existing Elks Lodge building to be retained, and the new structures to be built on the parcel based upon building locations and relationships to the site features.

B. The components of the Master Plan include the following:

1. Identify defined building windows for three (3) structures; including one around the Elks building sized for a future replacement building which would likely be office use;
2. Plan for the required infrastructure for the entire parcel including: drainage and stormwater treatment systems, utilities, drives and parking, walks, lighting, signage/wayfinding, amenities, and gathering spaces;
3. Prepare design guidelines for the common areas that will include outdoor buffer areas, greenspaces/gathering spaces, and connections to trails/paths;
4. Define the circulation systems including site access and egress, internal vehicular circulation, pedestrian systems, loading areas, and parking appropriately sized for the uses;
5. Create guidelines for the architectural character, including restrictions to ensure compatibility of the new buildings with each other, for the two (2) new buildings with respect to compatible materials, colors and forms, treatment strategies for the Elks building, similarly detailed building entrances, and utilization of common site elements for the exterior of the buildings;
6. Create private development restrictions through an Association formed for joint maintenance which will review and enforce conformance with design guidelines for any future changes to building or site. These will include all structures, lighting, and planting.

Refer to: Exhibit 7 - Site Analysis: Development Considerations

IV. DESIGN, PLANNING, AND DETAILS

A. Design relationship to site:

The proposed project is planned to be developed to leave the original, circa 1964 portion of the Elks building in place. With that as a point of beginning for organizing the development on the property, the following were identified as critical for establishing a sound relationship on this site:

- Preserve a significant amount of greenspace on Congress Street;
- Create visual and acoustic buffers for the adjacent residential uses;
- Retain the mature planting on UNUM Drive;
- Protect the steep slopes on the north side of the lot.

These factors combine to define the buildable area on this parcel.

*Refer to: Exhibit 4 - Site Analysis: Existing Conditions
Exhibit 6 - Site Analysis*

B. Preservation of Natural Features:

The existing site is developed with a building, parking for approximately 253 vehicles, and lawns which cover approximately 4.3 of the 7.0 acres. There is a wetland and ravine on the adjoining UNUM lot with natural vegetation defining the northern edge of the property which will be preserved. There is a limited amount of existing deciduous and evergreen vegetation to the east adjacent to the existing residences, along with a substantial stand of invasive Japanese knotweed. The on-site knotweed will be eradicated, and the mature trees will be preserved. There are street plantings along Congress Street and the UNUM access road, the majority of which will be retained. Removals and pruning will take place for the proposed entrance driveway as well as for visibility and safety.

*Refer to: Exhibit 4 - Site Analysis: Existing Conditions
Exhibit 6 - Site Analysis
Exhibit 7 - Site Analysis: Development Considerations
Exhibit 18 - Conceptual Site Plan*

C. Building Design:

As noted elsewhere in this Master Plan, a portion of the Elks Lodge structure will be retained, and the building exterior renovated. The types of materials and trim details to be used on that structure will be different than those used on the other two buildings given the scale, massing, and location of the Elks structure in the lot. The exterior of the Elks Lodge will be covered with an EIFS-type surface (i.e. Dryvit) and treated with an appropriately scaled trim and details. For new construction on the site, the building forms should be simple, contemporary New England in style, and designed so that they share a common material on part, or all, of the building facades (e.g. brick). Natural colors are desired with simple, clean, modern fenestration and detailing.

The building closest to Congress Street must be two stories in height, with an entrance facing Congress Street as well as into the property. This structure can have a flat or a sloped roof, but if it is sloped, the pitch should be in the New England vernacular with a minimum pitch of 10 in 12. The building is sited on the Master Plan to be 58 feet away from the right of way (at its closest point), and 70 feet off the east lot line to create an appropriate green space around the structure and to help block direct sight lines to the Elks Lodge Structure from Congress Street.

The new building closer to UNUM Drive, and any future structures, can be one or two stories, with the main entrances facing into the site. The structures can have flat or sloped roofs, but the roof pitch, if sloped, should be 10 in 12 or greater. As with the building on Congress Street, these structures need to be simple, and well-conceived in their massing, with thoughtful detailing.

Within the site, all three structures shall have common entrance treatments to emphasize the main entry points of all of the buildings. These can take the form of canopies, free standing trellises, or applied overhangs. The detailing, materials, and colors should be similar for all three (3) uses to create visual coherence within the development.

Refer to: Exhibit 7 - Site Analysis: Development Considerations
Exhibit 18 - Conceptual Site Plan
Exhibit 23 - Design Guidelines: Site Improvements

D. Landscaping:

In general, the existing rear and side yard vegetation to be preserved is quite naturalized in character, and it is recommended that the on-site landscape treatment be naturalized in character to the north and east, and become more formal in appearance closer to Congress Street and UNUM Drive. As previously noted, invasive species shall be removed, and the planting and tree preservation shall follow the standards set forth in the City's Technical Manual.

Well developed buffers and screening of side yard areas adjacent to the residential uses will separate the on-site parking lots and driveways from public and abutter views. To improve the separation from the adjacent residential uses, there will be a dense deciduous and evergreen edge created with trees, shrubs, and fencing. The landscape treatment plan will retain the mature vegetation where it exists; remove invasive species, and create a minimum 35' deep buffer adjacent to the two residences. Integral with the planting will be a 4' to 6' high, solid board fence. On Congress Street and on the project edge against UNUM Drive, there shall be new plantings including evergreens, ornamental deciduous trees, and shrubs.

*Refer to: Exhibit 18 - Conceptual Site Plan
 Exhibit 19 - Section At Buffer
 Exhibit 20 - Section at Congress Street*

E. Traffic and Parking:

The access and egress to the property will continue to be from the UNUM access road, but the existing separated driveways will be combined at the location of the existing exit driveway. This change will enlarge the greenspace at the project entrance and addresses issues noted by the City of Portland's Traffic Engineer including creating a longer vehicular stacking length between the driveway entrance and Congress Street for incoming vehicles. The interior vehicular circulation allows for several opportunities to loop internally, and avoids long dead end parking areas. Bus parking for four (4) buses will be provided on-site.

Based upon research by Mohr & Seredin and Pinkham & Greer, the parking requirements vary for each building's occupants. Clark Associates, an insurance business, has 82 employees (with plans for an additional 12) who work regular business hours. They also have a number of business training events per week that receive six (6) to twenty plus (20+) attendees, and several board meetings per year that receive ten (10) to thirty-eight (38) attendees. Clark Associates' present office has one hundred seven (107) spaces which isn't sufficient for their events, and

forces them to hold their training events off-site. The proposed site plan allocates one hundred two (102) parking spaces and twenty (20) shared spaces to be used by Clark Associates.

The Elks Lodge at present has approximately two hundred fifty-four (254) parking spaces. The Lodge has agreed to reduce their parking spaces to eighty-one (81), plus having access to twenty (20) shared spaces on the parcel. This will suffice for the majority of their needs during business hours and for public events. During weekends and evening, if necessary, their parking can overflow into the spaces not being used by the insurance or medical offices.

The medical offices are currently planned to include five (5) separate practices with approximately fourteen (14) providers and twenty-four (24) support staff. The new building will include thirty-two (32) to thirty-six (36) exam rooms (about 2.5 exam rooms per provider). Typical maximum occupants of the building at any one time is estimated to be eighty-eight (88) (38 employees + 36 patients in exam rooms + 14 in waiting room). The site plan allocates sixty (60) parking spaces for this use, and plans for use of the twenty (20) shared spaces, with short term overflow into the adjacent spaces if needed.

The site plan proposes a total of two hundred sixty-three (263) spaces for cars, of which twenty (20) will be shared by the three uses on the lot. There will also be four (4) spaces for buses, eleven (11) spaces for motorcycles and four (4) bike racks. The sidewalk connections to Congress Street will provide access for pedestrians, and for the METRO bus uses coming from the terminal stop on the Jetport Access Drive.

Northland Enterprises, LLC will work with the three (3) building occupants on the parcel to develop a parking management plan which will accommodate on-site tenants, meetings, and functions. This will assure that the proposed parking is appropriately utilized, and parking demand will be managed with practices such as car pooling, staggered, and off-hours use, and utilization of alternative means of transportation.

Refer to: Exhibit 16 - Site Analysis: Parking
Exhibit 26 - Parking Table
Exhibit 27 – Parking Plan

F. Lighting Design:

A comprehensive lighting plan has been developed for the project to assure appropriate lighting levels and uniform character. The lighting plan includes LED light fixtures for the parking lots at 20 foot heights, and a separate light system for the walkways. There will be LED accent lighting at the building entrances.

The lighting shall be designed in general conformance with the City's Technical Standards. The proposed average lighting level will be 1.1 to 1.25 foot candles which is lower than the required 1.5 foot candles. This is being done to reflect the context, and the adjoining residential uses.

All of the light fixtures will be installed with backlight shields, and will be dark sky compliant. The site lights will be controlled by a management system which will dim the lights after 8:00pm, and have an auto-shut-off mode with a motion detection override between the hours of 11:00pm and 6:00am.

*Refer to: Exhibit 21 - Lighting Concept
 Exhibit 22 - Design Guidelines: Lighting*

G. Stormwater Treatment and Management:

The existing stormwater runoff on the lot is managed through sheet drainage, with flows directed to the north or to the west into established, stable drainage ways. The proposed storm drainage will need to be sheet flows directed to the north or west to avoid concentrating runoff in an enclosed system. To achieve the necessary runoff treatment, it is recommended that underdrained soil filters, tree well treatment systems, advanced infiltration systems (e.g. Filtera), or some combination of these strategies be used on the northern edge of the proposed parking areas.

H. Signage:

An integrated signage plan is proposed which coordinates the sign types proposed for the project on Congress Street. The signage will include:

1. Property Identification Sign will be a joint identification sign. (on the corner of Congress Street and UNUM Drive): Shall be sited in the same general area as the existing Elks Club sign so as to be visible from both directions on Congress Street and from Jetport Boulevard, and a smaller sign placed at the new drive intersection within UNUM Drive. It shall be similar to other signs in the Stroudwater neighborhood in size and scale, and shall contain the address on the top with the list of businesses below in a smaller font and color. The sign will be lit from above or from below and shall not be internally lit.
2. Business Identification Signs: Each business will have building mounted signage that is visible from the public way and from the parking areas as needed. The signs may be individualized and contain the business logos as appropriate. If the medical building contains more than one medical practice, each individual tenant will be allowed a sign per ordinance that is visible from the public way.
3. Wayfinding Signs: There shall be intermediate scaled signs located where necessary to direct people to the entry / exit driveway, parking areas, and individual buildings.
4. Regulatory Signs: Will be uniformly sized and mounted on identical painted metal posts. These signs shall conform to the Standards of the City's Technical Manual.

Refer to: Exhibit 18 - Conceptual Site Plan
Exhibit 24 - Design Guidelines: Site Improvements
Exhibit 25 – Signage Diagram

V. SITE IMPROVEMENTS

An integrated system of site improvements will be used throughout the development to achieve a cohesive appearance and grounds aesthetics. The site improvements should be high quality, and durable with a simple design that compliments the building's character. They will be selected to belong to the same design family with common materials and colors and shall include:

1. Benches: At building entrances, gathering spaces, and walkway nodes; preferably metal.
2. Bike Racks: At building entrances. They should be metal and painted to coordinate with the buildings and other site improvements.
3. Pavilions: Covered seating or picnic tables to serve as outdoor lunch/break places for employees and as resting places for trail users. They should be placed close to buildings adjacent to landscape areas, or at the connection to Portland Trails.
4. Trash Receptacles: If used, they should be adjacent to the seating areas and should have similar materials and detailing as the benches.
5. Placement of the Elk Sculpture: Located in the greenspace in front of the Elks structure.

*Refer to: Exhibit 18 - Conceptual Site Plan
 Exhibit 23 - Design Guidelines: Site Improvements
 Exhibit 24 - Design Guidelines: Site Improvements*

VI. LIST OF EXHIBITS

1. City Context Plan
2. Neighborhood Context Plan
3. Project Site Aerial
4. Site Analysis: Existing Conditions
5. Site Analysis: Regulatory Restrictions
6. Site Analysis
7. Site Analysis: Development Considerations
8. Site Organization Option A
9. Site Organization Option B
10. Site Organization Option C
11. Site Plan Option A
12. Site Plan Option B
13. Site Plan Option C
14. Site Plan Option D
15. Site Plan Option E
16. Site Analysis: Parking
17. Site Development Diagram
18. Conceptual Site Plan
19. Section at Buffer
20. Section at Congress Street
21. Lighting Concept
22. Design Guidelines: Lighting
23. Design Guidelines: Site Improvements
24. Design Guidelines: Site Improvements
25. Signage Diagram
26. Parking Table
27. Parking Plan

CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991



Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail: fjb@portlandmaine.gov

Date: April 4, 2016

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 1945 Congress Street

Chart Block Lot Number: _____

Proposed Use: Office, Medical

Previous Use: Assembly

Existing Sanitary Flows: 500 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to
receive the proposed building sewer lateral.

Site Category | Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify)

Same location as currently exists.

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: Helen Donaldson Phone: 207.874.8723

Owner/Developer Name: Northland Enterprises, LLC

Owner/Developer Address: 17 South St. Portland, ME 04101

Phone: 207.780.0223

Fax: _____ E-mail: josh@northlandus.com

Engineering Consultant Name: Pinkham & Greer, Civil Engineers

Engineering Consultant Address: 28 Vannah Ave., Portland, ME 04103

Phone: 207.781.5242

Fax: 207.781.4245

E-mail: tgreer@pinkhamandgreer.com

***(Note: Consultants and Developers should allow +/- 15 days, for capacity status,
prior to Planning Board Review)***

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 500 existing 3,735 new GPD

Peaking Factor/ Peak Times: 7:30-8:30, Lunch, & 4:30-5:30

Specify the source of design guidelines: (i.e. "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)

See Attached based on Plumbing Code

***(Note: Please submit calculations showing the derivation of your design flows,
either on the following page, in the space provided, or attached, as a separate sheet)***

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:

Size of External Grease Interceptor:

Retention Time:

Peaking Factor/ Peak Times:

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:

Do you currently hold Federal or State discharge permits?

Is the process wastewater termed categorical under CFR 40?

OSHA Standard Industrial Code (SIC):

_____ GPD
Yes _____ No _____
Yes _____ No _____
[http://www.osha.gov/oshstats/sicser.h
tml](http://www.osha.gov/oshstats/sicser.html)

Peaking Factor/Peak Process Times:

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

PINKHAM & GREER
CIVIL ENGINEERS

28 VANNAH AVE. PORTLAND, ME. 04103
Tel: 207.781.5242 Fax: 207.781.4245

JOB 1943 CORNERS
SHEET NO. _____ OF _____
CALCULATED BY TSC DATE 4/4/16
CHECKED BY _____ DATE _____
SCALE _____

Flow ESTIMATE
PURCHASING COOE.

MEDICAL OFFICE

80 gpd/or.	7	=	560
5/ PATIENT	200	=	1000
15/ EMPLOYEE	5	=	75
		TOTAL	1,635

OFFICE

$35,000 \text{ sqft} / 200 = 175 \times 12 \text{ gpd} = \frac{2,100 \text{ gpd}}{\text{NEW} - 3,735}$

ELKS @ 500gpd ~~EX~~ 500

TOTAL 4,235 gpd

STORMWATER MANAGEMENT REPORT
1945 CONGRESS STREET
PORTLAND, MAINE
April 14, 2016

Project Description

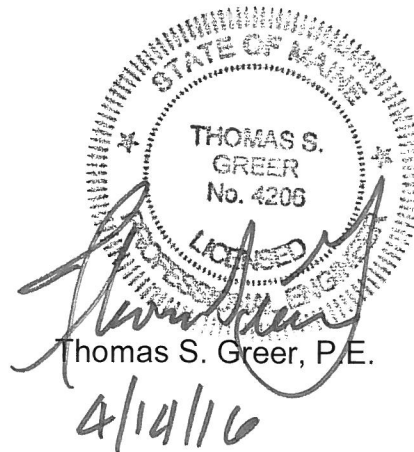
This project is the redevelopment of 1945 Congress Street, currently the Elks Club. The Elks building will be reduced in size and renovated. Two new buildings will be added, a 15,000 sq. ft. medical building and a 25,300 sq. ft. office building. The redeveloped site will have approximately 264 parking spaces.

The site drains to the north by sheet flow and a small swale constructed in front of the parking spaces. There are no closed storm drain systems.

Project Management Systems

The stormwater management system for this project will consist of underdrained soil filters and proprietary treatment systems. In accordance with Chapter 500 of the Stormwater Management Law, this site, as a redevelopment site, is required to treat 60% of the new development. Possible treatment locations are shown on the subdivision plan. These will be designed and detailed as part of the site plan process.

Based on past experience, these systems will also provide peak flow control as well.



THOMAS S. GREER
No. 4206
LICENCED
PROFESSIONAL ENGINEER
STATE OF MAINE
Thomas S. Greer, P.E.
4/14/16

REDEVELOPMENT PROJECT CH. 500 pg 7

EXISTING SITE

EXISTING BUILDING	23,090	$\times 3 =$	69,270
" IMPERVIOUS	110,151	$\times 4$	440,604
" LANDSCAPED	85,150	$\times 2$	170,300
			<u>680,174</u>
			15.61

REDEVELOPED SITE

PROPOSED BUILDINGS	46,498	$\times 3$	139,494
PROPOSED IMPERVIOUS	114,236	$\times 4$	456,944
" LANDSCAPED	99,266	$\times 2$	198,532
			<u>794,970</u>
			18.25

$$\frac{15.61}{260,000/43560} = 2.61$$

$$\frac{18.25}{3.06} = 3.06 \quad 3.06 - 2.61 = 0.4476$$

From TABLE 3 $0.44 < 1.0$ 60% OF THE
SITE IS TO BE
TREATED.



25 Vine Street Gardiner, ME 04345
(207) 582-5252 FAX (207) 582-1677
mainetrafficresources.com

SUMMARY MEMORANDUM

TO: Mr. Tom Greer, P.E.
Pinkham and Greer
28 Vannah Avenue
Portland, ME 04103

DATE: June 27, 2014

RE: Preliminary Trip Generation Analysis for Proposed Medical Office Buildings in Portland

The purpose of this memorandum is to summarize trip generation analysis prepared for the proposed medical office buildings on the Elks Lodge site off Unum Drive off Congress Street in Portland, Maine. The proposed medical office buildings are expected to provide up to 30,000 square feet of space.

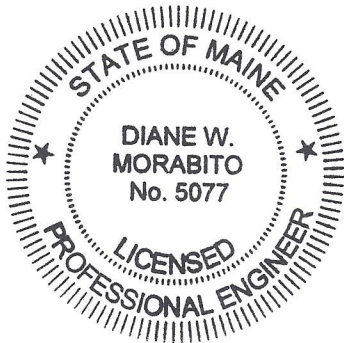
The number of trips generated by the proposed medical offices was estimated using the most recent Institute of Transportation Engineers (ITE) "Trip Generation, 9th Edition" report, published in 2012. Land use code (LUC) 720 "Medical-Dental Office Building" was used on the basis of 30,000 S.F. The results are summarized below:

Trip Generation Summary – One Way-Trip Ends			
<u>Time Period</u>	<u>Entering</u>	<u>Exiting</u>	<u>Total</u>
Weekday	542	542	1084
AM Peak Hour " Adj. Street	55	14	69
AM Peak Hour - Generator	72	37	109
PM Peak Hour " Adj. Street	28	76	104
PM Peak Hour " Generator	54	80	134

As can be seen above, the medical offices will generate 109 one-way trips during their AM peak hour and 134 during their PM peak hour. During the AM and PM peak hours of the adjacent street system, Unum Drive and Congress Street, the medical offices are expected to generate 69 and 104 trips respectively. During the higher PM peak hour, the 104 trips will be distributed as 28 entering and 76 exiting. These 28 and 76 entering and exiting trips will be further split between eastbound and westbound Congress Street lanes. Assuming for this preliminary analysis, that they are evenly split, results in 38 new trips in each exit lane. Typically, a project will not have any impact on capacity unless it generates in

excess of 25 to 35 lane hour trips. Given that this project is expected to generate a maximum of 38 new lane hour trips no significant impact on operations at the signalized intersection of Congress Street and Unum Drive would be expected. Assuming that the signal operates on a 90 second cycle, the project will generate one additional vehicle in each exit lane per signal cycle. Again, generally, one additional vehicle per signal cycle would not be expected to have a major impact on capacity or signal operations. Also note some reduction is expected in PM peak hour Elks trips due to the proposed reduction in building size, which would further reduce the potential impact of the medical office buildings.

As always, please do not hesitate to contact me if you or the City of Portland have any questions or concerns regarding this preliminary analysis. Given that this is based upon preliminary trip generation analysis, without traffic counts or capacity analysis, the level of impact would be confirmed in a later traffic study required for the Planning Board approval process.



Sincerely,

A handwritten signature in cursive script that reads "Diane W. Morabito".

Diane W. Morabito, P.E. PTOE
President

Portland Elks Offices Trip Generation

The number of trips to be generated by the office buildings was estimated using the Institute of Transportation Engineers (ITE) "Trip Generation, 7th Edition", the edition currently being used by the Maine Department of Transportation (MaineDOT) for traffic permitting purposes. In addition, the newer 9th Edition report was also utilized. If the 9th edition report had a higher trip rate, it was used for the following analysis. If the newer 9th Edition had lesser rates the older, higher rates were used. The trips were estimated using LUC 720 – Medical-Dental Office Building on the basis of 15,000 S.F. and 710 – General Office Building on the basis of 25,000 S.F. The results are summarized below:

<u>Time Period</u>	ITE Projected Trip Generation (one-way trip ends)		
	<u>Med. Office</u>	<u>Office</u>	<u>Total</u>
Weekday	542	276	818
AM Peak Hour - Adj. Street	37	39	76
Entering	29	34	63
Exiting	8	5	13
AM Peak Hour - Generator	54	39	93
Entering	36	34	70
Exiting	18	5	23
PM Peak Hour - Adj. Street	56	37	93
Entering	15	6	21
Exiting	41	31	72
PM Peak Hour – Generator	67	37	104
Entering	27	6	33
Exiting	40	31	71

As can be seen in the above table, the proposed offices are expected to generate a total of 93 one-way trips during their weekday AM peak hour and 104 trips during their PM peak hour.

There will be a credit for grandfathered trips for the reduced Elks Lodge trips. It is understood that the existing Elks Lodge building is 23,090 square feet in size. As part of this project, it will be reduced in size to 13,500 square feet, a reduction of over 41 %. Based upon the parking demand and trip generation study, performed during a Tuesday Bingo session in 2014, a total of 110 trips were recorded entering and exiting the Elks Lodge between 3:15 and 4:15 PM. The associated 40 % reduction in size would equate to a 44 trip credit for the PM peak hour. This reduces the new PM peak hour trips to 60. It is assumed that the Elks Lodge generates very few trips during the AM peak hour and therefore, there is no associated credit for the AM peak hour period. The office development therefore is expected to generate 93 new trips during the AM peak hour and 60 during the PM peak hour. Given these trip levels, a Traffic Movement Permit (TMP) should not be necessary for the office development.

Portland Elks Offices Accident Data

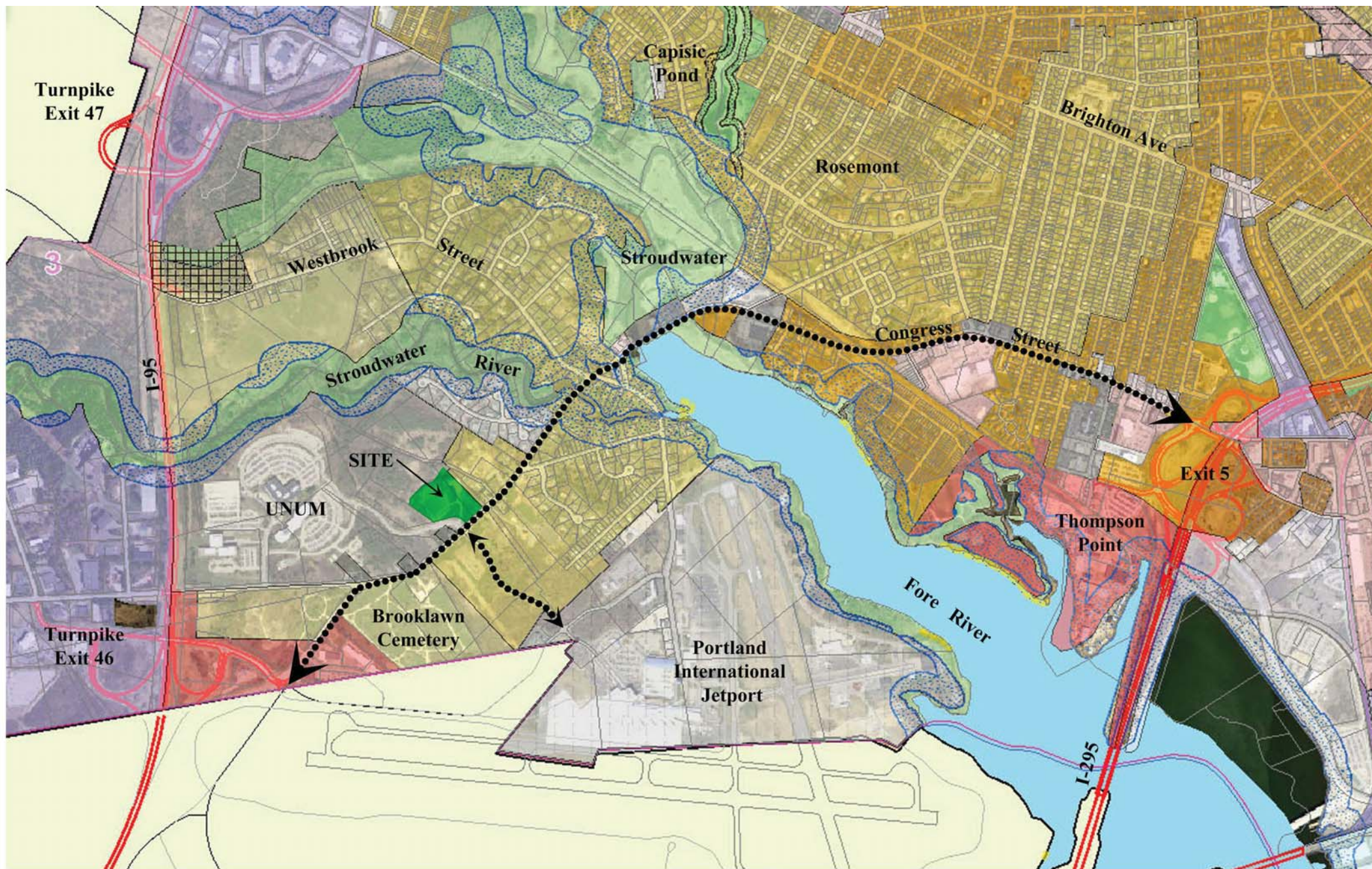
<u>Congress Street Location Description</u>	<u># of Acc. CRF</u>	
Intersection of Westerly Unum Park Drive	2	0.11
Between Westerly Unum Park Drive and Johnson Street	3	0.31
Intersection of Route 9 (Johnson Street)	11	0.40
Between Johnson Street and International Pkwy/Unum Park Drive	14	0.87
Intersection of Easterly End of Unum Park Drive	1	0.66
Intersection of International Pkwy/Unum Park Drive	17	0.53
Between Unum Park Drive and Garrison Street	12	0.70
Intersection of Garrison Street	1	0.14
Between Garrison Street and Westbrook Street	19	0.94
Intersection of Westbrook Street	30	0.92

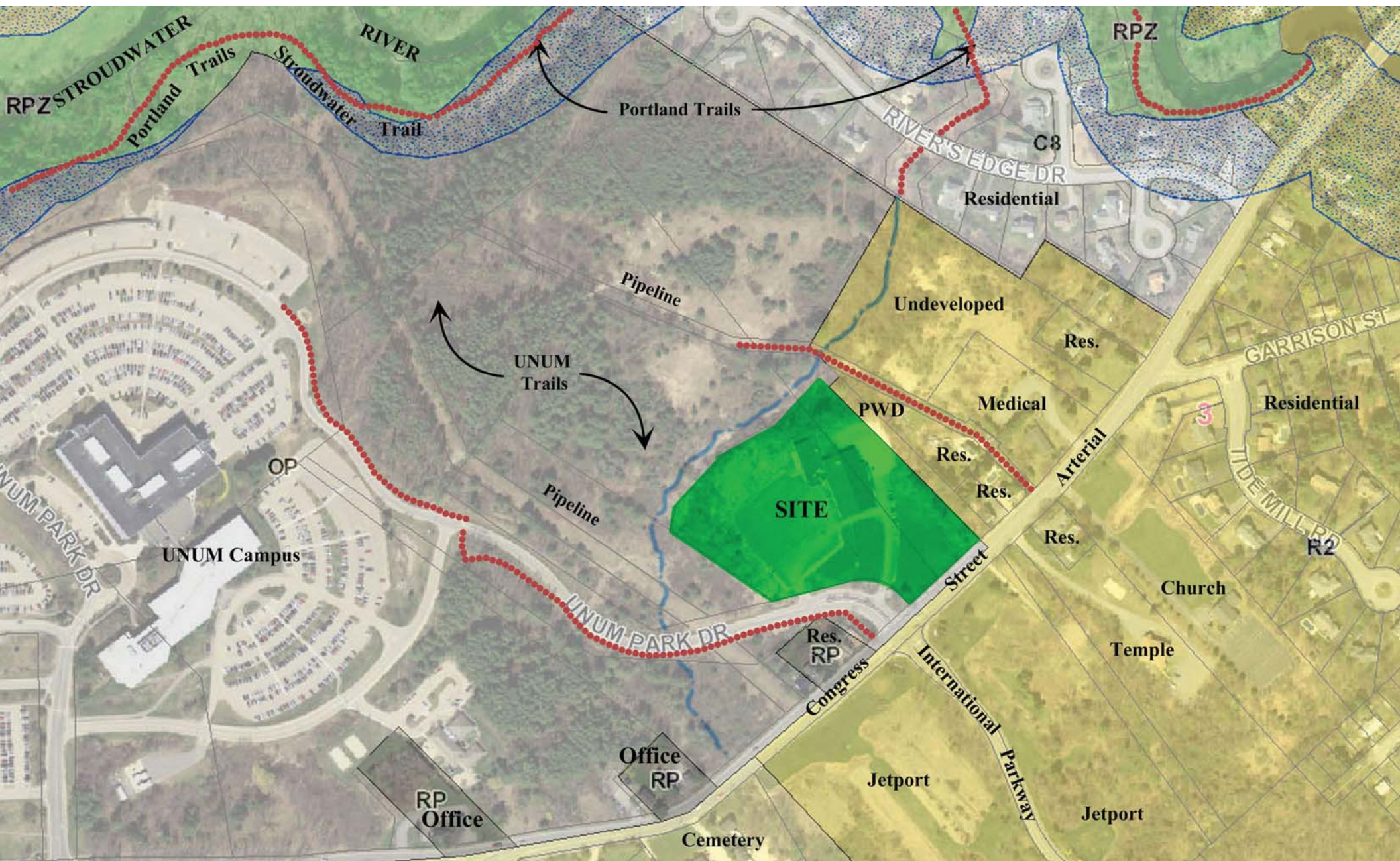
As can be seen in the above table, there are no high crash locations within the vicinity of the site. As a result, no additional accident review or evaluation should be necessary.

Portland Elks Offices AADT Data

<u>Location</u>	<u>Average Annual Daily Traffic</u>						
	<u>2002</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2010</u>	<u>2013</u>
Congress Street, NE/O Int'l Pkwy	24,050	23,770	---	22,370	---	24,080	23,690
Congress Street, E/O Johnson Street	20,940	---	---	18,870	---	---	---
Congress Street, W/O Johnson Street	11,240	11,140	11,900	---	10,100	10,700	11,030
Congress Street, NE/O Waldo Street	26,400	26,820	---	25,550	---	26,010	---

As can be seen above, traffic volumes have declined during the short-term period from 2010 to 2013, and over the long term 2002 to 2013 period, northeast of International Parkway, in the immediate vicinity of the site. There was some slight growth, 1%, west of the site on Congress Street in the short term with the long-term being steady. To be conservative, a 1% growth rate is recommended to project the previous 2014 volumes to 2016 volumes.







1945 Congress Street
Project Site Aerial
Northland Enterprises, LLC

N/E
UNUM LIFE INSURANCE CO.
CORD BK 1436, PG 349

Mixed Vegetation
on Slope

Mixed Vegetation on Slope
Mixed Hardwoods & Evergreens

Invasive Species (Bamboo)

+/- 53 Cars

Open Lawn/
Field

Mixed Vegetation
Evergreen & Deciduous

Invasive Species

Swale

Paved Parking
169 Spaces

Open Lawn

Low, Wet
Area

Flagpole

The
ELK

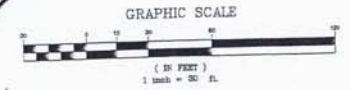
Lawn

Mature
Street Tree
Plantings

Entry

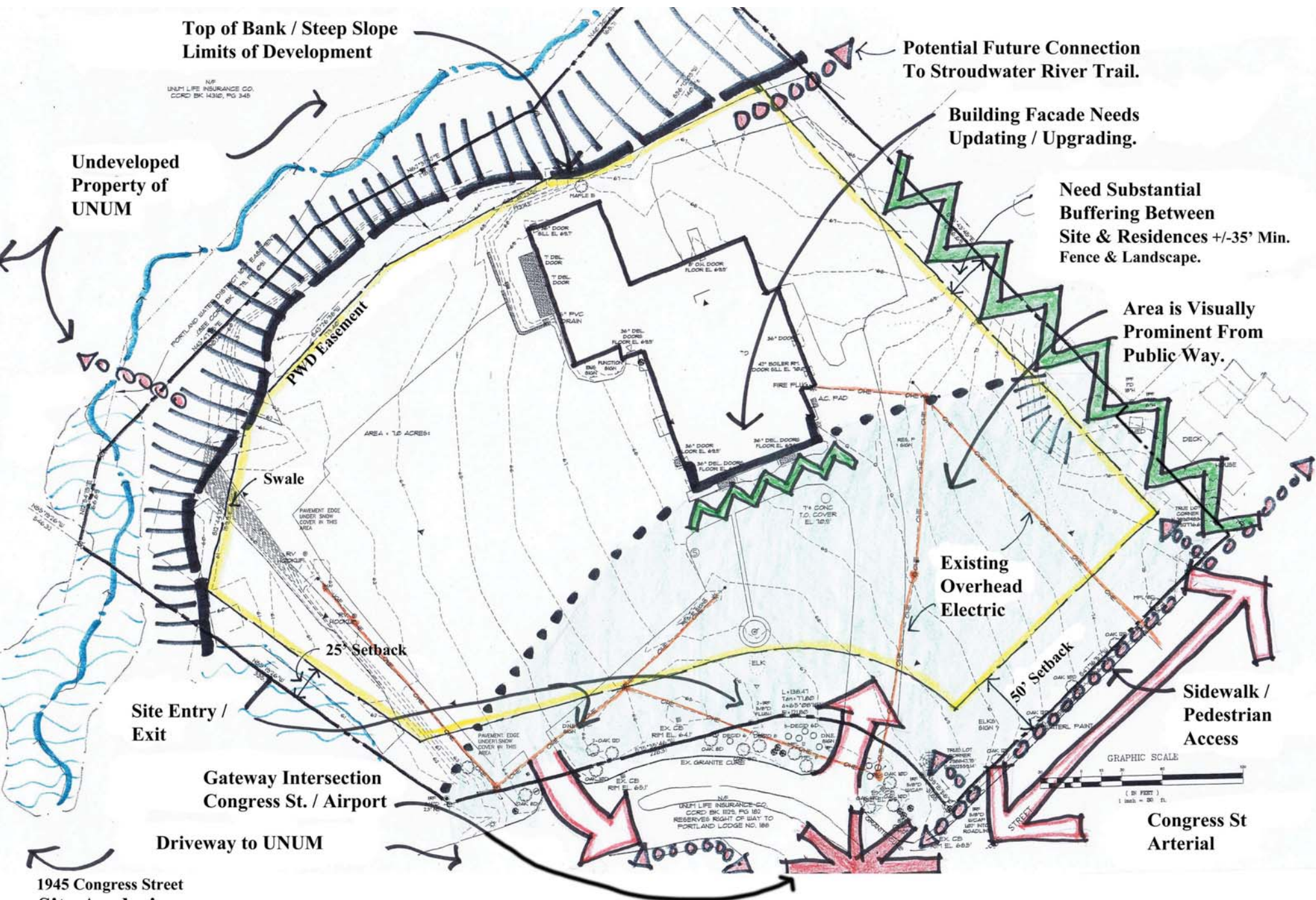
Exit

UNUM Park Drive



1945 Congress Street
Site Analysis: Existing Conditions
Northland Enterprises, LLC

Exhibit 4
March, 2016



NF
UNION LIFE INSURANCE CO.
CORD BK 1436, PG 348

1.

EXISTING BUILDING

Public facade needs updating & upgrading, needs to be visually compatible with new development. Future building: 1.5 to 3 stories, maintain compatibility with rest of campus.

2.

POTENTIAL BUILDING

Has strong connection to Congress St. Visual & pedestrian access should be compatible with Congress St. Development facade should be high quality with usual interest. 1.5 to 2.5 stories.

3.

POTENTIAL BUILDING

Can be larger scaled building - Public facade should be compatible / integrated with rest of campus, 1 to 3 stories.

N/E
UNITE LIFE INSURANCE CO.
CORD BK 1436, PG 348

Pedestrian
Walks / Trails

Dense Buffer
Adjacent To
Residential Uses.

Parking/
Circulation

Landscape Along
Congress Street

Building
(Exist)

Building

Building

Entry Zone:
Green / Circulation

Congress St.

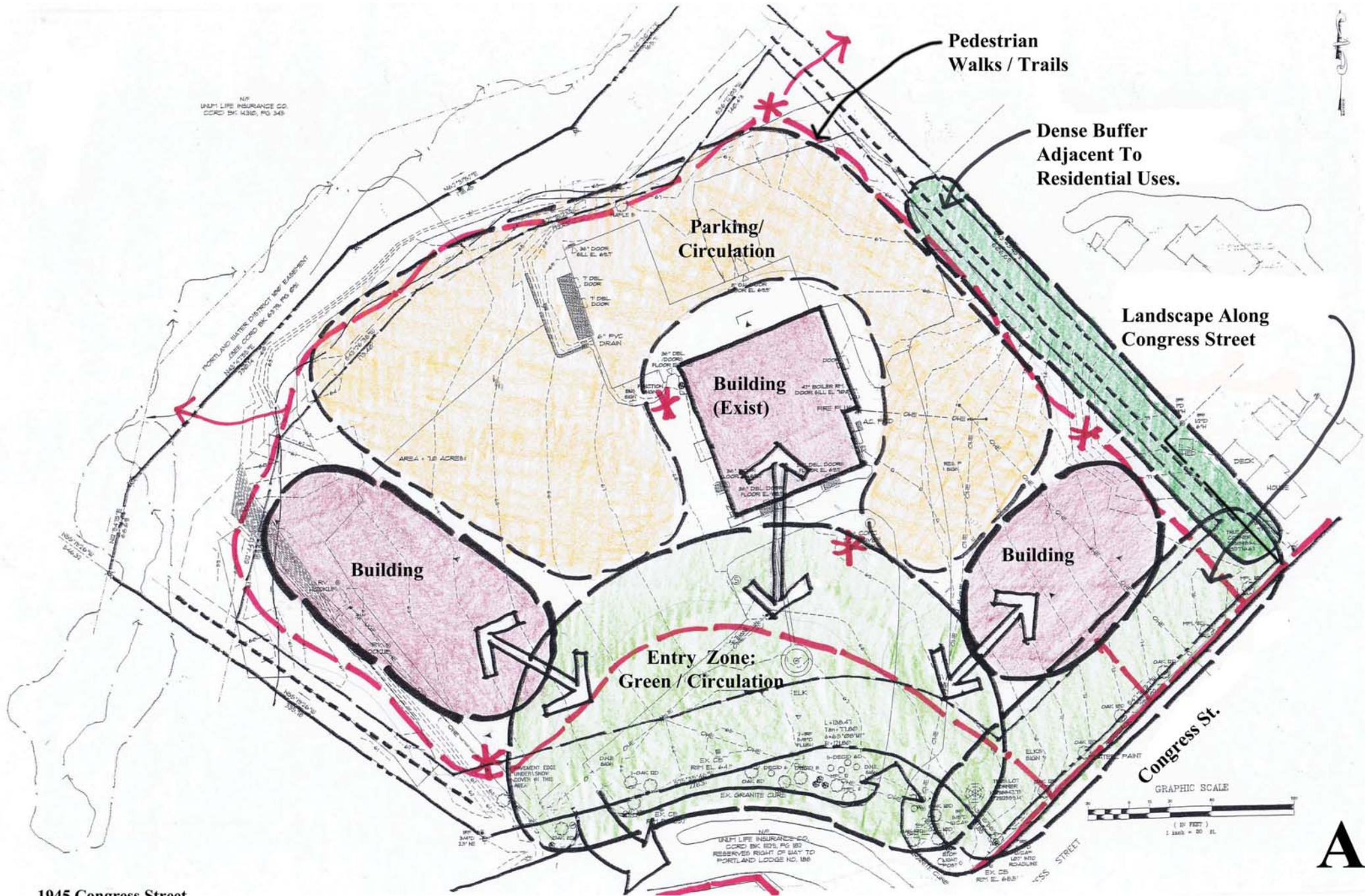
GRAPHIC SCALE

(1" = 20')
1 inch = 20 ft.

A

1945 Congress Street
Site Organization Option A
Northland Enterprises, LLC

Exhibit 8
March, 2016



N.E.
UNPL LIFE INSURANCE CO.
CORD BK 1036, PG 349

Pedestrian
Walks / Trails

Dense Buffer Adjacent
To Residential Uses.
Fence & Planting.

Parking
Circulation

Building
(Exist)

Building

Building

Entry Zone:
Green / Circulation

Landscape
Along
Congress St

Congress St.

GRAPHIC SCALE

(IN FEET)

1 inch = 30 ft.

1945 Congress Street
Site Organization Option B
Northland Enterprises, LLC

B

Exhibit 9
March, 2016

N/E
UNPL LIFE INSURANCE CO.
CORD BK 14316, PG. 349

PORTLAND WATER DISTRICT 106 EASEMENT
MAX. 75%
2003.1

PAVEMENT EDGE
UNDER SHOWN
COVER IN THIS
AREA

AREA = 1.2 ACRES

Building

Parking/
Circulation

Building
(Exist)

Pedestrian
Walks / trails

Dense Buffer Adjacent
To Residential Uses.
Fence & Planting.

Building

Visibility
For
Building

Landscape
Along
Congress St.

Entry Zone:
Green / Circulation

GRAPHIC SCALE

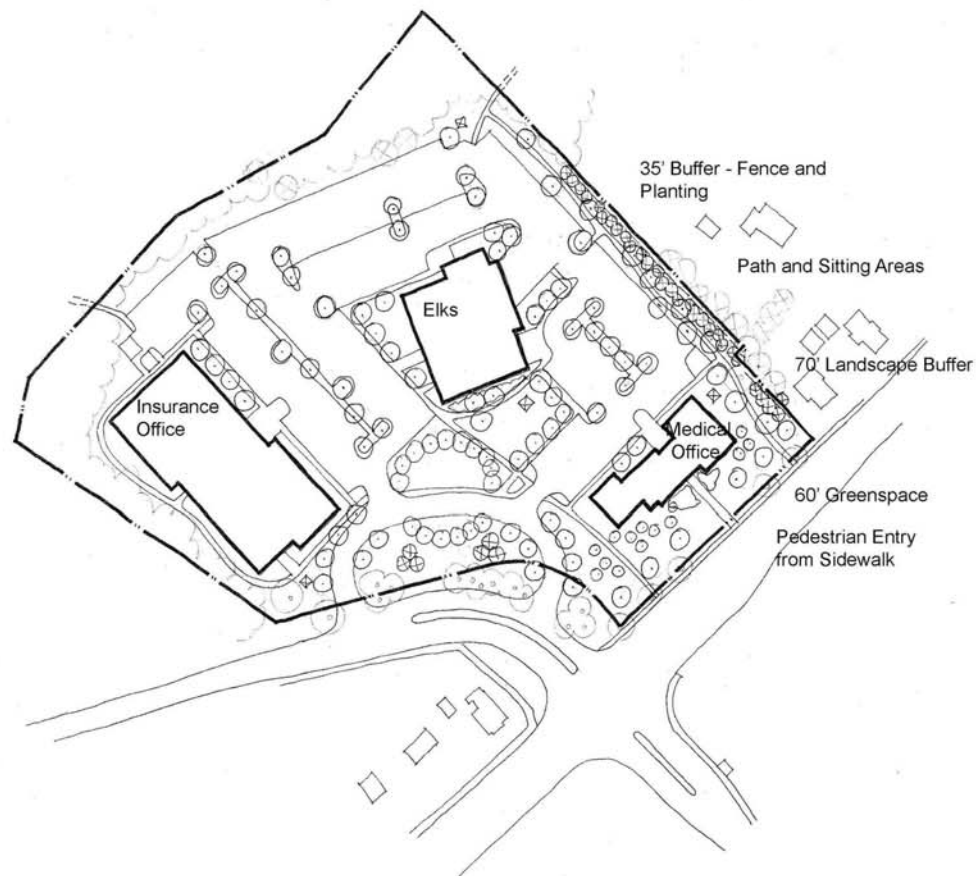
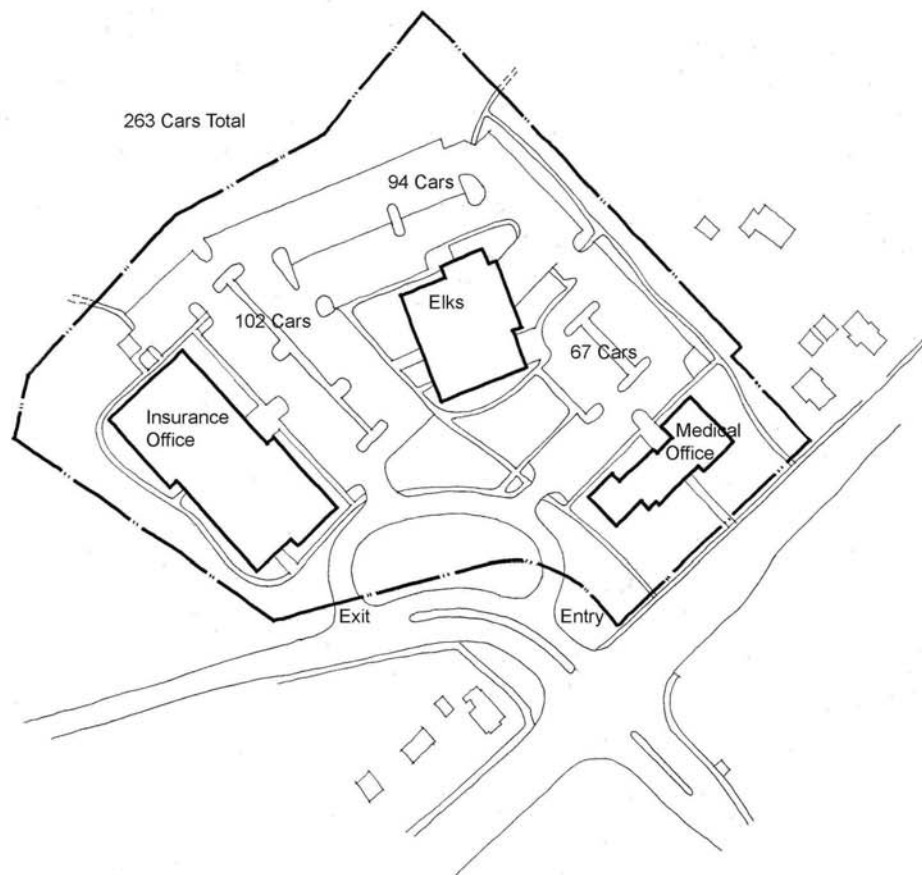
(1" = 50')
1 inch = 50' ft.

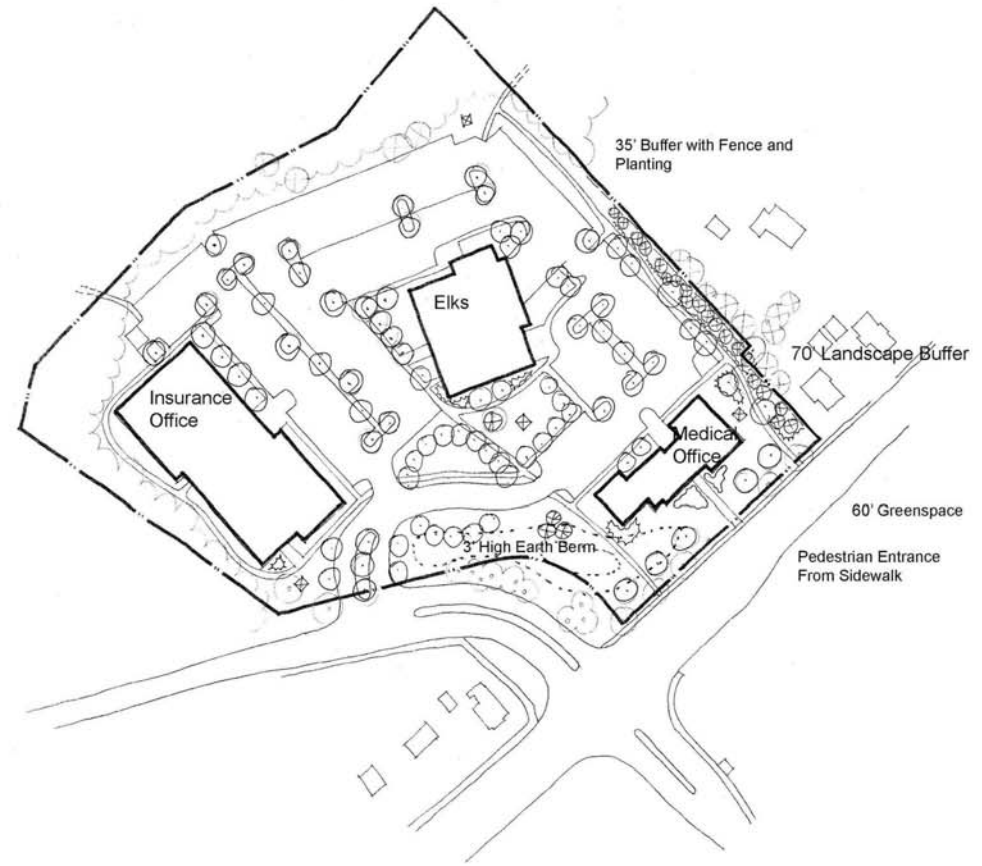
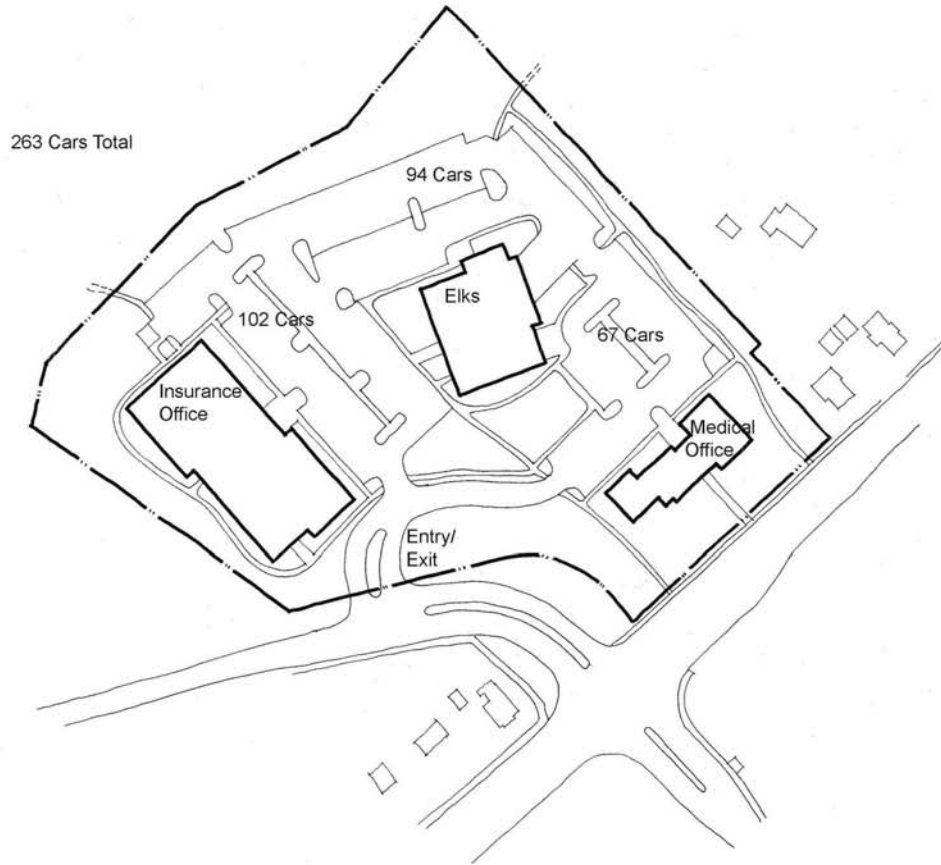
N/E
UNPL LIFE INSURANCE CO.
CORD BK 102, PG. 182
RESERVES RIGHT OF WAY TO
PORTLAND LODGE NO. 188

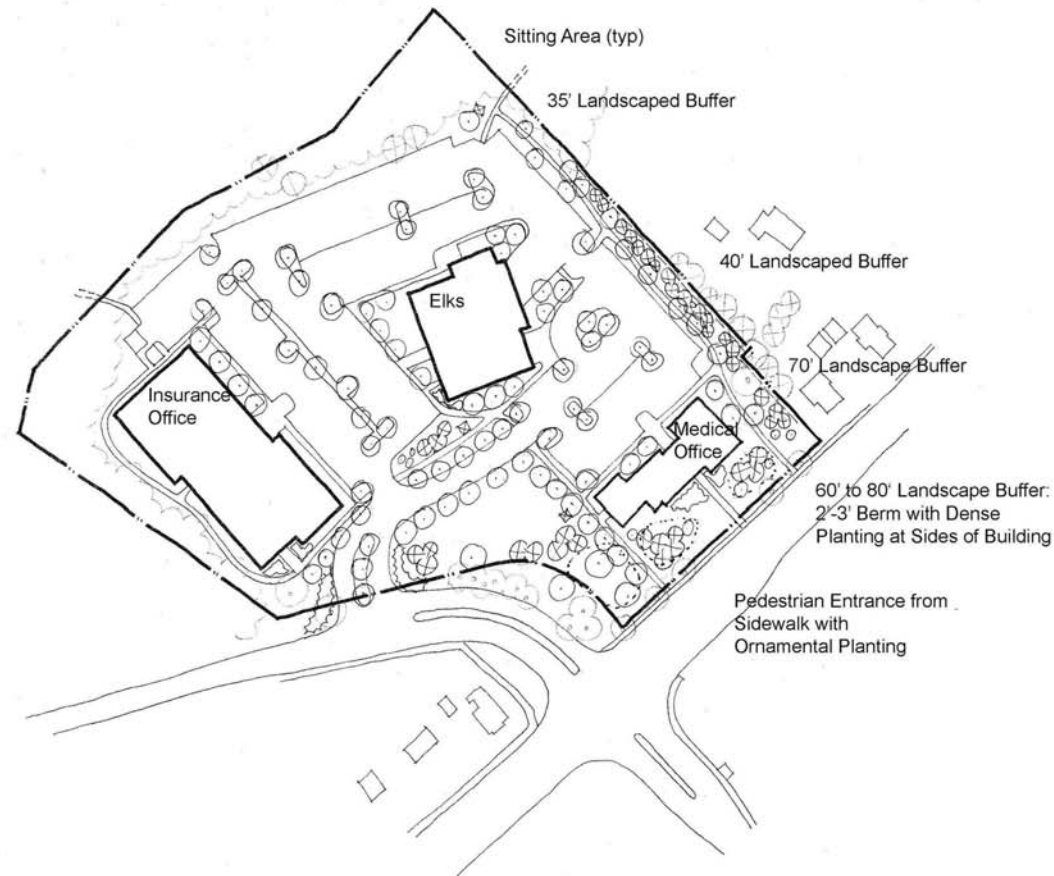
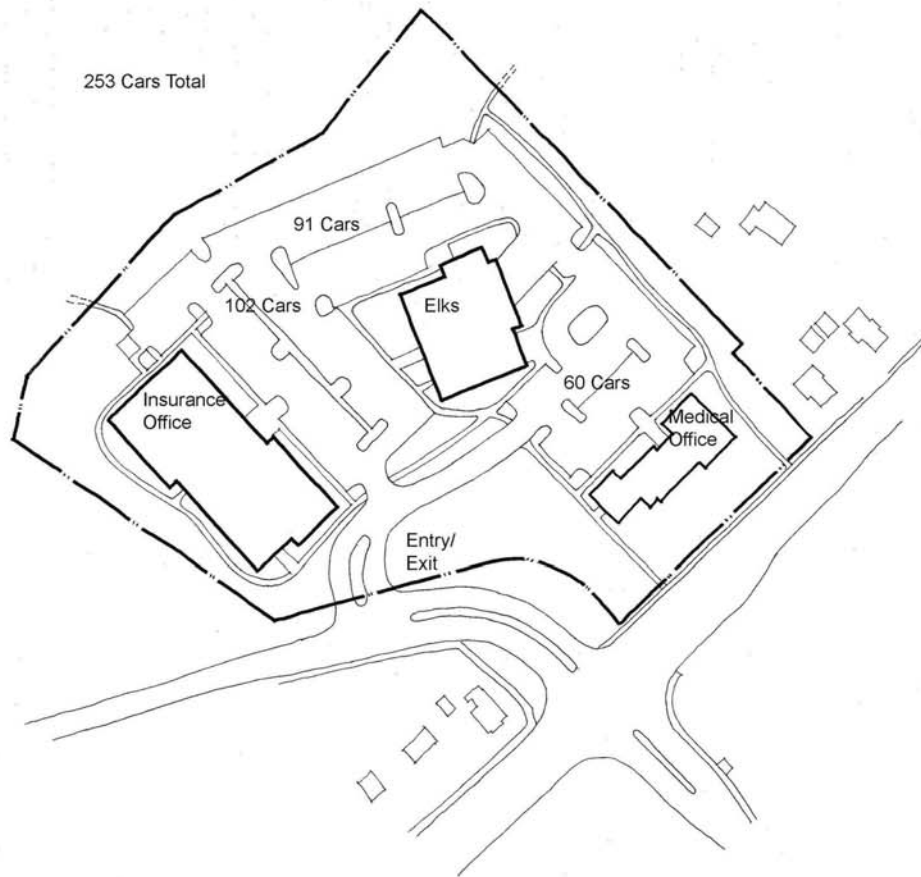
1945 Congress Street
Site Organization Option C
Northland Enterprises, LLC

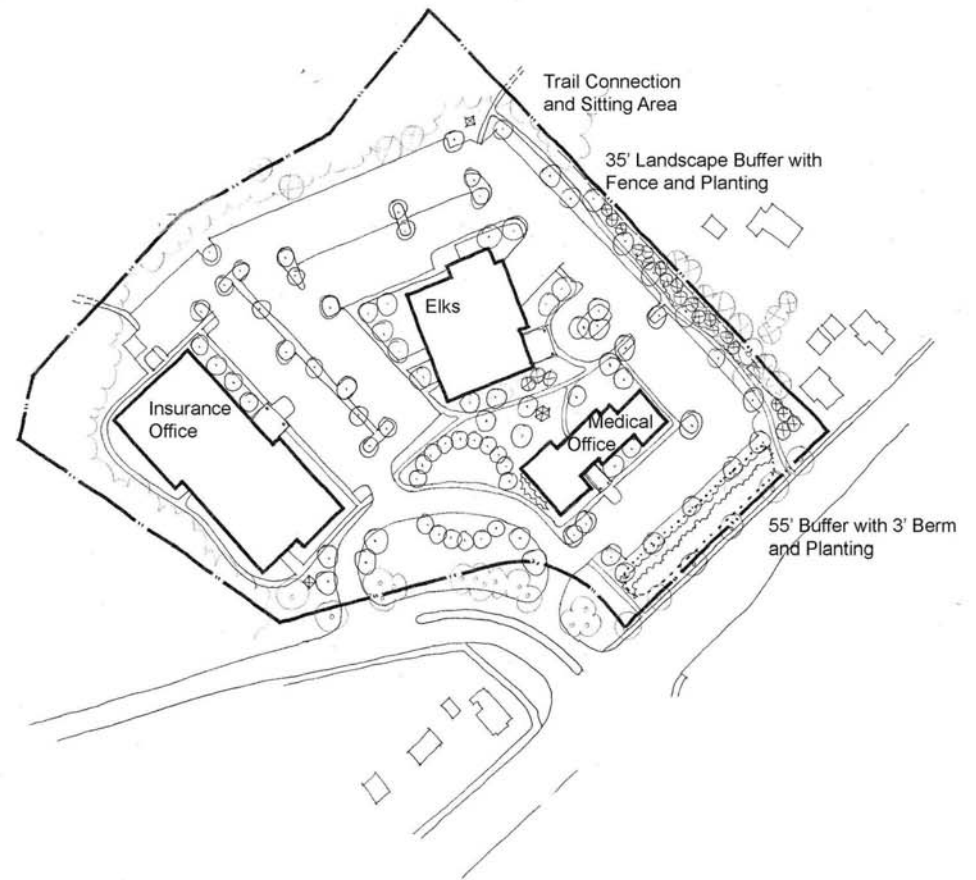
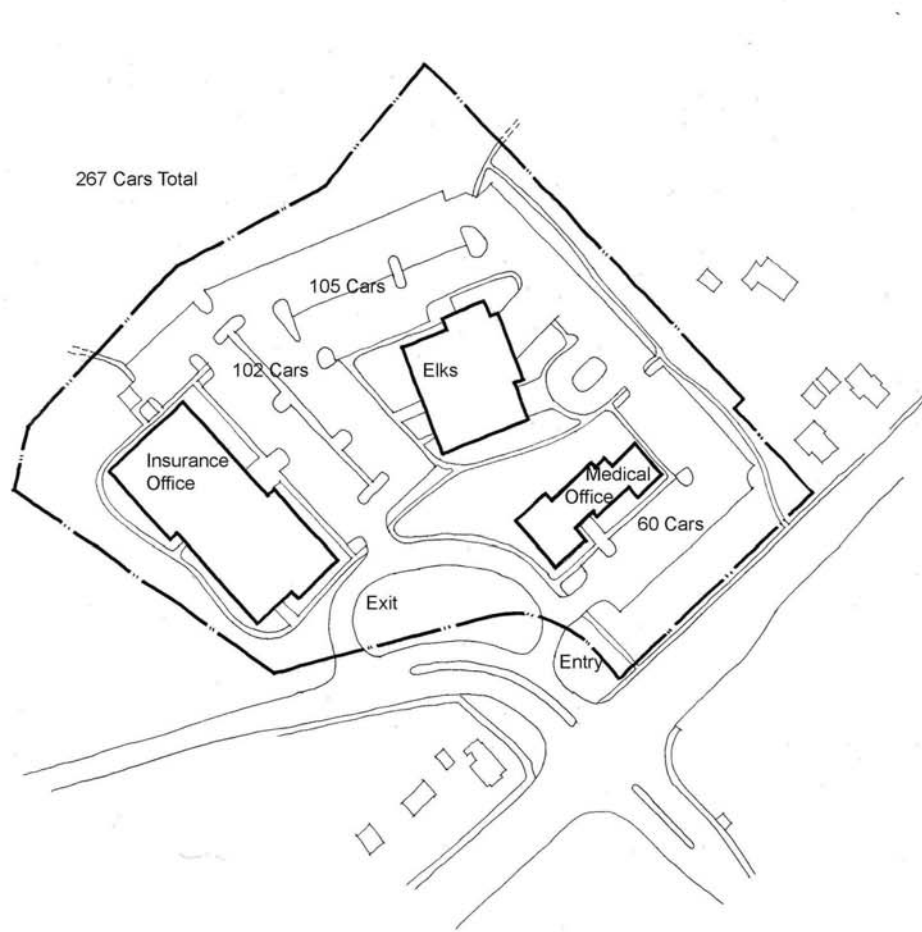
Exhibit 10
March, 2016

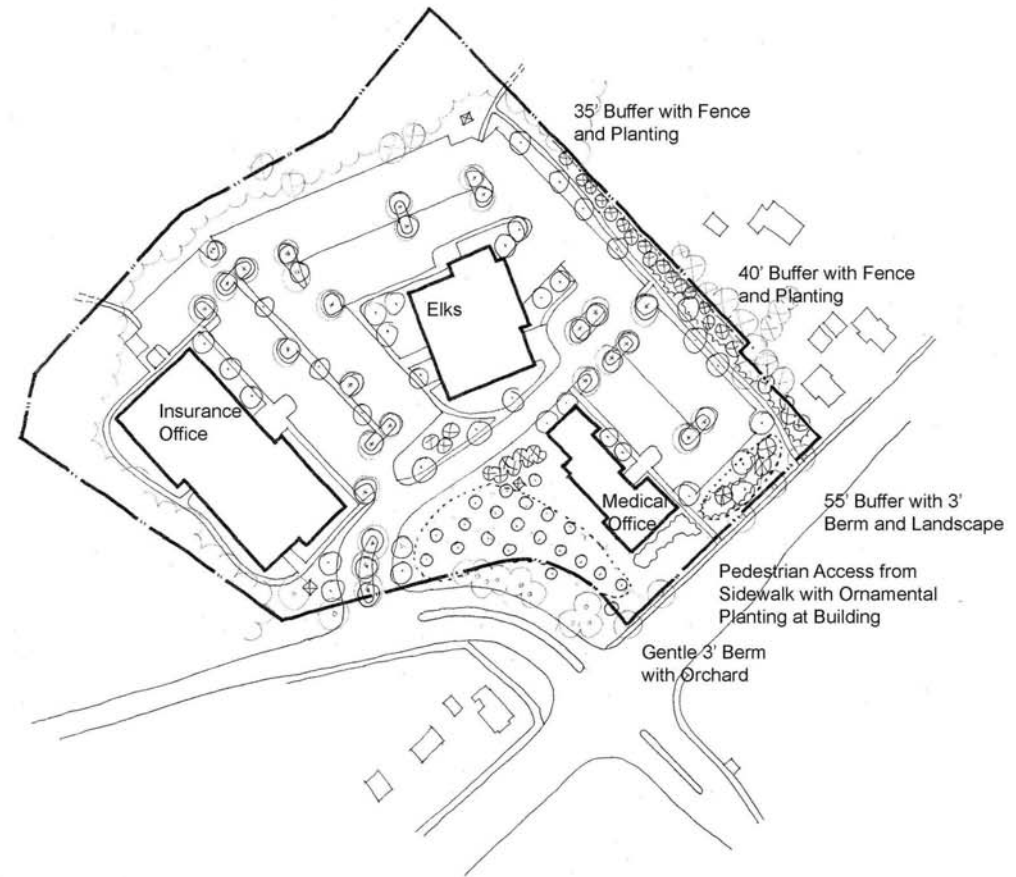
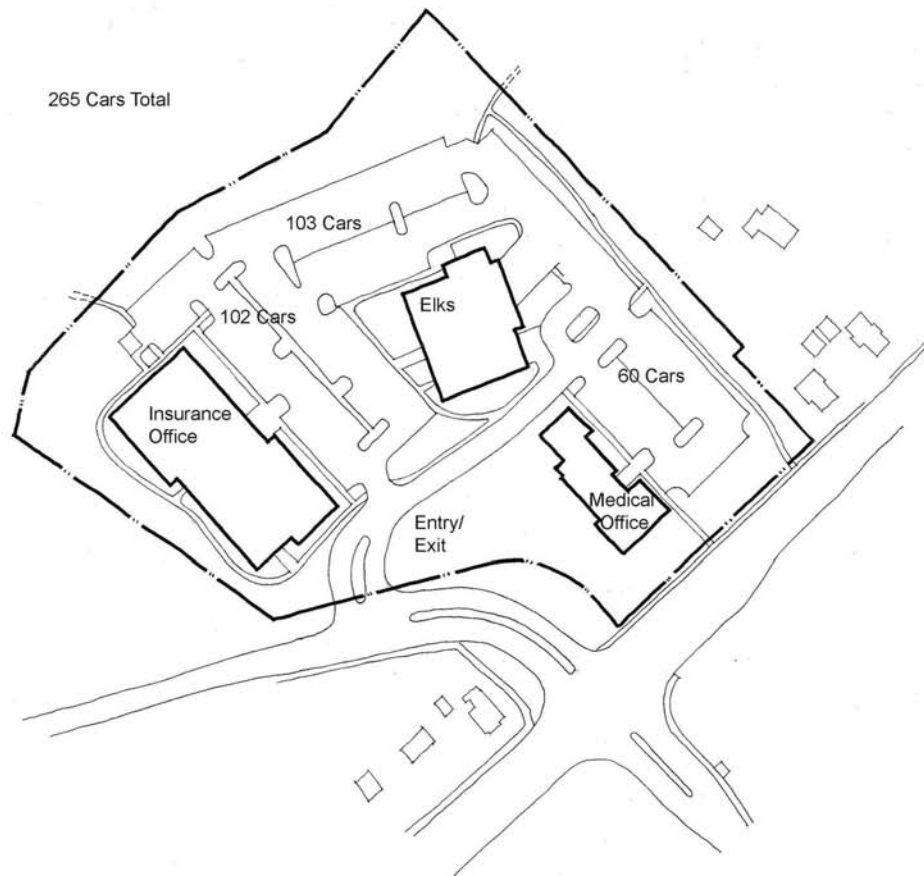
C









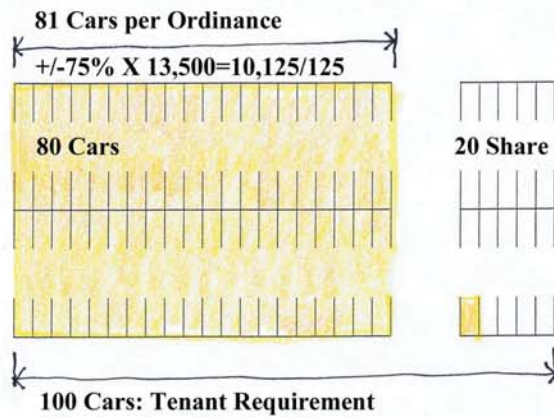


ELKS LODGE



13,500 SF
1 Floor

Existing Building



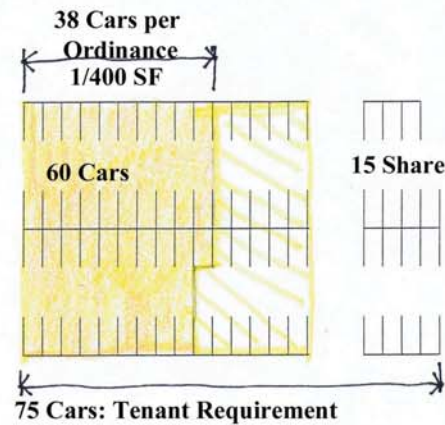
4 Bus Parking

MEDICAL OFFICE



15,000 SF
2 Story

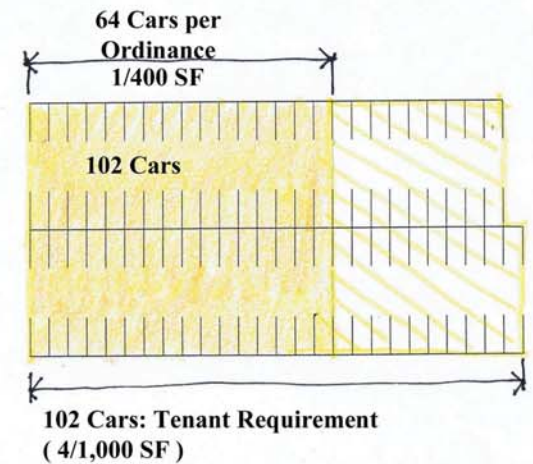
Requires Visibility
From Congress St.

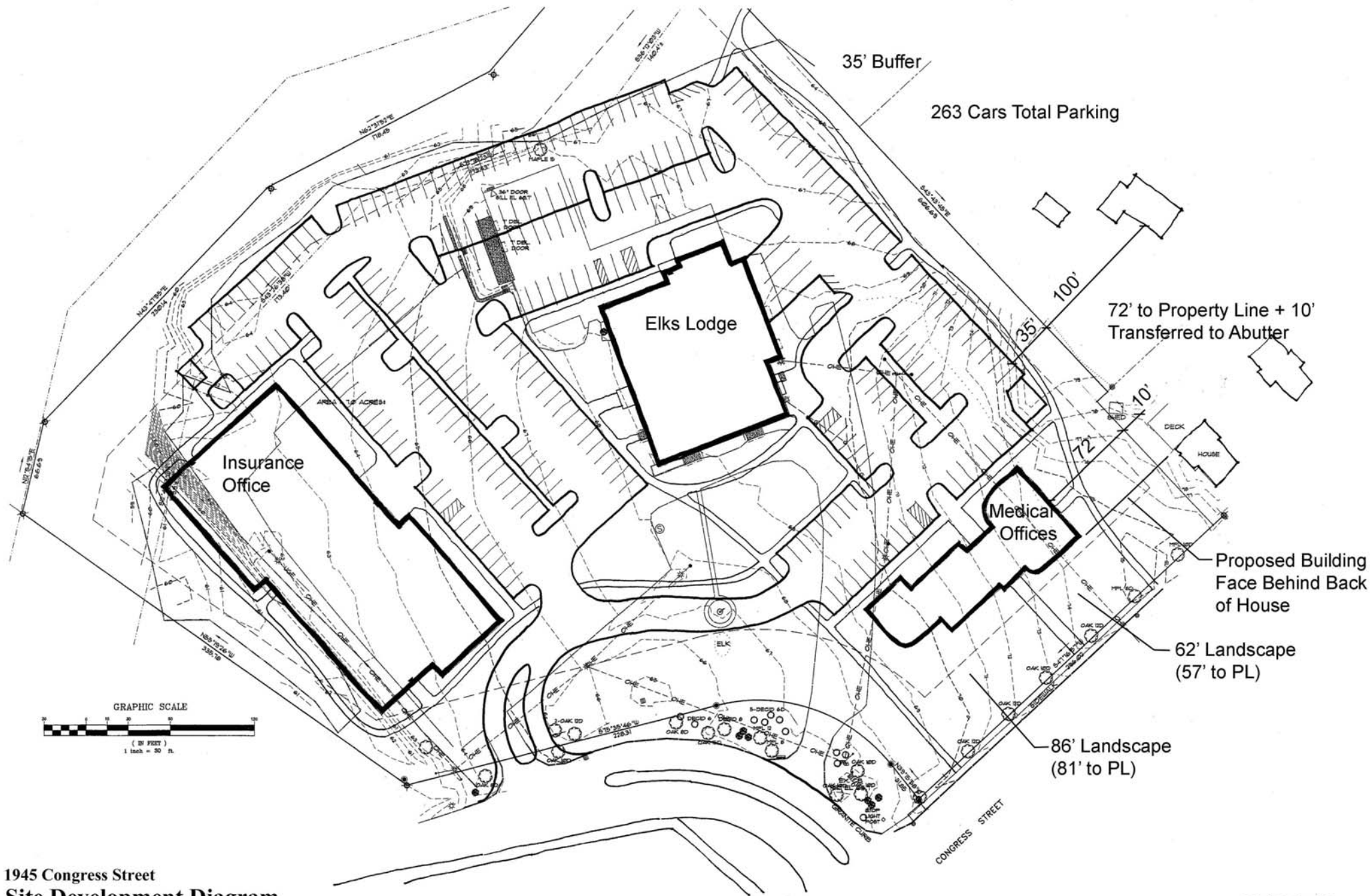


INSURANCE OFFICE



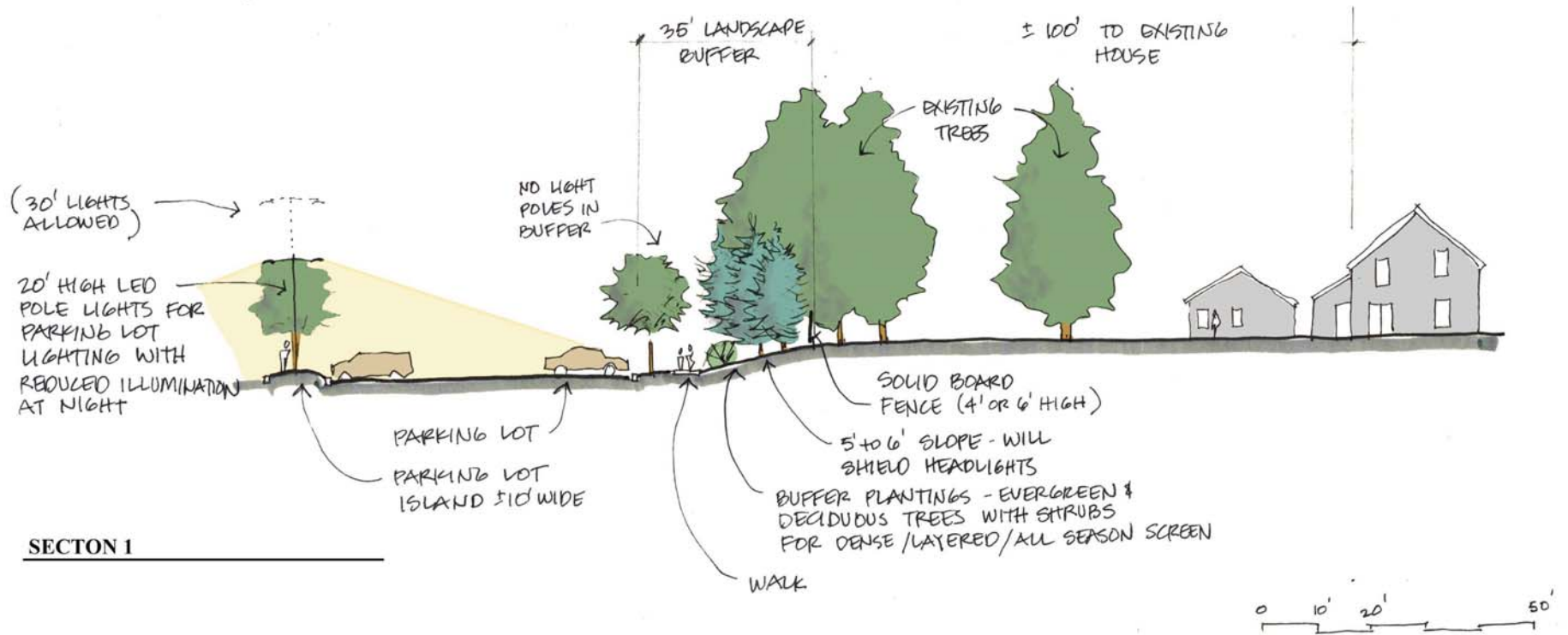
25,300 SF
1 Floor

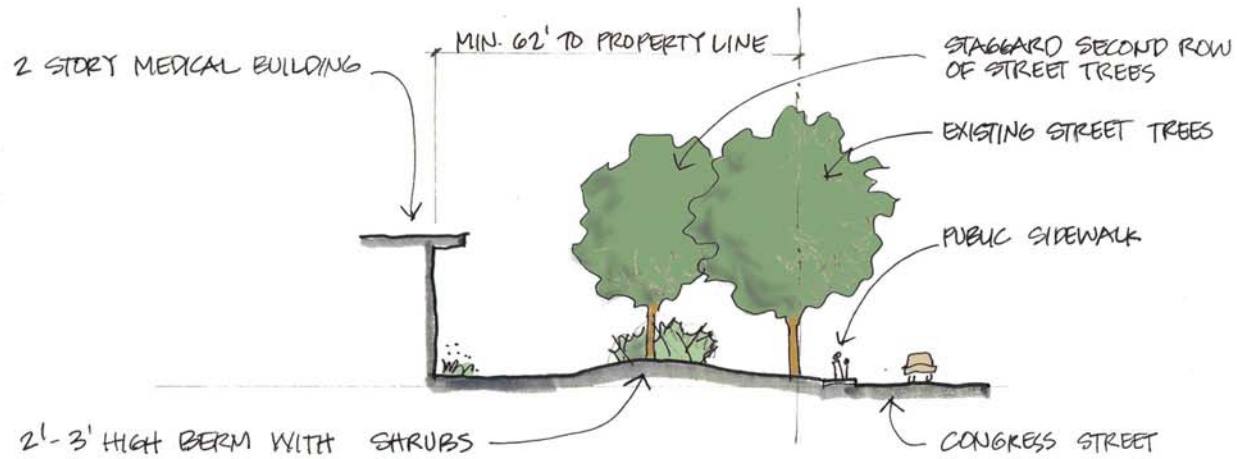




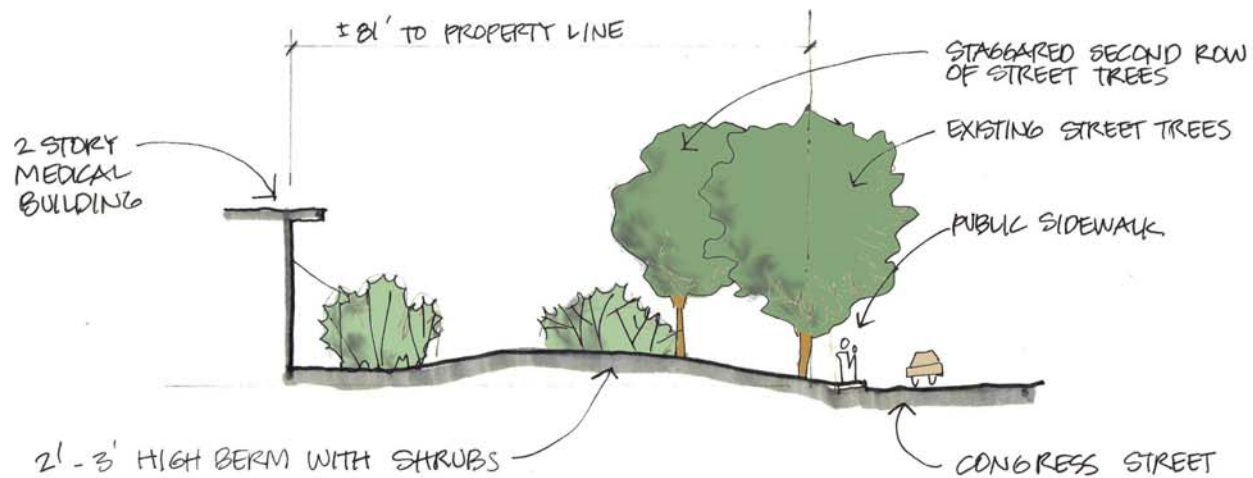
1945 Congress Street
Site Development Diagram
 Northland Enterprises, LLC







SECTION 2



SECTION 3

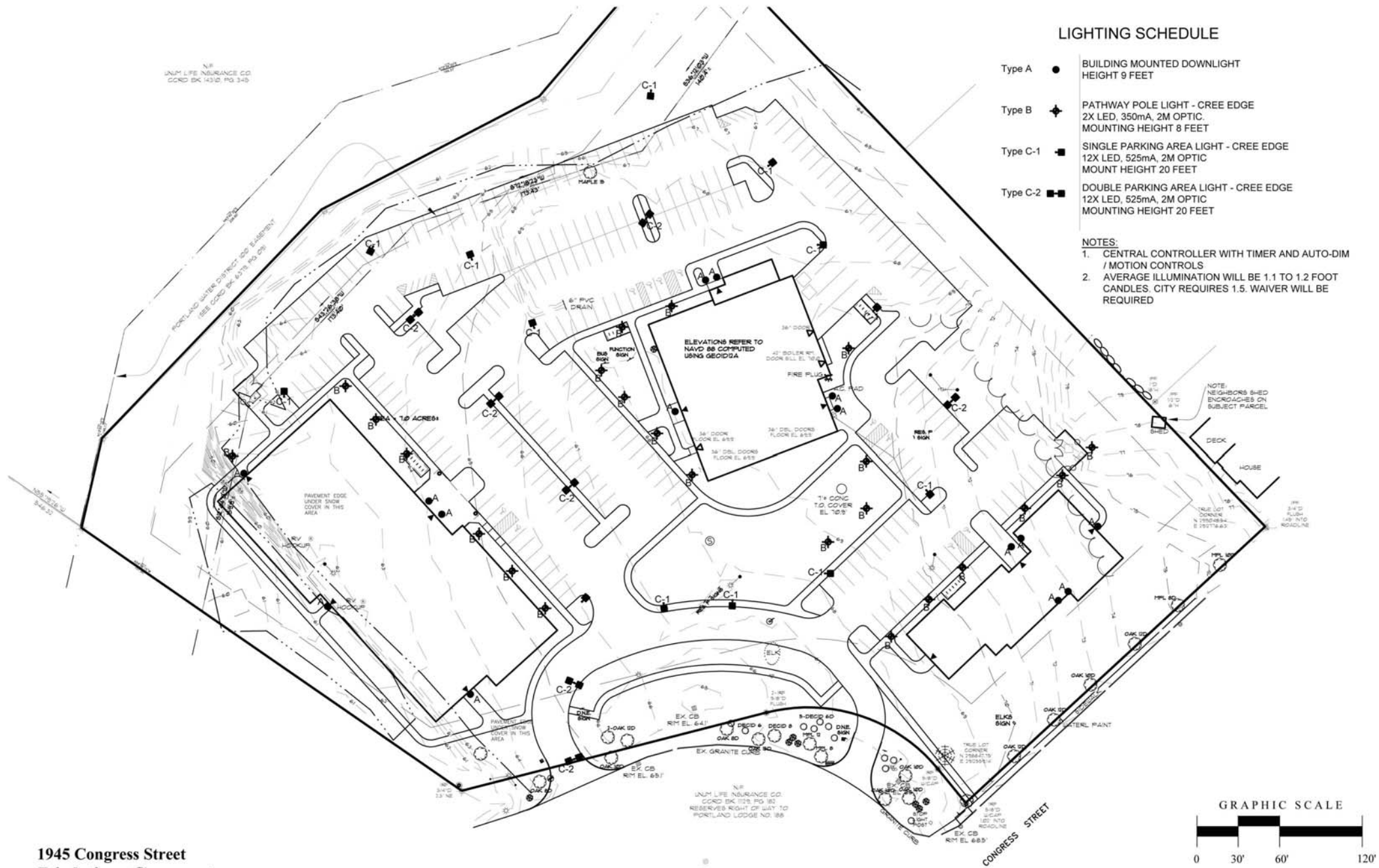
N/E
UNIV LIFE INSURANCE CO
CORD BK 14312 PG 345

LIGHTING SCHEDULE

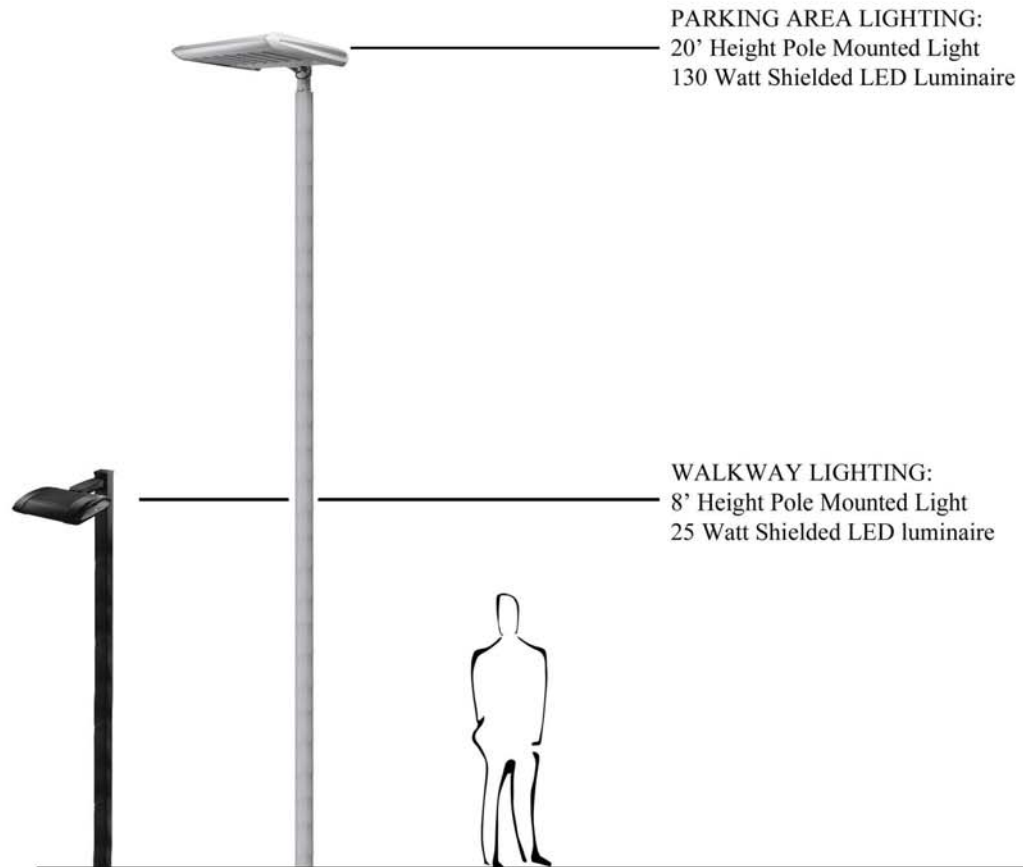
- Type A ● BUILDING MOUNTED DOWNLIGHT
HEIGHT 9 FEET
- Type B ◆ PATHWAY POLE LIGHT - CREE EDGE
2X LED, 350mA, 2M OPTIC.
MOUNTING HEIGHT 8 FEET
- Type C-1 ■ SINGLE PARKING AREA LIGHT - CREE EDGE
12X LED, 525mA, 2M OPTIC
MOUNT HEIGHT 20 FEET
- Type C-2 ■■ DOUBLE PARKING AREA LIGHT - CREE EDGE
12X LED, 525mA, 2M OPTIC
MOUNTING HEIGHT 20 FEET

NOTES:

1. CENTRAL CONTROLLER WITH TIMER AND AUTO-DIM / MOTION CONTROLS
2. AVERAGE ILLUMINATION WILL BE 1.1 TO 1.2 FOOT CANDLES. CITY REQUIRES 1.5. WAIVER WILL BE REQUIRED



Building Mounted Down Light
15-20 Watt Shielded LED Luminaire

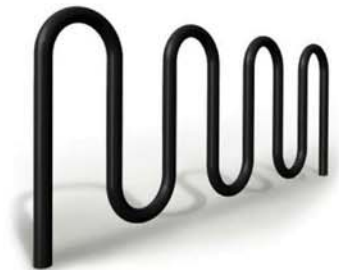




Building Entry Canopy:
Develop a common entry theme to be used for all three buildings



Site Improvements:
Simple, contemporary forms with coordinating designs





Property Identification Sign:

Steel posts and painted sign panel

Approximately 5' high x 8' wide

Colors to coordinate with buildings



Pavilion or Covered Picnic Table:

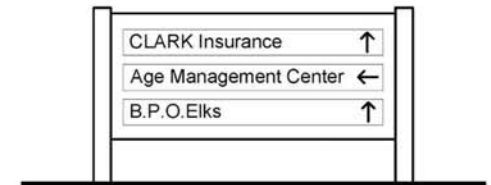
Colors and materials to be coordinated with other site improvements

Interior Wayfinding Signs:

Steel posts and painted sign panel

Approximately 2' high x 3' wide

Colors to coordinate with buildings

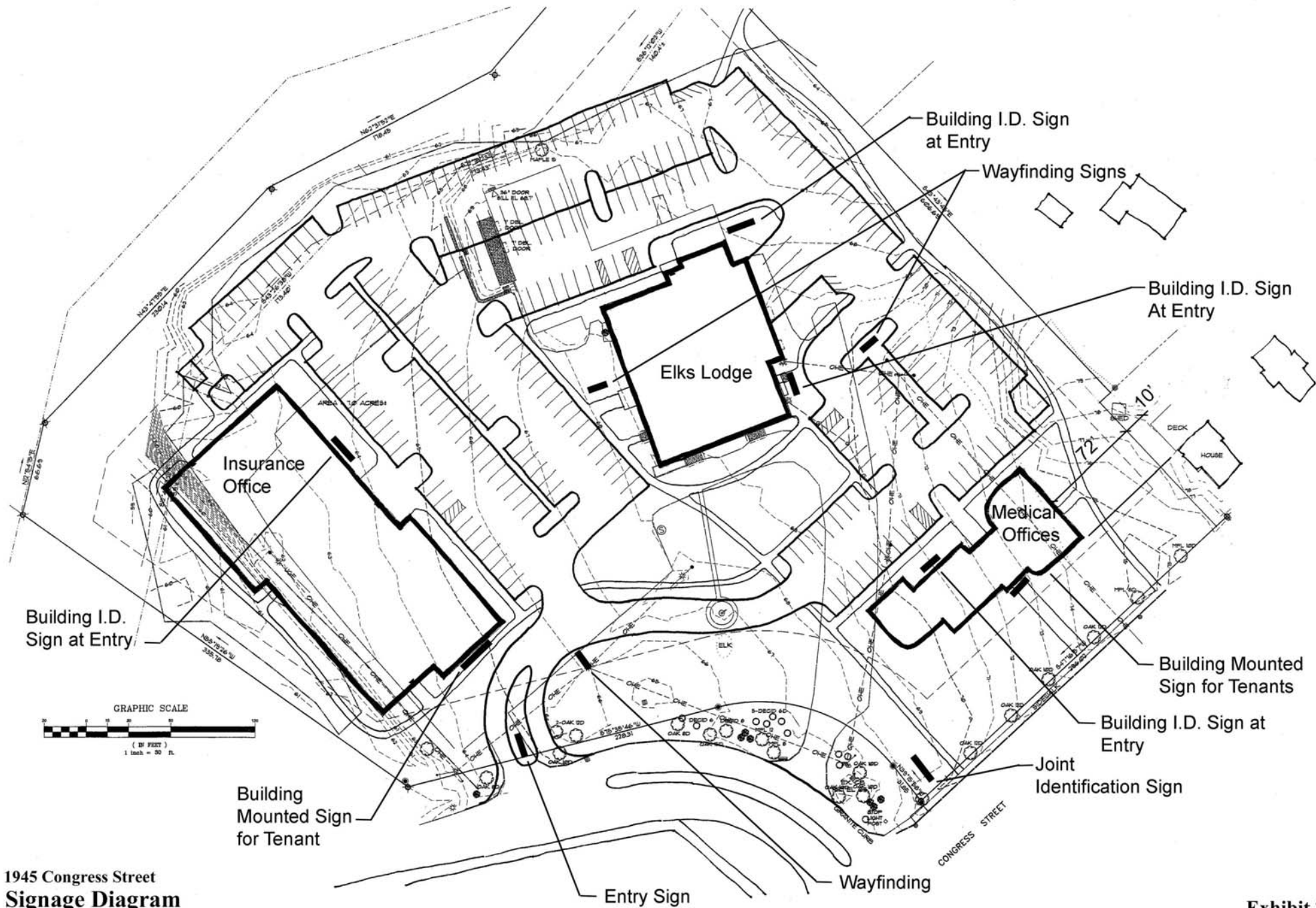


1945 Congress Street

Design Guidelines: Site Improvements

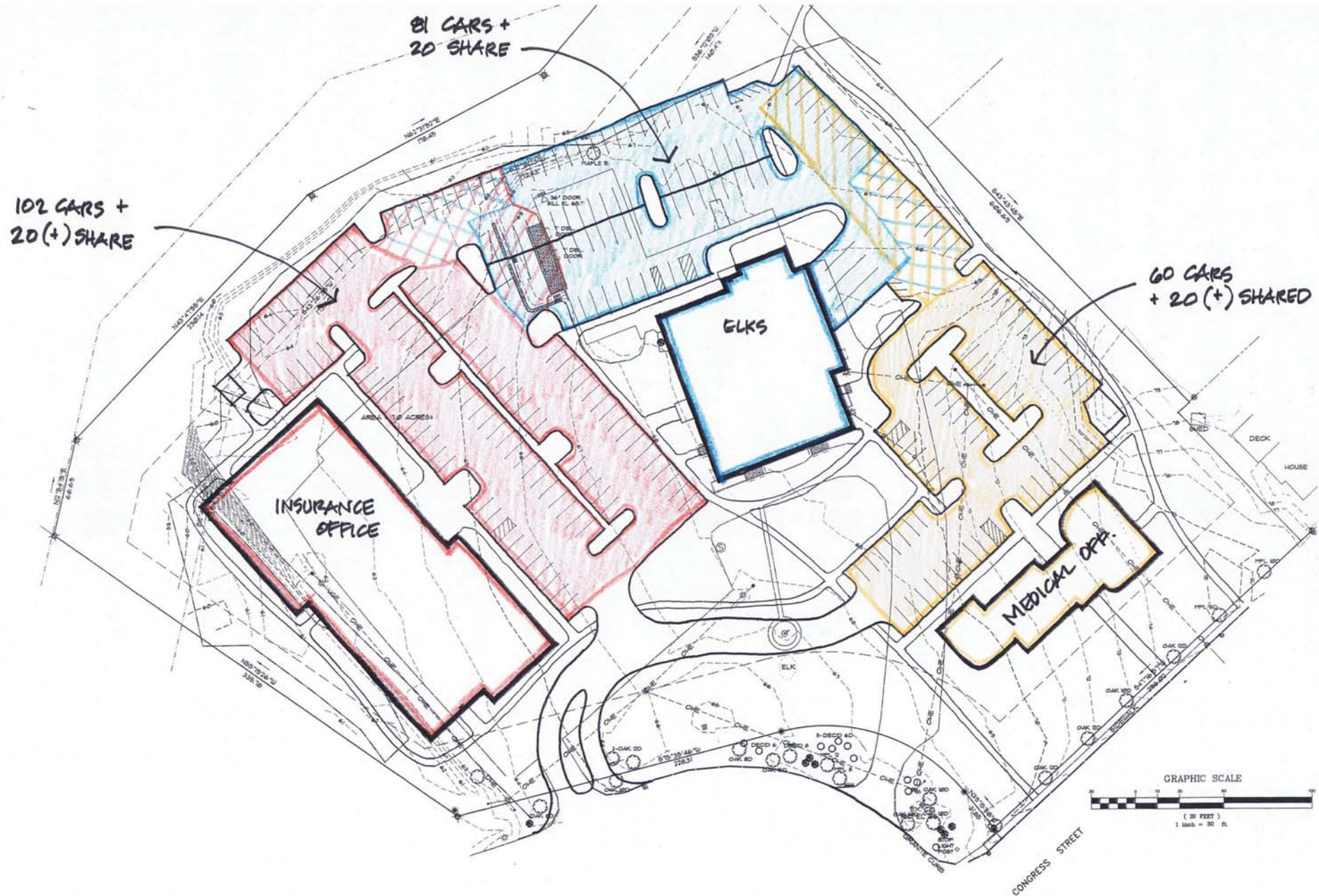
Northland Enterprises, LLC

Exhibit 24
March, 2016

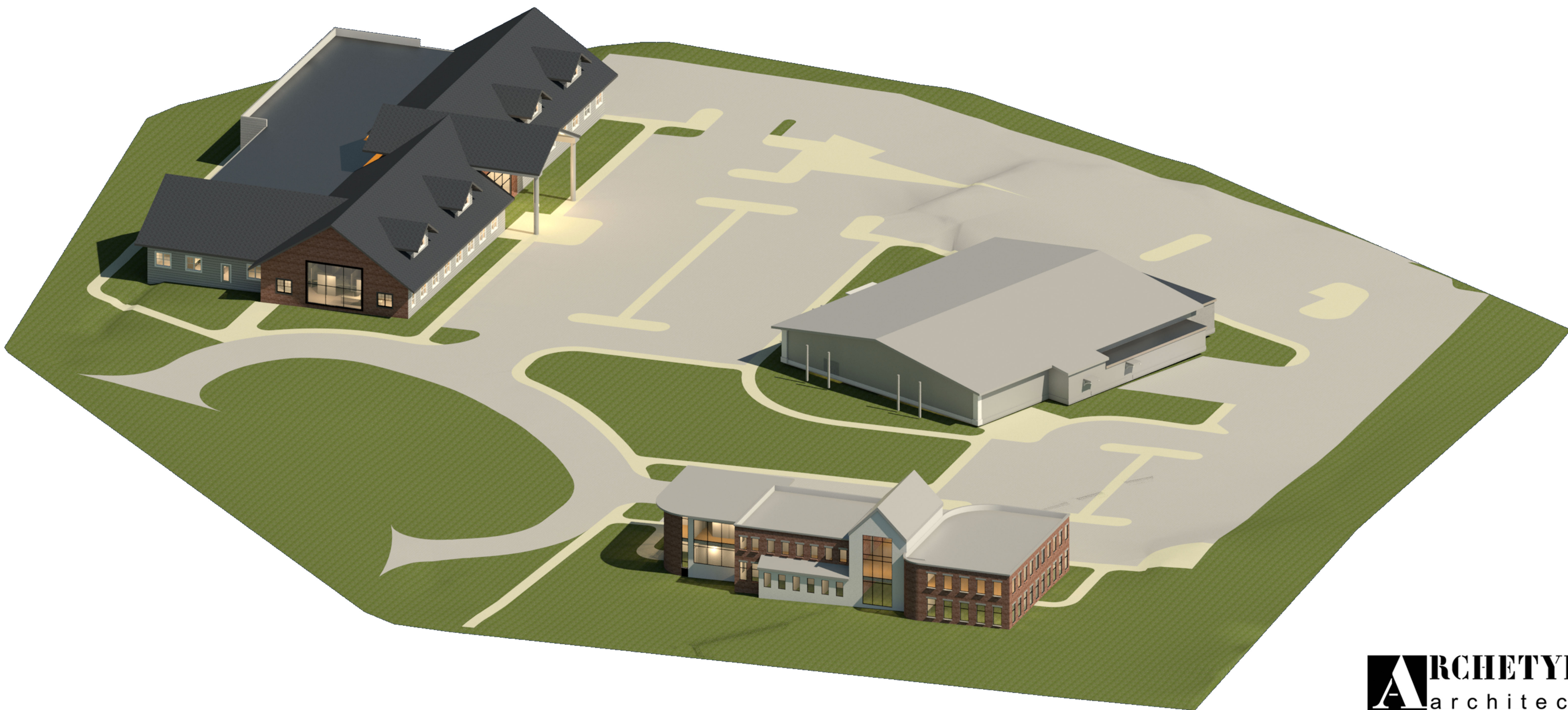


Parking Table: 1945 Congress Street

	City Parking Requirement	Existing	Tenant Requirement	Proposed Parking
Building 1: Elks Club 13,500 sf to remain 300 guest function room	Private club and fraternal hall: 1/125 sf excluding bathrooms, storage, etc.= 13,500 x 75% = 10,125 sf = 81 spaces Future 32,000 sf office building at 1/400 = 80 spaces	Exist bldg: 23,090 sf, includes 30' x 50' pool 201 paved parking + ± 53 gravel overflow= 254 spaces 1/90 sf	100 spaces requested 4 bus spaces (64 spaces agreed 2/10/14)	81 spaces 4 bus spaces + use of 20 shared spaces
Building 2: Medical Office 15,000 sf 4 Practices: 38 employees 34 exam rooms + wait room (14)	Office: 1/400 sf = 38 spaces	4,344 sf Building (5 employees) 17 parking spaces+ on street parking 1/255 sf + on-street pkg	75 spaces (5/1000 sf, or 1/250sf) (60 spaces agreed 2/10/14)	1 space / 250 sf 60 spaces + use of 20 shared spaces
Building 3: Insurance Office 25,300 sf 82 employees + 12 future + customer parking (6-10) Board meetings: Frequency = 4x per year 18 to 30 attendees Client education: 6 to 20 attendees 6 to 12 x per week	Office: 1/400 sf = 64 spaces	16,637 sf 107 spaces = 1/156 sf	102 spaces (4/1,000 sf per contract)	1 space /250 sf 102 spaces + use of 20 shared spaces
Total	183	N/A	277 cars + 4 bus (226 spaces agreed)	243 + 20 share = 263 cars (includes 10 accessible) 4 bus spaces 13 motorcycle spaces



1945 Congress Street
Parking Plan
 Northland Enterprises, LLC



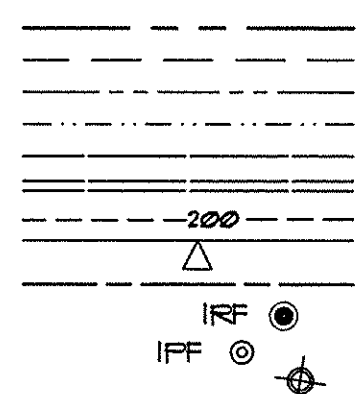


1. LANDSCAPING SHALL MEET THE "ARBORCULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE AND LANDSCAPE GUIDELINES" OF THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
2. THE ENTIRE SITE SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE PLAN. APPROVAL OF THE PLANNING AUTHORITY OR PLANNING BOARD SHALL BE REQUIRED FOR ANY CHANGES TO THE CITY OF PORTLAND APPROVED SITE PLAN INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY, DRAINAGE, LANDSCAPING, RETENTION OF WOODED OR LAUN AREAS, ACCESS, SIZE, LOCATION, AND SURFACING OF PARKING AREAS AND LOCATION AND SIZE OF BUILDINGS.
3. ALL POWERLINE UTILITIES SHALL BE UNDERGROUND.
4. SIDEWALKS AND CURBING SHALL BE DESIGNED AND BUILT WITH TYPEDOWN RAMPS AT ALL STREET CORNERS, CROSSWALKS AND DRIVEWAYS IN CONFORMANCE WITH THE CITY OF PORTLAND TECHNICAL AND DESIGN STANDARDS AND GUIDELINES.
5. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPs PUBLISHED BY THE BUREAU OF LAND AND QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2023.
6. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR REGRADING.
7. ALL DISTURBED AREAS ON THE SITE NOT COVERED BY BUILDINGS OR PAVED AREAS SHALL BE STABILIZED WITH LOAM AND SEED OR OTHER METHODS AS REQUIRED BY BEST MANAGEMENT PRACTICES (SEE ABOVE).
8. PRIOR TO CONSTRUCTION, A PRECONSTRUCTION MEETING SHALL BE HELD AT THE PROJECT LOCATION WITH THE ELECTORAL REVIEW COORDINATOR, PUBLIC WORKS REPRESENTATIVE AND OWNER TO REVIEW THE CONSTRUCTION SCHEDULE AND CRITICAL ASPECTS OF THE SITE WORK. AT THAT TIME, THE SITE/BUILDING CONTRACTOR SHALL PROVIDE A PRELIMINARY CONSTRUCTION SCHEDULE TO THE CITY OF PORTLAND ATTENDING CITY REPRESENTATIVE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A MUTUALLY AGREEABLE TIME FOR THE PRECONSTRUCTION MEETING.
9. EXISTING VEGETATION SHALL BE CONSERVED IN AREAS SHOWN ON THIS SITE. FENCING OR OTHER PROTECTIVE BARRIERS SHALL BE ERRECTED OUTSIDE THE DRIP-LINE OF INDIVIDUAL GROUPINGS OF TREES DESIGNATED FOR PRESERVATION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. NO PLANTING OR PLACEMENT OF THE DRIP-LINE OF TREES DESIGNATED FOR PRESERVATION, NO STORAGE OR CONSTRUCTION MATERIALS SHALL BE PERMITTED WITHIN THE DRIP-LINE OF TREES TO BE PRESERVED.
10. SUBDIVISION AT THE TIME OF APPROVAL IS DEFINED AS "SUBDIVISION SHALL MEAN THE DIVISION OF A LOT, TRACT, PARCEL OR LAND INTO THREE (3) OR MORE LOTS, INCLUDING LOTS OF FORTY (40) ACRES OR MORE, WITHIN ANY FIVE-YEAR PERIOD OF TIME, ACCORDING TO THE CITY OF PORTLAND ZONING ORDINANCE FOR THE PURPOSE OF THIS PARAGRAPH, A DIVISION OF LAND BY SALE, LEASE, DEVELOPMENT, BUILDING OR OTHERWISE AND AS FURTHER DEFINED IN 30-A M.R.S.A. SECTION 4401. THE TERM SUBDIVISION SHALL ALSO INCLUDE THE DIVISION OF A NEW STRUCTURE OR STRUCTURES ON A TRACT OR PARCEL OF LAND INTO TWO OR MORE DISTINGUISHABLE UNITS WITHIN ANY FIVE-YEAR PERIOD AND THE DIVISION OF AN EXISTING STRUCTURE OR STRUCTURES PREVIOUSLY USED FOR COMMERCIAL OR INDUSTRIAL USE INTO THREE (3) OR MORE DWELLING UNITS WITHIN A FIVE-YEAR PERIOD. THE AREA INCLUDED IN THE EXPANSION OF AN EXISTING STRUCTURE IS DEEMED TO BE USED FOR THE PURPOSE OF THIS PARAGRAPH. A DWELLING UNIT SHALL INCLUDE ANY PART OF A STRUCTURE WHICH, THROUGH SALE OR LEASE, IS INTENDED FOR HUMAN HABITATION, INCLUDING SINGLE-FAMILY AND MULTIFAMILY HOUSING COMMUNITIES, THE-SHARE UNITS AND APARTMENTS."

1. STANDARD BOUNDARY SURVEY OF PORTLAND LODGE NO. 188 FOR UNIM. CORP. DATED THROUGH 08-18-98 SURVEY BY SEBAGO TECHINCS RECORDED IN CORD PG 198, PG 365.
2. STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF B.F.O.E. PARCEL MADE FOR UNIM LIFE INSURANCE CO. DATED APRIL 1935 SURVEY BY OWEN HASKELL, INC.
3. PLAN OF PROPERTY MADE FOR PORTLAND WATER DISTRICT DATED 12-22-1920 BY H.J. 4 E.C. JORDAN.
4. DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP DATED APRIL 1933 D.O.T. FILE NO. 3-463.

1. ELEVATIONS REFER TO NAVD 88 COMPUTED USING GEOID12A

EXISTING



PROPERTY LINE
BUILDING SETBACK
ABUTTERS PROPERTY
EASEMENT
EDGE OF PAVEMENT
CURB
CONTOURS
BUILDING ENTRY/EGRE
THREAD OF STREAM
IRON ROD FOUND
IRON PIPE FOUND
ANGLE POINT

[illegible]

LOT LINE
75' STREAM SETBACK
EDGE OF PAVEMENT
CURB
BUILDING
BUILDING ENTRY/EGRESS
HANDICAP PARKING
"NO PARKING" AREA
UNDERDRAINED SOIL FILTER
FILTERRA DRAINAGE SYSTEM
BIKE RACKS W/ CANOPY

ZONE: O-P, OFFICE PARK
PERMITTED USE: PROFESSIONAL BUILDINGS
GRANDFATHERED USE: ASSEMBLY

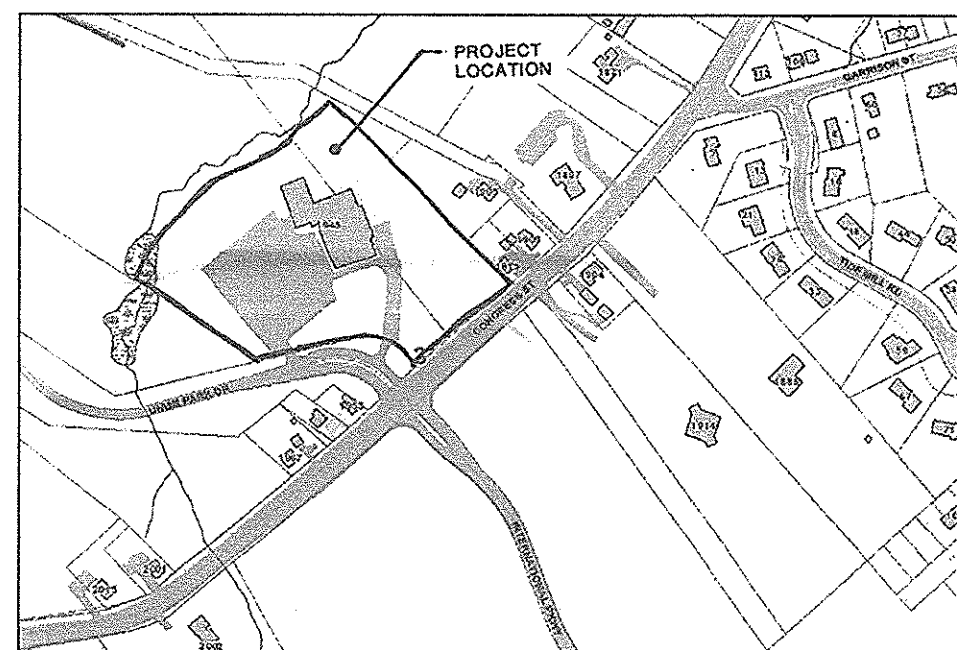
SPACE STANDARDS	REQUIRED	PROVIDED
MINIMUM LOT SIZE	15 ACRES	6.93 ACRES
MINIMUM STREET FRONTAGE	100 FEET	236 FEET
MINIMUM FRONT YARD	50 FEET	53 FEET
MINIMUM REAR YARD	50 FEET	100 ± 184 FEET
MINIMUM SIDE YARD	25 FEET ①	90, 122 ± 30 FEET
MAXIMUM BUILDING HEIGHT	55 FEET	30 FEET ±

① EXCEPT WHERE A SIDE YARD ABUTS A RESIDENTIAL ZONE OR USE, IN WHICH CASE IT SHALL BE 40 FEET.

EXISTING IMPERVIOUS	133,241 SQ. FT.
PROPOSED IMPERVIOUS	160,134 SQ. FT.
NET IMPERVIOUS	-27,493 SQ. FT.

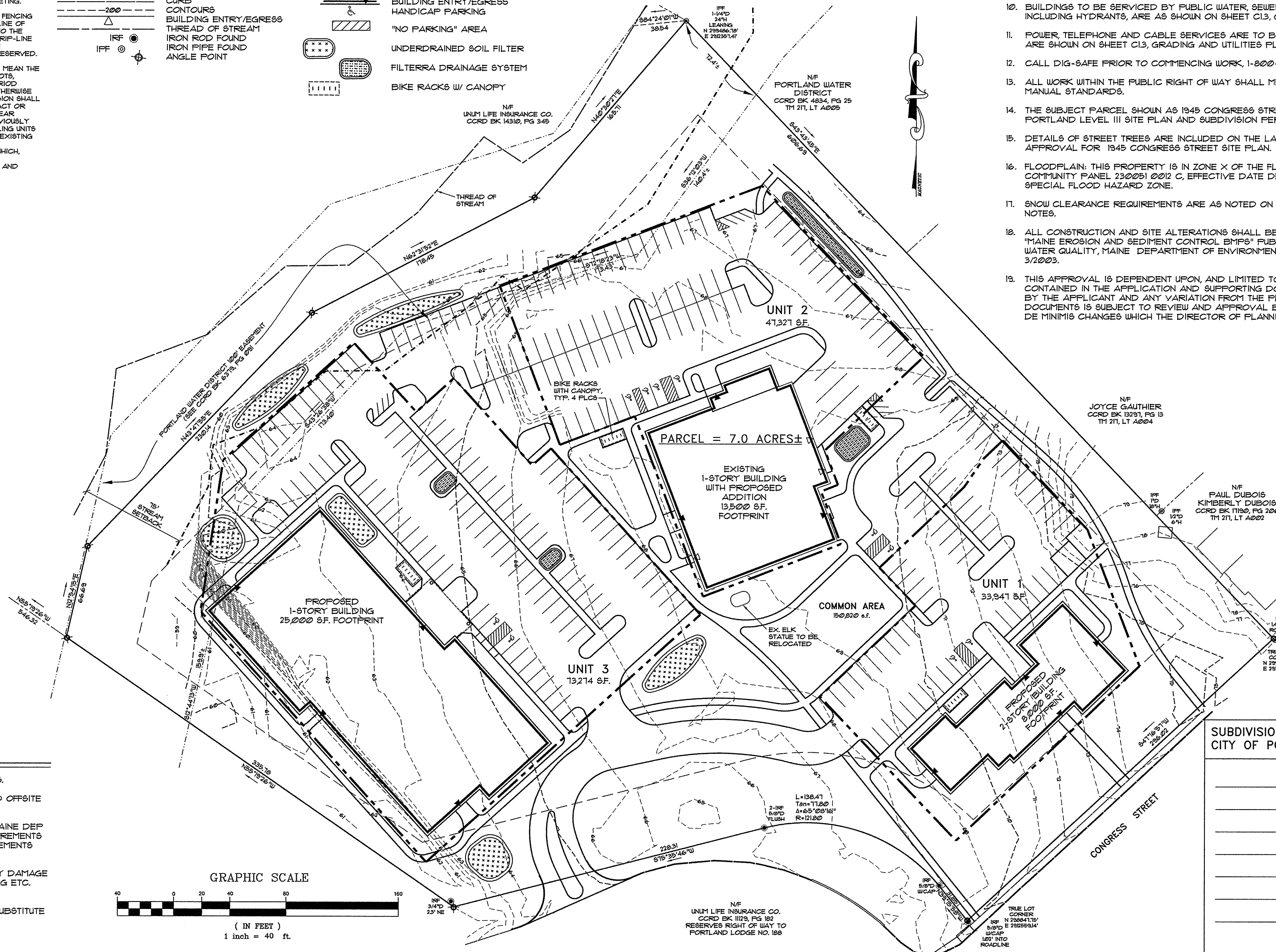
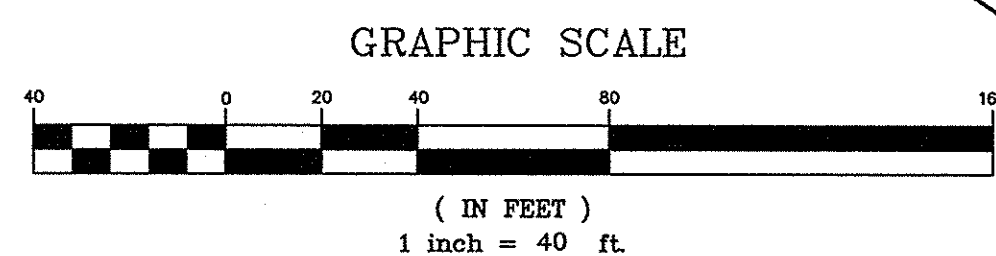
1. OWNER: PORTLAND LODGE #188 BENEVOLENT AND PROTECTIVE ORDER OF ELKS OF UNITED STATES OF AMERICA, 1945 CONGRESS STREET, PORTLAND MAINE. DEED RECORDED IN CUMBERLAND COUNTY REGISTRY OF DEEDS BK. 36191, PG. 31, DATE 4/28/1983.
2. DEVELOPER: NORTHLAND ENTERPRISES, LLC, 11 SOUTH STREET, PORTLAND MAINE, 04101
3. ENGINEER: PINKHAM & GREER CIVIL ENGINEERS, 28 VANNAH AVENUE, PORTLAND, MAINE, 04103.
4. ARCHITECT: ARCHITECTURE ARCHITECTS, 48 UNION WHARF, PORTLAND, MAINE 04101.
5. TOPOGRAPHIC AND BOUNDARY INFORMATION PROVIDED BY MAINE SURVEY CONSULTANTS, INC, P.O. BOX 485, HARRISON, MAINE. REFERENCE IS MADE TO "BOUNDARY PLAN & TOPOGRAPHIC SURVEY FOR PINKHAM & GREER ENGINEERS 28 VANNAH AVE. PORTLAND, MAINE 04103 OWNER OF RECORD: PORTLAND LODGE #188 B.P.O.E. OF USA" DATED DECEMBER 2014.
6. UNDERLYING SOILS MAPPING TAKEN FROM SOIL CONSERVATION STUDY OF CUMBERLAND COUNTY.
7. ZONE: OF, OFFICE PARK, PROPOSED USE: PROFESSIONAL OFFICES
8. TAX MAP REFERENCE: MAP 216 / BLOCK A / LOT 6 AND MAP 217 / BLOCK A / LOT 1.
9. TOTAL PARCEL = 6.99 acres
10. BUILDINGS TO BE SERVICED BY PUBLIC WATER, SEWER, AND GAS. THESE SERVICES, INCLUDING HYDRANTS, ARE AS SHOWN ON SHEET C13, GRADING AND UTILITIES PLAN.
11. POWER, TELEPHONE AND CABLE SERVICES ARE TO BE UNDERGROUND. THESE SERVICES ARE SHOWN ON SHEET C13, GRADING AND UTILITIES PLAN.
12. CALL DIG-8AFE PRIOR TO COMMENCING WORK, 1-800-DIG-8AFE.
13. ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL MEET CITY OF PORTLAND TECHNICAL MANUAL STANDARDS.
14. THE SUBJECT PARCEL SHOWN AS 1945 CONGRESS STREET IS SUBJECT TO A CITY OF PORTLAND LEVEL III SITE PLAN AND SUBDIVISION PERMIT.
15. DETAILS OF STREET TREES ARE INCLUDED ON THE LANDSCAPE PLAN AS PART OF THE APPROVAL FOR 1945 CONGRESS STREET SITE PLAN.
16. FLOODPLAIN: THIS PROPERTY IS IN ZONE X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PLAN 230251 0012 C, EFFECTIVE DATE DECEMBER 8, 1998. IT IS NOT IN A SPECIAL FLOOD HAZARD ZONE.
17. SNOW CLEARANCE REQUIREMENTS ARE AS NOTED ON THIS SHEET UNDER SNOW CLEARANCE NOTES.
18. ALL CONSTRUCTION AND SITE ALTERATIONS SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMPs" PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION, 3/2003.
19. THIS APPROVAL IS DEPENDENT UPON, AND LIMITED TO, THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED BY THE APPLICANT AND ANY VARIATION FROM THE PLANS, PROPOSALS AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL BY THE PLANNING BOARD, EXCEPT FOR DE MINIMIS CHANGES WHICH THE DIRECTOR OF PLANNING AND ZONING MAY APPROVE.

	REQUIRED		PROVIDED
	<u>PROFESSIONAL</u> <u>OFFICES</u>	<u>ASSEMBLY</u>	
	1 PER 400 SQ. FT.	1 PER 125 SQ. FT.	
AUTOMOBILE	103	108	266
BICYCLE			40
2-WHEELED MOTORIZED			11



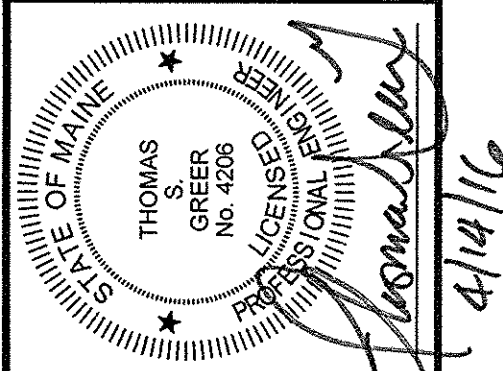
NOT TO SCALE

1. SNOW IS TO BE STORED WITHIN THE SNOW STORAGE AREAS.
2. SNOW MAY BE PHYSICALLY REMOVED AND TRANSPORTED OFFSITE IF NECESSARY.
3. SNOW TRANSPORTED OFFSITE SHALL BE BROUGHT TO A MAINE DEP APPROVED "SNOW DUMP" OR MEET THE EXEMPTION REQUIREMENTS SPECIFIED WITHIN CHAPTER 513 WHEN THE ABOVE REQUIREMENTS CANNOT BE MET DUE TO AN ABUNDANCE OF SNOW.
4. THE SNOW CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO VEGETATION, LANDSCAPING, CURBING, LIGHTING, FENCING ETC. RESULTING FROM THEIR ACTIVITIES.
5. THE SNOW CONTRACTOR SHALL USE SALT OR CHLORIDE SUBSTITUTE TO DEICE THE PARKING LOT.
6. THE OWNER IS RESPONSIBLE FOR SNOW REMOVAL BEING UNDERTAKEN IN A TIMELY FASHION.



DATE _____

PINKHAM & GREER
CIVIL ENGINEERS

[illegible]

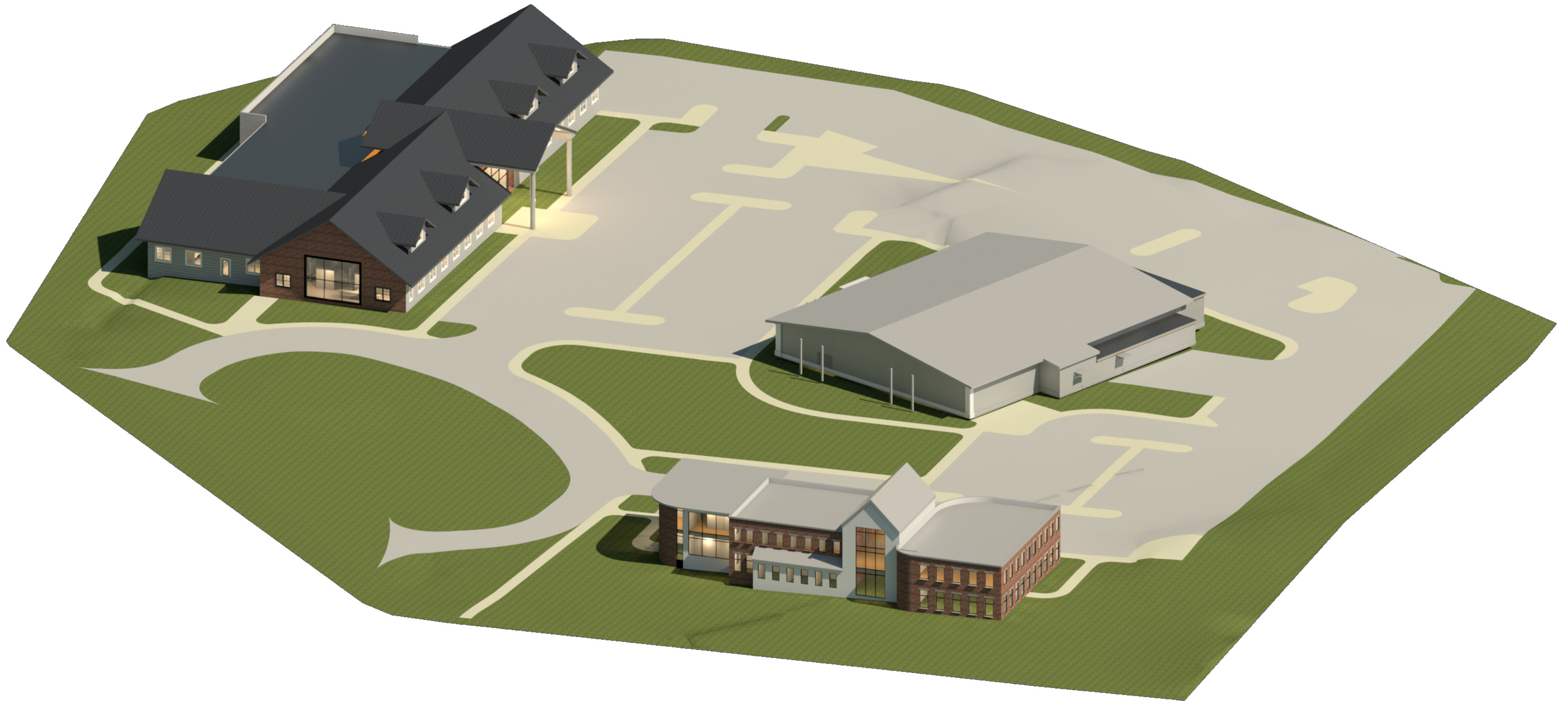
NORTHLAND ENTERPRISES, LLC
17 SOUTH STREET
PORTLAND, MAINE 04101

SCALE: AS SHOWN
DATE: APRIL 14, 2016
PROJECT: 13151
DRN BY: JDC
DESG BY: TSG
CHK BY: TSC

1945 CONGRESS STREET
ELKS LODGE, PORTLAND, MAINE

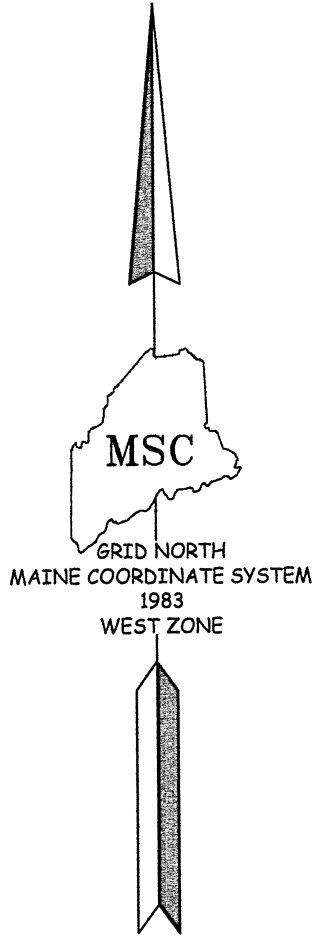
SUBDIVISION PLAT

C1.0



PLAN REFERENCES

- 1) STANDARD BOUNDARY SURVEY OF PORTLAND LODGE NO. 188 FOR UNUM CORP. DATED THROUGH 08-18-98 SURVEY BY SEBAGO TECHNIQS RECORDED IN CCRD PB 198, PG 365.
- 2) STANDARD BOUNDARY AND TOPOGRAPHIC SURVEY OF B.P.O.E. PARCEL MADE FOR UNUM LIFE INSURANCE CO. DATED APRIL 1995 SURVEY BY OWEN HASKELL, INC.
- 3) PLAN OF PROPERTY MADE FOR PORTLAND WATER DISTRICT DATED 12-22-1980 BY H.I. & E.C. JORDAN.
- 4) DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP DATED APRIL 1993 D.O.T. FILE NO. 3-403.



UNUM LIFE INSURANCE CO.
CCRD BK 14310, PG 345

N/F
PORTLAND WATER DISTRICT
CCRD BK 4834, PG 25
TM 217, LT A005

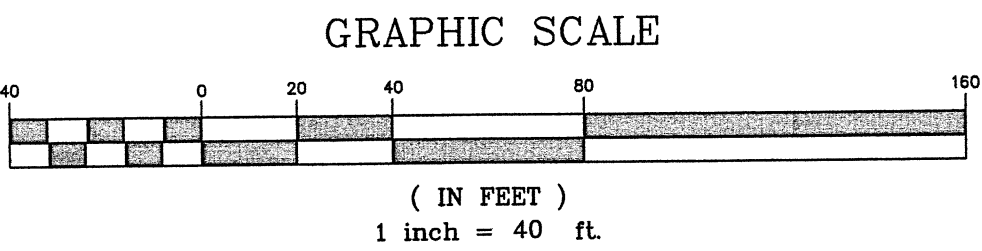
N/F
JOYCE GAUTHIER
CCRD BK 13297, PG 13
TM 217, LT A004

N/F
PAUL DUBOIS
KIMBERLY DUBOIS
CCRD BK 17190, PG 206
TM 217, LT A002

AREA = 7.0 ACRES ±

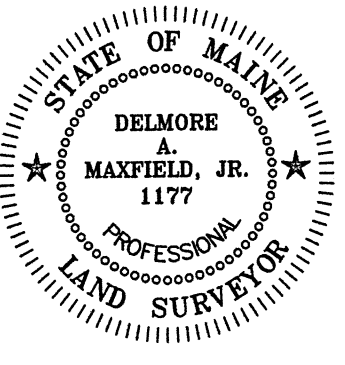
LEGEND:

- IRON PIPE FOUND
- IRON ROD FOUND
- UTILITY POLE
- GUY WIRE
- SQUARE CATCH BASIN
- ROUND CATCH BASIN
- GAS VALVE
- SIGN (SINGLE POST)
- SPOT ELEVATION
- N/F
- TM 217, LT A004
- BK 11290, PG 182
- C.C.R.D.
- PARCEL BOUNDARY
- EDGE PAVED TRAVELWAY
- BUILDING
- OVERHEAD UTILITY LINE
- UNDERGROUND UTILITY LINE
- GAS LINE
- TREE/WOODS LINE
- LIGHT POLE
- EASEMENT LINE
- ANGLE POINT (NO PIN SET)
- FLAG POLE
- CONCRETE SURFACE



NOTES:

- 1) THE PARCEL BOUNDARIES AS DEPICTED ON THIS MAP WERE DERIVED FROM A THOROUGH REVIEW OF RECOVERED EXISTING RECORD EVIDENCE AND ACTUAL FIELD SURVEY LOCATION OF FOUND PHYSICAL EVIDENCE AND REPRESENT IN MY PROFESSIONAL OPINION THE POSITION OF THE RECORD PARCEL BOUNDARIES.
- 2) THIS SURVEY CONFORMS TO THE CURRENT STANDARDS ADOPTED BY THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.
- 3) NOT VALID OR TRUE COPY OF ORIGINAL UNLESS SIGNED AND EMBOSSED BY SURVEYOR.



DATE: 2-12-15

BOUNDARY PLAN & TOPOGRAPHIC SURVEY
FOR
**PINKHAM & GREER
ENGINEERS**

28 VANNAH AVE. PORTLAND, MAINE 04103
OWNER OF RECORD:
PORTLAND LODGE #188 B.P.O.E. OF USA
CCRD BOOK 6157, PAGE 037
PARCEL #217A001
LOCATED AT:
CONGRESS STREET
PORTLAND, MAINE

PREPARED BY:
MAINE SURVEY CONSULTANTS, INC.
P.O. BOX 485 HARRISON, MAINE 04040
SCALE: 1"=40' DATE: DECEMBER 2014
JN114043/PRJ 114043A/DWG BASE114043A FB 137.091

NOTE:
NOT ALL UNDERGROUND UTILITY
LINES HAVE BEEN LOCATED.



CLARK INSURANCE







Helen Donaldson <hcd@portlandmaine.gov>

1945 Congress Street - Planning Board Workshop, 5/10/16

William Linnell <captlinnell@yahoo.com>

Mon, May 2, 2016 at 12:34 PM

To: Helen Donaldson <hcd@portlandmaine.gov>, David Silk <dsilk@curtisthaxter.com>, Stroudwater Village Association Board of Trustees <stroudwatervillageassociation@gmail.com>, Roger Hinchliffe <roger@amanofhiswords.com>

Hi Nell,

Thank you for the notices of the upcoming meetings.

Now that the zone change has been approved, I would like to see how the Planning Board will apply the Office Park zone rules to the Elks plan.

Specifically, I am concerned as I see the current proposal as more of an "Office/ Parking Lot" than an "Office Park."

The zone calls for a park or campus- like setting. The proposed plan is hardly a park or a campus-like setting, due to its ambitious density of buildings and parking.

My first question--On what basis would or would not the Planning Staff recommend approval of a project zoned Office Park, with respect to density and traffic?

-- It seems that the Unum property is a genuine example of the spirit of the zone- set back from the road and with enough green space to truly embody a campus or park-like setting.

Second and third questions: What, if any, guidelines does the Planning Staff have regarding the allowed density of the Office Park Zone? Is there a limit to how many square feet of buildings and parking lot may be in an Office Park, relative to the open or green space on the lot?

Best,

Bill Linnell

[Sent from Yahoo Mail on Android](#)

From: "Helen Donaldson" <hcd@portlandmaine.gov>

Date: Mon, May 2, 2016 at 8:46 AM

Subject: 1945 Congress Street - Planning Board Workshop, 5/10/16

[Quoted text hidden]

Notice: Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

May 3, 2016

Portland Planning Division - 4th Floor
City Hall
389 Congress Street
Portland, ME 04101

Re: 1945 Congress Street

Dear Planning Board Members,

Thank you for welcoming public comment. Both the 7-acre parcel at 1945 Congress Street and the 40-acre parcel associated with Camelot Farm on Stroudwater Street offer great opportunities. Hearing from those who reside here really might allow a better outcome for Portland.

I am not against the proposed development of the 1945 Congress Street project, yet feel compelled to comment on the placement of the buildings upon the lot. Making it a little less visually prominent is more in keeping with the surrounding area - which remains largely residential. Keeping in touch with the texture of the surrounding homes and historic values would be greatly appreciated. This is not a downtown area that will garner walk-in traffic for the medical building being built and there is a way this can be approached that can win broad support. Additionally, trees will diminish both the light pollution and the increased noise from additional vehicular traffic.

As increased traffic will no doubt have an impact, and knowing that safe streets remains part of the Stroudwater Village Association's Mission, it is imperative that any changes to traffic flow be approached carefully. A Garrison Street traffic light or a school bus stop could be quite hazardous in the afternoon when coming up that hill into the setting sun during the winter months - vision is terrible and an accident with serious consequences is a real concern.

As a resident of Stroudwater, I have watched many projects that have had an immediate impact on our historic village and its surroundings: Mr. Scark's promised barn-like structure for his aviation pursuits did not turn out as promised; the dyslexia center for the Mason's did not follow Planning Board approvals and the installed vinyl siding had to be removed after a fuss; windows are cracked in houses as heavy trucks roar by on Stroudwater Road/Westbrook Street. Speed limits are not adhered to and traffic studies have been flawed in their calculations due to backed up traffic and cars entering from side roads and driveways.

Please be mindful of what Stroudwater remains to the city of Portland. We are the last rural bastion and a gateway of pastures, salt and fresh water rivers, birds and wildlife, and historic homes.

Thank you - Eugenia O'Brien, 1376 Westbrook St., Portland 04102 (207) 773-5610



Memorandum

Planning and Urban Development Department

Planning Division

To: Elizabeth Boepple, Chair, and Members of the Portland Planning Board
From: Nell Donaldson, Planner
Date: April 22, 2016
Re: Suburban Propane, 636 Riverside Street
Project #: 2016-047 **CBL:** 322-A-3
Meeting Date: April 26, 2016

I. INTRODUCTION

Forefront Partners, working on behalf of Suburban Propane, has requested a preliminary Level III site plan and subdivision review for the development of a new lot in the city's Riverside Street Subdivision. The plans include the creation of a new 4.12 acre lot through an amended subdivision plat and the development of that lot with office, garage, and fuel storage facilities. The proposal also includes the construction of a shared access driveway prescribed in the original Riverside Street Subdivision plat, parking, stormwater infrastructure, and utility connections.

This development is being referred to the Planning Board for compliance with the site plan and subdivision standards of the land use code. A total of 76 notices were sent to property owners within 1,000 feet of the site and a legal ad ran in the *Portland Press Herald* on May 2 and 3, 2016.

Applicant: Forefront Partners, LP
Consultants: Bo Kennedy, Stantec

II. REQUIRED REVIEWS

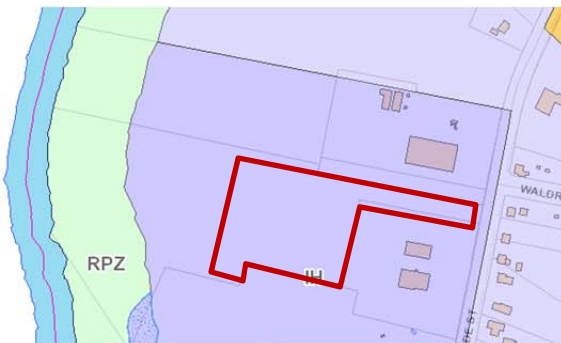
<i>Waiver Requests</i>	<i>Applicable Standards</i>
None requested at this time	

<i>Review</i>	<i>Applicable Standards</i>
Site Plan	Section 14-526
Subdivision	Section 14-497

III. PROJECT DATA

Existing Zoning	I-H
Existing Use	Vacant
Proposed Use	Mixed use (commercial and residential)
Proposed Development Program	Office building, garage, cylinder storage dock, and fuel storage
Parcel Size	4.12 acres

	<i>Existing</i>	<i>Proposed</i>	<i>Net Change</i>
Building Footprint	0 SF	13,446 SF	13,446 SF
Building Floor Area	0 SF	13,446 SF	13,446 SF
Impervious Surface Area	75,358 SF	104,544 SF	29,186 SF
Parking Spaces (on site)	0	50	50
Bicycle Parking Spaces	0	0	0
Estimated Cost of Project	\$2,000,000		



Figures 1, 2, and 3:
Existing conditions
from above (top);
existing zoning (bottom
left); existing site from
Riverside Street
(bottom right)



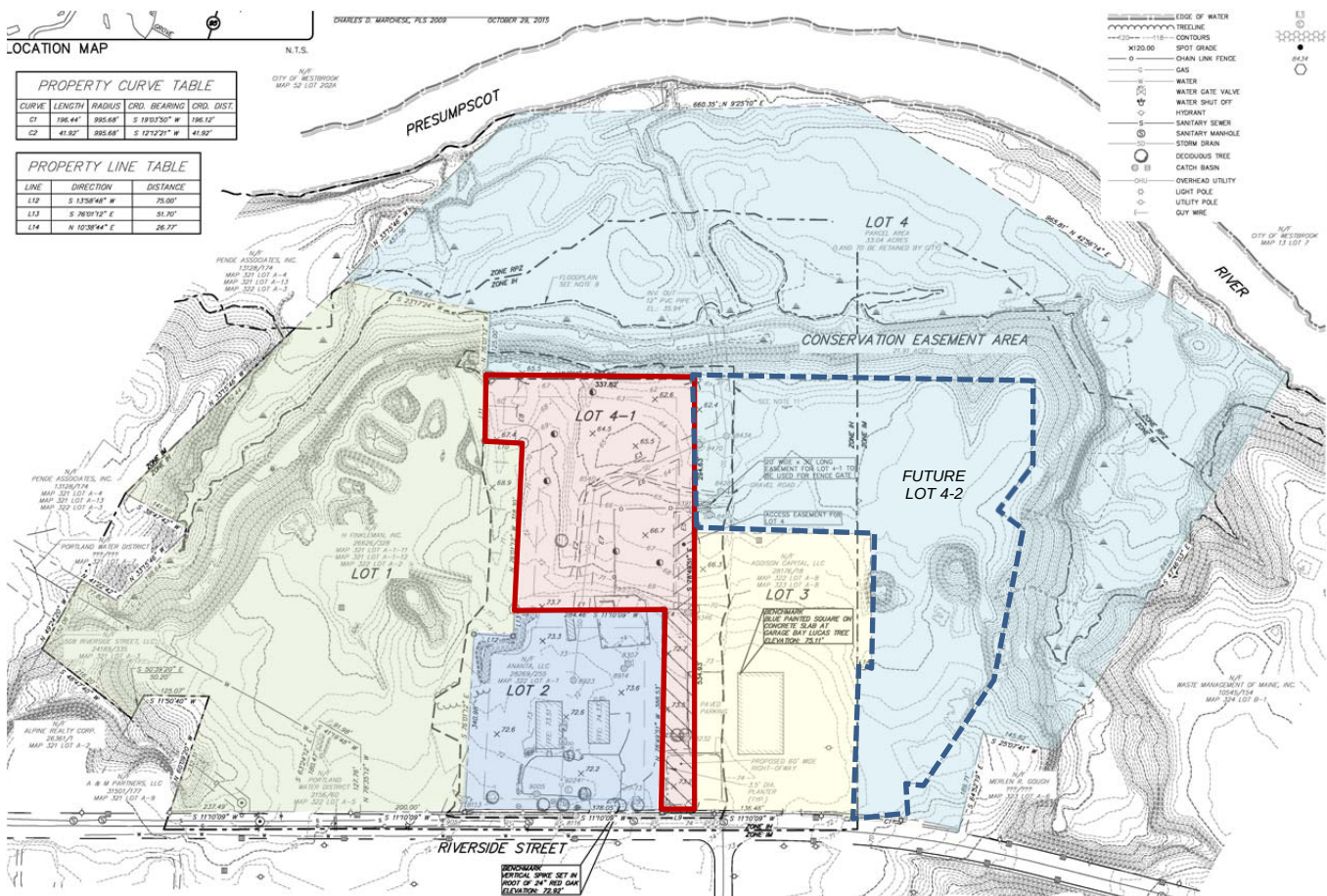


Figure4: Draft subdivision plat, showing Suburban Propane site (Lot 4-1) as well as future Lot 4-2, to be subdivided by the city

IV. BACKGROUND & EXISTING CONDITIONS

636 Riverside Street is located on the city's western border near the intersection of Riverside Street and Forest Avenue. The site is a portion of one of four lots created by the city in 2010 when it established the Riverside Subdivision. Three of these four original lots are currently occupied: Lot 1 by Schnitzer, Lot 2 by Solaris, a solar installer, and Lot 3 by Lucas Tree. The Suburban Propane development is proposed for a portion of Lot 4. The site lies in the High Impact Industrial (I-H) zone.

The site, which is just over 4 acres in size, is a fill site, and has recently been used as a laydown, hauling, and parking area by Lucas Tree. An environmental site assessment was conducted on the property at the time of the original subdivision in 2010. Per the applicant, there are no significant environmental issues on the property. The site drains to the Presumpscot River. Currently, there are no buildings on the site. Access is from Riverside Street.

V. PROPOSED DEVELOPMENT

Under the current application, the Suburban Propane site would be split from the fourth of the four original Riverside Subdivision lots, making a new lot, labeled 4-1 on the plat, with access from Riverside Street. The applicant has proposed to construct:

1. A 7,300 SF pre-fabricated metal building to be used as Suburban Propane's district office, with up to 48 employees and a small customer service area;
2. A 2,146 SF building with a two-bay garage and associated office space;
3. A fuel storage and distribution area with a 4,000 SF elevated dock;
4. Three 30,000 gallon propane fuel storage containers with piping to bobtail connections;

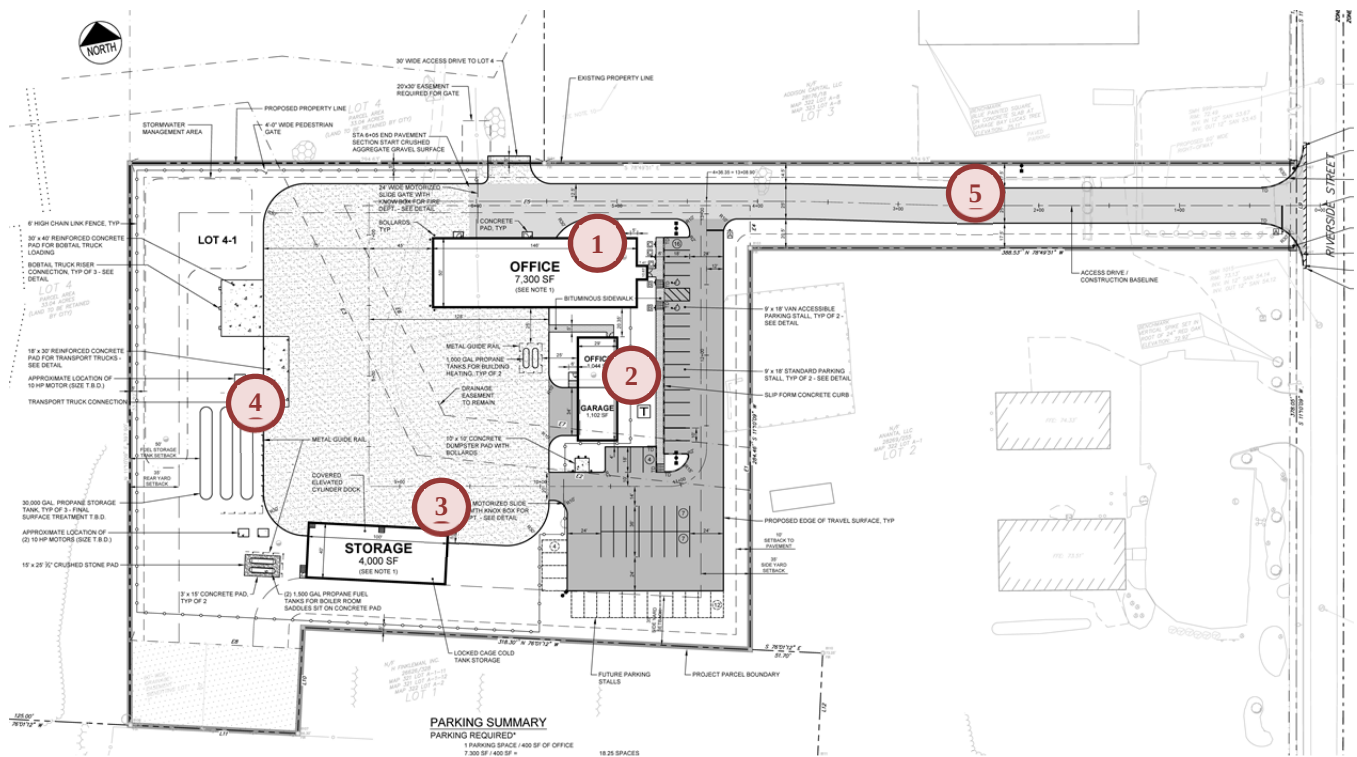


Figure 5: Preliminary site plan

5. A 25 foot wide access drive from Riverside Street which would provide vehicular connections to a parking area with 50 spaces for both employee and visitor use.

The garage and fuel storage elements of the plan would be serviced by a gravel yard area and secured within a 6 foot fence with two motorized gates.

VI. PUBLIC COMMENT

Staff fielded one telephone call from a neighbor who raised concerns about the presence of rock dust on site and potential pollution to the Presumpscot River. No written comments have been submitted.

The applicant has scheduled a neighborhood meeting for Monday, May 9. Meeting minutes will be available at the time of final review.

VII. RIGHT, TITLE, & INTEREST

The applicant's submittal includes a purchase and sale agreement between the City of Portland and Thompson's Point Development Company as evidence of right, title, and interest. Under the existing arrangement, Thompson's Point Development Company will develop the site on behalf of Suburban Propane and deed the property to Suburban Propane following development.

A number of easements exist on the site:

- A drainage easement from the City of Portland to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC) to allow storm drainage to cross the site;
- A shared access driveway easement from the City of Portland to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC) to allow access to and from a shared drive on the site;
- A shared access maintenance agreement between Lot 2 (Ananta LLC), Lot 3 (Addison Capital LLC), and the City of Portland to clarify maintenance responsibilities for the shared drive; and
- A public access easement to the City of Portland for portions of sidewalk which lie in the city's right-of-way in Riverside Street.

The preliminary plans show one of the proposed buildings encroaching on the existing drainage easement. Staff has requested that the applicant address this in the final plan submittal. Department of Public Works staff has also identified a proposed utility encroachment onto Lot 3, and has asked that this be resolved prior to final plan review.

Two easements are proposed in the preliminary application:

- An easement across the site which would extend access rights from the access drive to provide access to the remainder of Lot 4, and
- An easement for a motorized gate opening which, per the current plans, would extend onto the remainder of Lot 4. Staff has requested the applicant explore redesigning or relocating the fence to avoid the need for this easement.

Per discussions with city staff, a drainage easement may also be required to address the capacity of the site to drain over the remainder of Lot 4. Staff has requested that the applicant depict existing and proposed easement on the site plan.

VIII. FINANCIAL & TECHNICAL CAPACITY

The estimated cost of the development is approximately \$2 million. The applicant has submitted a letter from Androscoggin Bank indicating vouching for Thompson's Point Development Company's financial capacity (*Attachment D*).

IX. ZONING ANALYSIS

The applicant has provided a zoning analysis documenting that the plans meet the dimensional requirements of the I-H zone (*Attachment B*). Staff has requested that the applicant show the front yard setback on the revised plan set. It appears that this setback is being met.

X. SITE PLAN SUBMISSION REQUIREMENTS (Section 14-527) and SUBDIVISION PLAT AND RECORDING PLAT REQUIREMENTS (Section 14-496)

Per the city's land use ordinance, the following materials should be included in the final plan submission:

- A subdivision plat meeting all plat requirements as noted in *Section 14-496* and addressing the comments of both Planning staff and the city's surveyor, Bill Clark (*Attachments 1 and 2*). Mr. Clark, writes,

Need to set property corners for the new lot. I saw other corners missing for Lot 3, but when I went to the plan for Lot 3 I saw them set as part of that project, so my notations for setting four property corners on Lot 3 are not needed.

Show State Plane Coordinates for the two corners indicated along Riverside Street. Access easement for Lot 4 beyond Lot 2 is crowded with much linework. Maybe a blowup detail to define it might help.

The nature of the 60 foot wide strip along Lot 1 is not stated.

60 foot Right of Way from Riverside Street between Lot 2 and Lot 3. Is it in common with Lots, 2, 3, 4, and 41? I am under the assumption that it is in fee ownership for Lot 4-1.

Remainder of Lot 4. I believe the 33.04 acres will be reduced by the area which creates Lot 4-1.

David Senus, consulting civil engineer, adds,

Work is proposed on Lot 4 outside of the limits of Lot 4-1, including installation of a reinforced turf overflow spillway (refer to Sheet C-6.0) and installation of a new Catch Basin (CB)-3 (refer to Sheet C-4.0), replacing an existing CB. We anticipate that the catch basin replacement is straightforward and should not require specific notes or changes to the plat; however, the reinforced turf overflow spillway will require clearing

of vegetation and future inspection and maintenance, therefore it should be specifically noted on the plat amendment.

It should be noted that the city's Economic Development Department is considering the potential for creating an additional lot, which would be called Lot 4-2, at this time (*Figure 4*). This lot would be split from the remainder of Lot 4 and would constitute the last developable lot of the subdivision. Frontage would be provided on Riverside Street; access would be via the shared access drive. Further discussion of this lot division, including the review of a subdivision plat showing the new lot, will occur at the time of final review.

- Final site plan submittal requirements as noted in *Sections 14-527(e) and (f)*:
- Evidence of state and federal permits, including a Notice of Intent to Comply with the Maine Construction General Permit. David Senus, consulting civil engineer, writes,

The Erosion and Sedimentation Control Report includes a sample compliance form to acknowledge contractor compliance with the Maine Construction General Permit. Because the project will result in land disturbance of greater than 1 acre, a Notice of Intent to Comply with the Maine Construction General Permit will need to be filed with the MaineDEP, and a copy should be forwarded to the City Planning Department.

XI. SUBDIVISION REVIEW (14-497(a). Review Criteria)

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's subdivision ordinance. Staff comments are below.

1. Water, Air Pollution

The site currently serves as a laydown area for Lucas Tree, with about half of the site, or 1.73 acres, covered in gravel. The project will disturb approximately 92% of the parcel. Under the proposed site plan, impervious would increase to 2.4 acres.

The applicant has proposed a grassed underdrained soil filter to treat an area equivalent to the net new impervious area and obtain an additional water quality management credit against the city's stormwater service charge (*Attachment B*). The underdrained soil filter would outlet to existing drainage infrastructure on the remainder of Lot 4, and from there to the Presumpscot River. The rest of the lot would drain directly to the existing drainage infrastructure on the site and, subsequently, the river, with the exception of a small area at the head of the entrance drive which would sheet flow to Riverside Street.

David Senus, consulting civil engineer, has reviewed the stormwater systems proposed for the site (*Attachment 3*). His review is discussed in more detail under site plan below. No detrimental water or air quality impacts are anticipated.

2 & 3. Adequacy of Water Supply

The plans show water service from an existing 12" cast iron water main in Riverside Street. The plans show 6" fire service and 2" domestic service running from a single 6" connection in the main. Fire service would extend to a hydrant proposed to the northeast of the office building and further to the propane storage dock, which will contain a sprinkler system. Domestic service would be provided to each of the three buildings proposed. Evidence of water capacity will be required at the time of final review.

4. Soil Erosion

No unreasonable soil erosion or reduction in the capacity of the land to hold water is anticipated.

5. Impacts on Existing or Proposed Highways and Public Roads

The applicant has provided a trip generation estimate (*Attachment B*). This analysis assumes 48 employees at maximum capacity and an AM peak hour trip generation of 23 trips. Per the application, "a negligible impact to Riverside Street" is anticipated (*Attachment B*). Mr. Errico has reviewed the trip generation and provided comments (*Attachment 4*), which are discussed in detail under site plan review below.

6. Sanitary Sewer/Stormwater Disposal

The applicant has proposed 8" sanitary sewer lines from the garage and office buildings which would combine in a single 8" line to the adjacent 12" sewer main in Riverside Street. The applicant has submitted a wastewater capacity application to the Department of Public Services (*Attachment 4*). Verification of capacity will be required at the time of final plan review.

As noted above, the proposed development would direct the vast majority of stormwater runoff to existing drainage infrastructure within the subdivision, which outlets to the Presumpscot River. Comments are discussed in more detail under site plan review below.

7. Solid Waste

The applicant has identified solid waste volumes anticipated to be generated both during and post-construction. A dumpster pad is proposed on the site. They also note that small amounts of auto repair waste will be "properly managed, stored, and disposed of inside the garage" (*Attachment H*).

8. Scenic Beauty

This proposal is not deemed to have an adverse impact on the scenic beauty of the area.

9. Comprehensive Plan

The project is deemed to be generally consistent with the comprehensive plan, in that it develops a city-owned subdivision intended for industrial use.

10. Financial and Technical Capacity

As noted above, the applicant has provided evidence of financial and technical capacity (*Attachment D*).

11. Wetland/Water Body Impacts

There are no anticipated impacts to wetlands.

12. Groundwater Impacts

There are no anticipated impacts to groundwater supplies.

13. Flood-Prone Area

The site does abut a flood zone. It appears that no development will occur within the flood zone. This should be confirmed by the applicant in the final plan submittal.

XII. SITE PLAN REVIEW

The proposed development has been reviewed by staff for conformance with the relevant review standards of the City of Portland's site plan ordinance. Staff comments are below.

1. Transportation Standards**a. Impact on Surrounding Street Systems**

As noted above, the applicant has provided a trip generation analysis based on the proposed site use, which estimates a peak trip generation of 23 trips during the AM peak hour, mostly as a function of employee commutes. The applicant writes, "[t]rips generated by customers or fueling trucks are anticipated to visit the site during off-peak hours and will be relatively minimal" (*Attachment B*). In the final submittal, planning staff have requested that the applicant provide additional information on the size of the fueling fleet and the proposed level of industrial/fueling traffic to and from the site. Staff has also requested additional information on the nature of the office use.

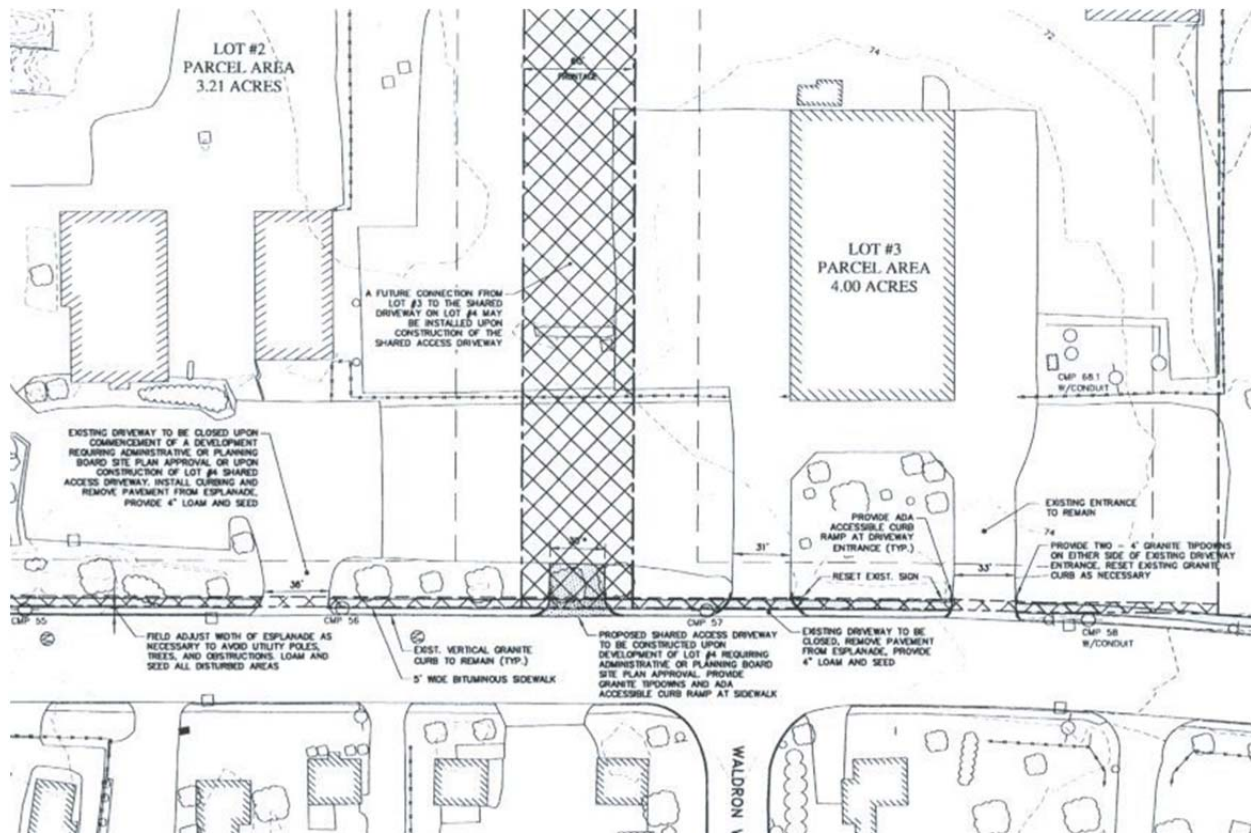


Figure 6: Sidewalk and Driveway Plan, Riverside Subdivision Plat

It should be noted that Mr. Errico has reviewed the trip generation analysis and anticipates no major impacts to the adjacent street infrastructure. He writes,

I have reviewed the trip generation estimate for the site and find it to be acceptable. In my professional opinion the project will not create traffic congestion or safety problems.

However, he has requested a modification to the entrance drive in order to accommodate traffic exiting the site,

Given traffic levels on Riverside Street, two approach lanes (separate left and right lanes) on the driveway should be provided.

a. *Access and Circulation*

The plans include a new 25' access drive from Riverside Street. Mr. Errico notes,

The proposed driveway to Riverside Street is noted to be 25feet wide. While acceptable, a 24foot wide driveway would be permitted.

It should be noted that there is some unresolved discussion about the use of this access drive. Per the original Riverside Subdivision plat, which was recorded in 2010, the entrance to Lot 2 (now owned by Ananta LLC, and occupied by Solaris) is to be closed "upon commencement of a development requiring administrative or planning board site plan approval or upon construction of Lot 4 shared access driveway," which is currently proposed (*Plan 2*). Pursuant to the development of this subdivision plat, the City of Portland granted a shared access driveway easement to Lot 2 (Ananta LLC) and Lot 3 (Addison Capital LLC "for the purpose of and conveying the right to perpetually enter at any and all times" over the access to Lot 4 from Riverside Street (*Attachment C*). Subsequently, these parties entered into a Shared Access Driveway Maintenance Agreement which stipulates that, when Lot 4 is developed, the owner of Lot 4 is to

be responsible for constructing the shared access driveway, that the owner Lot 3 is entitled to access their lot via the driveway by providing written notice to the owners of Lots 2 and 4, and lastly, that the owners of Lot 4 will share maintenance of the shared driveway “with Lot 2 and/or Lot 3 in a reasonable proportionate share reflecting the length of the shared access driveway used by each lot and the approximate number of trips made by vehicles to and from each lot” (*Attachment C*).

Staff has requested that the applicant depict the existing access easement on the site plan, for purposes of clarity. Further, staff has asked that the plans show points of access to Lot 2 and Lot 3 from the shared access drive.

Mr. Errico notes,

The construction of the proposed drive triggers the closing of the driveway to the south on Riverside Street and construction of a new access/egress drive on the proposed drive. Details of these two actions (closing the driveway and providing a connection) shall be provided.

It should be noted that, per discussions with the applicant and staff from the city’s Economic Development Department, the city is working with the applicant and the abutting property owners to resolve questions around cost allocation for driveway construction, curb cut closures, and long term maintenance.

As noted above, the proposed amended subdivision plat also includes an easement over the site to the remainder of Lot 4. Staff has requested that this easement be shown on the site plan and that it be developed at this time.

With respect to pedestrian access to the site, the preliminary application includes the construction of new ADA ramps at the entrance drive on Riverside Street, but no pedestrian connections beyond the right-of-way. Mr. Errico has requested a sidewalk along the access drive to provide a continuous internal walkway between the public sidewalk and the primary building entrance for use by employees and the public. He writes,

A sidewalk shall be constructed on the proposed drive between Riverside Street and the project site. This shall include a pedestrian facility onsite to the building entrance.

Staff has met with the applicant to discuss the design of this walkway.

b. Public Transit Access

The project is not located on an existing transit route. No public transit access is required.

c. Parking

Division 20 of the land use ordinance establishes a parking requirement of 1/400 SF for office spaces and 1/1,000 SF for industrial buildings not catering to retail trade and with floor area over 3,000 SF. Based on these ratios, 24 parking spaces are required. The applicant’s preliminary plans show 34 spaces in a paved parking lot and 16 “future” spaces in order to serve the 30-34 existing full time employees and 14 additional employees that might be housed at the site in the future. Of these spaces, Mr. Errico writes,

The plans illustrate future parking spaces. It is recommended that the spaces either be part of this application or their designation be removed from the site plan.

In discussions with the applicant, they have indicated the intent to include these spaces in this application. Staff has also requested that the applicant explain whether and where fleet vehicles will be stored on the site.

Technically, per the ordinance, four bicycle spaces are required. Staff has requested that the applicant either provide those spaces in revised plans or request a waiver from the bicycle parking standard.

d. *Transportation Demand Management*

A transportation demand management plan is not required.

2. Environmental Quality Standards

a. *Preservation of Significant Natural Features*

There are no known significant natural features on the site.

b. *Landscaping and Landscape Preservation*

The preliminary application does not include a landscape plan, as the applicant does not propose to install any landscaping. Staff has requested that the applicant clarify the surface treatment for the area beyond the perimeter of the proposed gravel yard, and has reiterated the landscape standards of the site plan ordinance. Jeff Tarling, the city's arborist, has added,

The proposed 636 Riverside Street project would benefit from a landscape / tree planting plan. The landscape plan should address any new parking areas, commercial property to city right of way interface, this would be the view to the site and landscape treatment to improve circulation. The landscape improvements could be incremental to the proposed site work vs the entire site.

c. *Water Quality/Storm Water Management/Erosion Control*

As noted above, the applicant plans to increase impervious area by approximately 29,200 SF, and proposes to treat an area of runoff greater than this area through the use of an underdrained soil filter which would outlet to the Presumpscot River. Mr. Sensus has reviewed the design of the stormwater system and writes,

The applicant is seeking a waiver from the MaineDEP Chapter 500 Flooding Standard, as the project parcel is tributary to a major river segment (Presumpscot River). Given that the proposed underdrained soil filter will manage the discharge rate of the Water Quality Volume generated from the new impervious area, and given that the site discharges almost directly to the Presumpscot River, we support the Applicant's request for a waiver from the Flooding Standard.

The applicant should inspect and document the condition of the existing outfall that will receive flow from the project (the 12" outfall pipe and stabilized outlet area). Any corrective action(s) identified as a result of the inspection should be added to the plans to occur as part of this work.

3. Public Infrastructure and Community Safety Standards

a. *Consistency with Related Master Plans*

As noted above, the project is generally deemed consistent with related master plans.

b. *Public Safety and Fire Prevention*

The preliminary plans show all proposed propane storage within a locked, fenced area. A private hydrant is proposed on site, and the propane cylinder storage building will be sprinkled (*Attachment F*). Keith Gautreau, Assistant Fire Chief, has reviewed the fire safety analysis and writes,

Signage or Street numbers for the address location should be located out on Riverside Street in addition to the building.

Any hydrant installed, replaced or upgraded shall meet all standards utilized by the Portland Water District at the time of such installation, NFPA 24, Standard for Installation of Private Fire Service Mains and Their Appurtenances, and Section 2.4.

Notes addressing these comments should be added to the final plans.

c. *Availability and Capacity of Public Utilities*

As noted above, the plans show domestic water and fire service from an existing 12" cast iron water main in Riverside Street. Evidence of water capacity will be required at the time of final review. Verification of wastewater capacity will also be required at the time of final plan review. Michael Farmer, of the city's Department of Public Works, has reviewed the utility plan and notes,

Can the applicant's engineers review the proposed sewer system design slopes and determine the following? (1) Does the proposed slope of the building sewer to the office building meets the requirements in the state plumbing code? (2) Are the proposed slopes and expected wastewater flows sufficient to provide scouring velocities in the proposed sewer pipes?

Electrical service is proposed from the overhead lines in Riverside Street. Overhead service would be extended along the shared access drive and along the front of the site to a riser pole directly in front of the office/garage building. From there, electrical service would drop underground to a pad mounted transformer and subsequently to the three buildings on site. Regarding the electrical service, Mr. Farmer writes,

The proposed overhead utility lines appear to encroach onto the Lucas Tree parcel. Are there easements that would allow such encroachment?

Regarding utility work, Mr. Sensus adds,

The plans should show pavement repair limits (saw-cuts) for utility installations within Riverside Street, and the details should include Figure II-12 (Typical Pipe Trench Installation) from the City of Portland Technical Manual.

4. Site Design Standards

a. *Massing, Ventilation, and Wind Impact*

The bulk, location, or height of the buildings are not likely to result in health or safety problems from a reduction in ventilation to abutting structures.

b. *Shadows*

The project is proposed in the I-H zone; as such, this standard does not apply.

c. *Snow and Ice Loading*

No adverse snow and ice loading impacts are anticipated.

d. *View Corridors*

Riverside Street is not a designated view corridor.

e. *Historic Resources*

The project will not affect historic resources.

f. *Exterior Lighting*

The applicant has submitted lighting cut sheets and a photometric plan. This plan shows that site lighting will exceed the city's maximum illumination level. Staff has requested that the applicant either explain why this level of lighting is necessary or revise the lighting plan to bring illumination levels into conformance with the city's *Technical Manual*. Staff has also requested that the applicant update the site plan to match the light locations depicted on the photometric plan.

g. *Noise and Vibration*

The applicant has stated that noise and vibration levels will meet the standards of the zone.

h. *Signage and Wayfinding*

No signage or wayfinding is proposed at this time. All commercial signs will be required to meet Division 22 of the land use ordinance.

i. *Zoning-Related Design Standards*

There are no design standards for the I-H zone.

XIII. NEXT STEPS

1. Applicant to address staff comments and additional comments of the Planning Board;
2. Applicant to prepare final plan submission, including subdivision and site plan submittal requirements as included in 14-496(a) and (b) and 14-527(e) and (f) for review by the Planning Authority and Planning Board; and
3. Hold final Planning Board hearing.

XIV. ATTACHMENTS

PLANNING BOARD REPORT ATTACHMENTS

1. City Surveyor review (memo from Bill Clark, 4/12/16)
2. Planning review (memo from Nell Donaldson, 4/13/16)
3. Civil Engineer review (memo from David Senus, 4/4/16)
4. Traffic Engineer review (memo from Thomas Errico, 4/11/16)
5. Department of Public Works review (memo from Michael Farmer, 4/11/16)
6. City Arborist review (memo from Jeff Tarling, 4/11/16)
7. Fire Prevention Bureau review (memo from Keith Gautreau, 4/11/16)

APPLICANT'S SUBMITTALS

- A. Level III Site Plan application
- B. Development Description
- C. Right, Title, and Interest
- D. Technical and Financial Capacity
- E. Utilities
- F. Fire Safety
- G. Construction Management Plan
- H. Solid Waste
- I. Conformity with Applicable Design Standards
- J. Elevations and Floor Plan

PLANS

- Plan 1. Riverside Subdivision Recording Plat
- Plan 2. Sidewalk and Driveway Plan, Riverside Recording Plat
- Plan 3. Cover Sheet
- Plan 4. General Notes and Legend
- Plan 5. Existing Conditions Plan of Land
- Plan 6. Second Amended Riverside Subdivision
- Plan 7. Site Layout Plan
- Plan 8. Grading and Drainage Plan
- Plan 9. Utility Plan
- Plan 10. Erosion Control Plan
- Plan 11. Erosion Control Notes
- Plan 12. Erosion Control Details
- Plan 13. Stormwater Management Filter Details
- Plan 14. Stormwater Management Filter Notes

- Plan 15. Stormwater Management Details
- Plan 16. Utility Details
- Plan 17. Utility Details
- Plan 18. Site Details
- Plan 19. Site Details
- Plan 20. Electrical and lighting Details
- Plan 21. Sanitary Sewer Profiles
- Plan 22. Storm Drain Profiles
- Plan 23. Storm Drain Profiles
- Plan 24. Water Profile
- Plan 25. Access Drive Profile
- Plan 26. Photometric Plan



Helen Donaldson <hcd@portlandmaine.gov>

636 Riverside - 2016-047

William Clark <wbc@portlandmaine.gov>

Tue, Apr 12, 2016 at 2:43 PM

To: Helen Donaldson <hcd@portlandmaine.gov>

Hi Nell,

I would say this is another project where we wished we had kept the plan at 1" = 50 ' versus 1" = 100' as it is difficult to show great detail at 1" = 100'.

I have attached my markup.

1. Need to set property corners for the new lot. I saw other corners missing for Lot 3, but when I went to the plan for Lot 3 I saw them set as part of that project, so my notations for setting four property corners on Lot 3 are not needed.
2. Show State Plane Coordinates for the two corners indicated along Riverside Street.
3. Access easement for Lot 4 beyond Lot 2 is crowded with much linework. Maybe a blowup detail to define it might help.
4. The nature of the 60 foot wide strip along Lot 1 is not stated.
5. 60 foot Right of Way from Riverside Street between Lot 2 and Lot 3. Is it in common with Lots, 2, 3, 4, and 4-1? I am under the assumption that it is in fee ownership for Lot 4-1.
6. Remainder of Lot 4. I believe the 33.04 acres will be reduced by the area which creates Lot 4-1.

Thanks,

Bill

[Quoted text hidden]

—

William Clark, PLS
Senior Project Engineer
DPW Engineering
City of Portland
55 Portland St.
Portland, ME 04101
[207 874 8847](tel:2078748847)

**2ND Amended Riverside Subdivision Plat 10 29 2015 Survey Review 4 12 2016.PDF**

1334K

636 Riverside: Preliminary Review - Planning		
		Preliminary SITE PLAN Review (14-526)
Transportation	a. Impact on Surrounding Street Systems	- In the final submittal, provide additional description as to the level of industrial/fueling traffic to/from the site (e.g. You mention that this traffic will be dispersed over the day. How many fleet vehicles are we talking about?) - Also please provide additional description of the nature of the office use
	b. Access and Circulation	- Show the existing access easement to Ananta (Lot #2)/Addison Capital (Lot #3) on the site plan. - Plans should include a point of access to the Ananta property (Lot #2) from the shared access drive. Pending discussion with Lucas Tree, a point of access should also be shown to the site owned by Addison Capital (Lot #3) - Per the original subdivision plat, the curb cut to the Ananta property (Lot #2) must be closed upon the construction of the shared access drive. A maintenance agreement, further to that developed and recorded in 2010, will need to be developed. - The easement on Lot #4-1 for purposes of access to Lot 4 should also be depicted on the site plan. This easement will need to be developed. - Could the gate be redesigned or relocated to the rear of the office building to avoid the need for an easement on Lot 4? - How many fleet vehicles will be stored on the site? Where on the site will they be located when not in operation?
	c. Public Transit Access	
	d. Parking	- Either eliminate 'future parking' or show as permanent spaces on site plan - Show snow storage locations 4 bicycle spaces are technically required. In the revised submittal, either provide those spaces or request a waiver.
	e. Transportation Demand Management (TDM)	
Environmental Quality	a. Preservation of Significant Natural Features	
	b. Landscaping and Landscape Preservation	- Define surface treatment for area beyond perimeter of gravel yard - Landscaping is required at following ratios: - Understory plantings standard (14-526(b)2b(i)(b)): 6 shrubs (or ornamental grass or sub 3 perennials)/45 LF of frontage - Parking lot standard (14-526(b)2b(ii)(a)): 2 trees (or 1 tree & 3 shrubs)/5 spaces planted in LS islands
	c. Water Quality, Storm Water Management and Erosion Control	
Public Infrastructure and	a. Consistency with Master Plans	
	b. Public Safety and Fire	

Community Safety	Prevention	
	c. Availability and Adequate Capacity of Public Utilities	• Need evidence of water capacity • Need evidence of sewer capacity • Could electrical service be placed underground from the pole at Riverside Street?
Site Design	a. Massing, Ventilation and Wind Impact	•
	b. Shadows	•
	c. Snow and Ice Loading	•
	d. View Corridors	•
	e. Historic Resources	•
	f. Exterior Lighting	• Photometric plan shows site will exceed max illumination standard of 5.0 footcandles. Either explain why necessary or revise to bring lighting levels down. • Update site plan to match light locations on photometric plan
	g. Noise and Vibration	•
	h. Signage and Wayfinding	
	i. Zoning Related Design Standards	•

	Preliminary SUBDIVISION Review (14-497)
1. Water/Air Pollution	•
2. & 3. Water Supply	•
4. Erosion	•
5. Transportation Impacts	•
6. Sanitary Sewer/Stormwater	•
7. Solid Waste	•
8. Scenic Beauty	•
9. Comprehensive Plan	•
10. Financial and Technical Capacity	•
11. Wetland Impacts	•
12. Groundwater Impacts	•
13. Flood-Prone Area?	
14. & 15. ID Wetlands & Rivers	

Permits

Waivers

Additional Submittals Required

Zoning

Revise site plan to show front yard setback of 25'

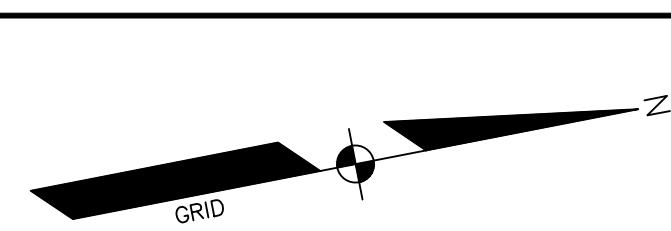
Easements

Garage building conflicts with existing drainage easement. Based on reading of easement language, this is not permissible.

LOCATION MAP N.T.S.

PROPERTY CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C1	196.44'	995.68'	S 19°03'50" W	196.12'
C2	41.92'	995.68'	S 12°12'21" W	41.92'

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L12	S 13°58'48" W	75.00'
L13	S 76°01'12" E	51.70'
L14	N 10°38'44" E	26.77'



SURVEYOR'S STATEMENT

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

CHARLES D. MARCHESE, PLS 2009 OCTOBER 29, 2015

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L9	S 11°10'09" W	60.00'
L10	S 13°58'49" W	75.00'
L11	N 76°01'12" W	119.58'

N/F
CYNTHIA A. PELLERIN
&
STEVEN G. PELLERIN
MAP 13 LOT 13

N/F
PORTLAND TRAILS
MAP 13 LOT 11

LINE	DIRECTION	DISTANCE
E1	S 11°10'24" W	30.17'
E2	N 72°49'13" W	238.38'
E3	N 14°27'20" E	277.08'
E4	N 11°10'09" E	30.00'
E5	N 78°49'51" W	288.53'
E6	S 14°27'20" E	164.78'
E7	S 72°49'13" E	218.47'
E8	N 76°01'12" W	122.53'

LEGEND

- | EXISTING | | | |
|---|----------------------|-------|----------------------------|
| ---- | PROPERTY LINE/R.O.W. | ---- | FLOODPLAIN |
| ---- | ABUTTER LINE/R.O.W. | ---- | ZONE LINE |
| ---- | THE LINE | ---- | ZONE LINE ON PL |
| ---- | SETBACK | ● B-1 | BORING |
| ---- | EASEMENT | ----- | EDGE WETLAND |
| □ | MONUMENT | | WETLANDS |
| ○ I/P/L | IRON PIPE/ROD | ===== | CURB LINE |
| ○ C/L | DEED CALL | ===== | SHEET METAL FENCE |
| BENCHMARK
DESCRIPTION
WITH ELEVATION | BENCHMARK | ===== | GUARD RAIL |
| ===== | BUILDING | ===== | CONCRETE BLOCK ENCLOSURE |
| ===== | EDGE PAVEMENT | —○— | SIGN |
| ===== | EDGE CONCRETE | ○ | GAS |
| ===== | EDGE GRAVEL | ⚡ | GAS GATE VALVE |
| ===== | EDGE OF WATER | Ⓜ | GAS METER |
| ===== | TREELINE | Ⓢ | TRANSFORMER PAD |
| ---+120---+118--- | CONTOURS | Ⓢ | ELECTRICAL MANHOLE |
| x120.00 | SPOT GRADE | ⚡ | RIPRAP |
| —○— | CHAIN LINK FENCE | ● | 5/8" REBAR W/C/P TO BE SET |
| —○— | GAS | 84.34 | STRUCTURE NUMBER |
| —W— | WATER | ⬡ | GRADE STAKE SET |
| ⚡ | WATER GATE VALVE | | |
| ⚡ | WATER SHUT OFF | | |
| ⬡ | HYDRANT | | |
| —S— | SANITARY SEWER | | |
| Ⓢ | SANITARY MANHOLE | | |
| —SD— | STORM DRAIN | | |
| ⬡ | DECIDUOUS TREE | | |
| ⬡ | CATCH BASIN | | |
| —OHU— | OVERHEAD UTILITY | | |
| ⬡ | LIGHT POLE | | |
| ⬡ | UTILITY POLE | | |
| — | GUY WIRE | | |

FOR CITY OF PORTLAND USE

GENERAL NOTES:

1. THE RECORD OWNER OF THE PARCEL IS THE CITY OF PORTLAND BY DEED DATED MAY 18, 2010 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 27825, PAGE 68.
2. THE PROPERTY IS SHOWN AS MAP 322 LOT A-1 AND MAP 323 LOTS A-3 & A-5 ON THE CITY OF PORTLAND TAX MAPS AND IS LOCATED IN THE IH ZONING DISTRICT.
3. SPACE AND BULK CRITERIA FOR THE IH ZONING DISTRICT ARE AS FOLLOWS:

MINIMUM LOT SIZE:	NONE (CORRECTIONAL 10,000 SF)
MINIMUM STREET FRONTAGE:	60 FEET
MINIMUM FRONT YARD:	25 FEET
MINIMUM SIDE YARD:	35 FEET
MINIMUM REAR YARD:	35 FEET
MAXIMUM BUILDING HEIGHT:	75 FEET
MAXIMUM IMPERVIOUS SURFACE RATIO:	85%
- * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
4. TOTAL AREA OF THE PROPOSED LOT IS APPROXIMATELY 4.12 ACRES.
5. BOUNDARY INFORMATION AS DEPICTED HEREON IS BASED ON PLAN REFERENCE 6A, 6B AND 6C HEREON. SEBAGO TECHINCS, INC. HAS DONE A RETRACEMENT SURVEY OF LOT 2 AND A PARTIAL RETRACEMENT OF LOT 1 AND LOT 3 AS DEPICTED THEREON. THE PROPOSED LOT TO BE CONVEYED TO SUBURBAN PROPANE BEING A PORTION OF LOT 4 AS DEPICTED ON THE PLAN REFERENCED PLAIN. THE TOPOGRAPHIC INFORMATION SUCH HEREON IS BASED UPON PLAN REFERENCE 6A AND FIELD WORK PERFORMED BY SEBAGO TECHINCS, INC. ON THE PROPOSED SUBURBAN PROPANE LOT AND 60-FOOT WIDE RIGHT-OF-WAY IN OCTOBER 2015.
6. PLAN REFERENCES:
 - A. "RIVERSIDE SUBDIVISION - SUBDIVISION RECORDING PLAT - OWNER OF RECORD: CITY OF PORTLAND, MAINE, PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION, 389 CONGRESS STREET, PORTLAND, MAINE 04101" DATED OCTOBER 7, 2010 BY WOODARD & CURRAN, STAMPED BY JOHN W. SWAN, PLS 1038. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 352.
 - B. "CONSERVATION EASEMENT PLAN FOR THE TRUST FOR PUBLIC LAND, 116 NEW CUMBERLAND STREET, SAN FRANCISCO, CA. A RETRACEMENT LOCATED RIVERSIDE STREET, PORTLAND, MAINE" DATED MARCH 3, 2010 BY BOUNDARY POINTS, PROFESSIONAL LAND SURVEYING, LLC. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 129.
 - C. "AMENDMENT TO RIVERSIDE SUBDIVISION LOT #3, (EXISTING CONDITIONS/PROPOSED LEASE AREA & ACCESS/UTILITY EASEMENT PLAN, MAP 323 LOT A00B, LUCAS TREE, 636 RIVERSIDE STREET, PORTLAND, MAINE" DATED JANUARY 3, 2014 BY PROMISED LAND SURVEY, LLC. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 214, PAGE 218.
7. PLAN ORIENTATION IS GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 180.000. ELEVATIONS DEPICTED HEREON ARE NGVD29, BASED ON DUAL FREQUENCY GPS OBSERVATIONS. ELEVATIONS WERE CONVERTED TO NGVD29 UTILIZING THE U.S. ARMY CORPS CORPSCON 6.0.1 SOFTWARE. THE CHANGE FROM NAVD88 TO NGVD29 IS +0.688 FEET IN THIS VICINITY.
8. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD AND FIELD VERIFICATION. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
9. PORTIONS OF THE 2ND AMENDED SUBDIVISION AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR THE CITY OF PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051 0006 C, HAVING AN EFFECTIVE DATE OF DECEMBER 8, 1998. PORTIONS OF THE SUBDIVISION PROPERTY IN PROXIMITY TO THE PRESUMPSPOOT RIVER, ITS TRIBUTARIES AND ADJACENT AREAS FALL WITHIN A ZONE AE, AREAS OF 100-YEAR FLOOD, HAVING A BASE FLOOD ELEVATION OF 15 IN THE SUBJECT LOT. THE PROPOSED PORTION OF LOT 4 AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA. THE PROPOSED LOT FALLS IN AN UNSHADED ZONE X, AREAS DETERMINED TO BE OUTSIDE OF THE 500-YEAR FLOODPLAIN.
10. THE WETLAND DELINEATION AS DEPICTED HEREON IS AS DEPICTED ON PLAN REFERENCE 6A, SEBAGO TECHINCS, INC. HAS NOT PERFORMED AN INDEPENDENT WETLAND SURVEY.
11. THIS LINE REPRESENTS THE LIMITS OF THE TOPOGRAPHIC SURVEY PERFORMED BY SEBAGO TECHINCS, INC. FOR THIS PROJECT. THE REMAINING TOPOGRAPHIC INFORMATION WAS TAKEN DIRECTLY FROM PLAN REFERENCE 6A.
12. THERE ARE NO BUILDINGS LOCATED ON THE PROPOSED PARCEL.
13. THE PROPOSED LOT IS SUBJECT TO DRAINAGE EASEMENTS AS DEPICTED HEREON.

STATE OF MAINE

CUMBERLAND COUNTY SS REGISTRY OF DEEDS
RECEIVED _____
20 _____
AT _____ h _____ m _____
M. _____ AND RECORDED IN _____
PLAN BOOK _____ PAGE _____

ATTEST

REGISTRAR

CHARLES D. MARCHESI, PLS 2009

[illegible]

SEBAGO
TECHNICS

2ND AMENDED RIVERSIDE SUBDIVISION

FOR RECORD OWNER:
THE CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION
389 CONGRESS STREET, PORTLAND, MAINE 04101

PREPARED FOR:
FOREFRONT PARTNERS I, LP

15254SB - to FST.dwg. TAB:15254SB

PROJECT NO.	SCALE
15254	1" = 100'

SHEET C-2.1

MEMORANDUM



TO: Nell Donaldson, Planner
FROM: David Senus, PE
DATE: April 4, 2016
RE: 636 Riverside Street – Final Level III Site Plan and Amended Subdivision Application

Woodard & Curran has reviewed the Final Level III Site Plan and Amended Subdivision Application for the proposed Suburban Propane site located at 636 Riverside Street in Portland, Maine. The project involves the construction of a new office, storage, and distribution facility for Suburban Propane. Three structures are proposed, including a 7,300-sf office building, 2,146-sf two bay garage with associated office space, and a 4,000-sf cylinder storage dock. Additionally, site improvements will include fuel distribution storage cylinders, driveways, parking areas, and stormwater management areas. The project will develop 3.80 acres of the 4.12 acre site. The net developed area as part of the project is estimated at 2.07 acres. The net impervious area created as part of this project is estimated to be 0.68 acres.

Documents Reviewed by Woodard & Curran

- Suburban Propane Development Final Level III Site Plan and Amended Subdivision Application and attachments, dated February 29, 2016, prepared by Stantec on behalf of Thompson's Point Development Co., Inc.
- Engineering Plans, C-1.0, C-1.1, C-2.0, C-2.1, C-3.0, C-4.0, C-5.0, C-6.0, C-6.1, C-6.2, C-7.0, C-7.1, C-7.2, C-8.0, C-8.1, C-8.2, C-8.3, C-8.4, C-9.0, C-9.1, C-9.2, C-9.3, C-9.4, dated February 29, 2016, prepared by Stantec on behalf of Thompson's Point Development Co., Inc.

Comments

- 1) The Erosion and Sedimentation Control Report includes a sample compliance form to acknowledge contractor compliance with the Maine Construction General Permit. Because the project will result in land disturbance of greater than 1 acre, a Notice of Intent to Comply with the Maine Construction General Permit will need to be filed with the MaineDEP, and a copy should be forwarded to the City Planning Department.
- 2) In accordance with Section 5 of the City of Portland Technical Manual, a Level III development project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards. We offer the following comments:
 - a) Basic Standards: The Applicant has submitted plans, details and a report that addresses erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B, & C of MaineDEP Chapter 500 and Chapter 32 of the City of Portland Code of Ordinances.
 - b) General Standards: The applicant proposes an underdrained soil filter system to provide water quality treatment in accordance with the General Standards for an impervious area equivalent to the proposed net increase in impervious area, and has submitted design calculations and details for the system. Based on our review, we find that the project is compliant with the MaineDEP General Standards for the new impervious area.
 - c) Flooding Standard: The applicant is seeking a waiver from the MaineDEP Chapter 500 Flooding Standard, as the project parcel is tributary to a major river segment (Presumpscot River). Given that the proposed underdrained soil filter will manage the discharge rate of the Water Quality Volume generated from the new impervious area, and given that the site discharges almost directly to the Presumpscot River, we support the Applicant's request for a waiver from the Flooding Standard.



- 3) The applicant should inspect and document the condition of the existing outfall that will receive flow from the project (the 12" outfall pipe and stabilized outlet area). Any corrective action(s) identified as a result of the inspection should be added to the plans to occur as part of this work.
- 4) Work is proposed on Lot 4 outside of the limits of Lot 4-1, including installation of a reinforced turf overflow spillway (refer to Sheet C-6.0) and installation of a new Catch Basin (CB)-3 (refer to Sheet C-4.0), replacing an existing CB. We anticipate that the catch basin replacement is straightforward and should not require specific notes or changes to the plat; however, the reinforced turf overflow spillway will require clearing of vegetation and future inspection and maintenance, therefore it should be specifically noted on the plat amendment.
- 5) The plans should show pavement repair limits (saw-cuts) for utility installations within Riverside Street, and the details should include Figure II-12 (Typical Pipe Trench Installation) from the City of Portland Technical Manual.



Helen Donaldson <hcd@portlandmaine.gov>

636 Riverside Street/Suburban Propane - Preliminary Traffic Comments

Tom Errico <thomas.errico@tylin.com>

Mon, Apr 11, 2016 at 11:49 AM

To: Helen Donaldson <HCD@portlandmaine.gov>

Cc: David Margolis-Pineo <dmp@portlandmaine.gov>, Katherine Earley <KAS@portlandmaine.gov>, Jeff Tarling <jst@portlandmaine.gov>, Jeremiah Bartlett <JBartlett@portlandmaine.gov>

Hi Nell – I have reviewed the application materials and offer the following preliminary traffic comments.

- I have reviewed the trip generation estimate for the site and find it to be acceptable. In my professional opinion the project will not create traffic congestion or safety problems.
- A sidewalk shall be constructed on the proposed drive between Riverside Street and the project site. This shall include a pedestrian facility on-site to the building entrance.
- The proposed driveway to Riverside Street is noted to be 25-feet wide. While acceptable, a 24-foot wide driveway would be permitted.
- The construction of the proposed drive triggers the closing of the driveway to the south on Riverside Street and construction of a new access/egress drive on the proposed drive. Details of these two actions (closing the driveway and providing a connection) shall be provided.
- The plans illustrate future parking spaces. It is recommended that the spaces either be part of this application or their designation be removed from the site plan.
- Given traffic levels on Riverside Street, two approach lanes (separate left and right lanes) on the driveway should be provided.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TYLIN INTERNATIONAL T.Y. Lin International

12 Northbrook Drive

Falmouth, ME 04105

[207.781.4721](tel:207.781.4721) (main)

[207.347.4354](tel:207.347.4354) (direct)

[207.400.0719](tel:207.400.0719) (mobile)

[207.781.4753](tel:207.781.4753) (fax)

thomas.errico@tylin.com

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"One Vision, One Company"

Please consider the environment before printing.



Helen Donaldson <hcd@portlandmaine.gov>

Suburban Propane

Michael Farmer <mfarmer@portlandmaine.gov>

Mon, Apr 11, 2016 at 3:41 PM

To: Helen Donaldson <hcd@portlandmaine.gov>

Nelle: I am not familiar with the project history and the previous discussions that may have taken place during staff review of this project. Nonetheless, here are a few comments.

Can the applicant's engineers review the proposed sewer system design slopes and determine the following? (1) Does the proposed slope of the building sewer to the office building meets the requirements in the state plumbing code? (2) Are the proposed slopes and expected wastewater flows sufficient to provide scouring velocities in the proposed sewer pipes?

The proposed overhead utility lines appear to encroach onto the Lucas Tree parcel. Are there easements that would allow such encroachment?

[Quoted text hidden]

—

Michael Farmer, Project Engineer
Dept. of Public Services
55 Portland Street
Portland, ME 04101
phone: [207-874-8845](tel:207-874-8845)



Helen Donaldson <hcd@portlandmaine.gov>

636 Riverside Street Project

Jeff Tarling <jst@portlandmaine.gov>

Mon, Apr 11, 2016 at 12:56 PM

To: Helen Donaldson <hcd@portlandmaine.gov>

Hi Nell -

The proposed 636 Riverside Street project would benefit from a landscape / tree planting plan. The landscape plan should address any new parking areas, commercial property to city right of way interface, this would be the view to the site and landscape treatment to improve circulation. The landscape improvements could be incremental to the proposed site work vs the entire site.

Thanks

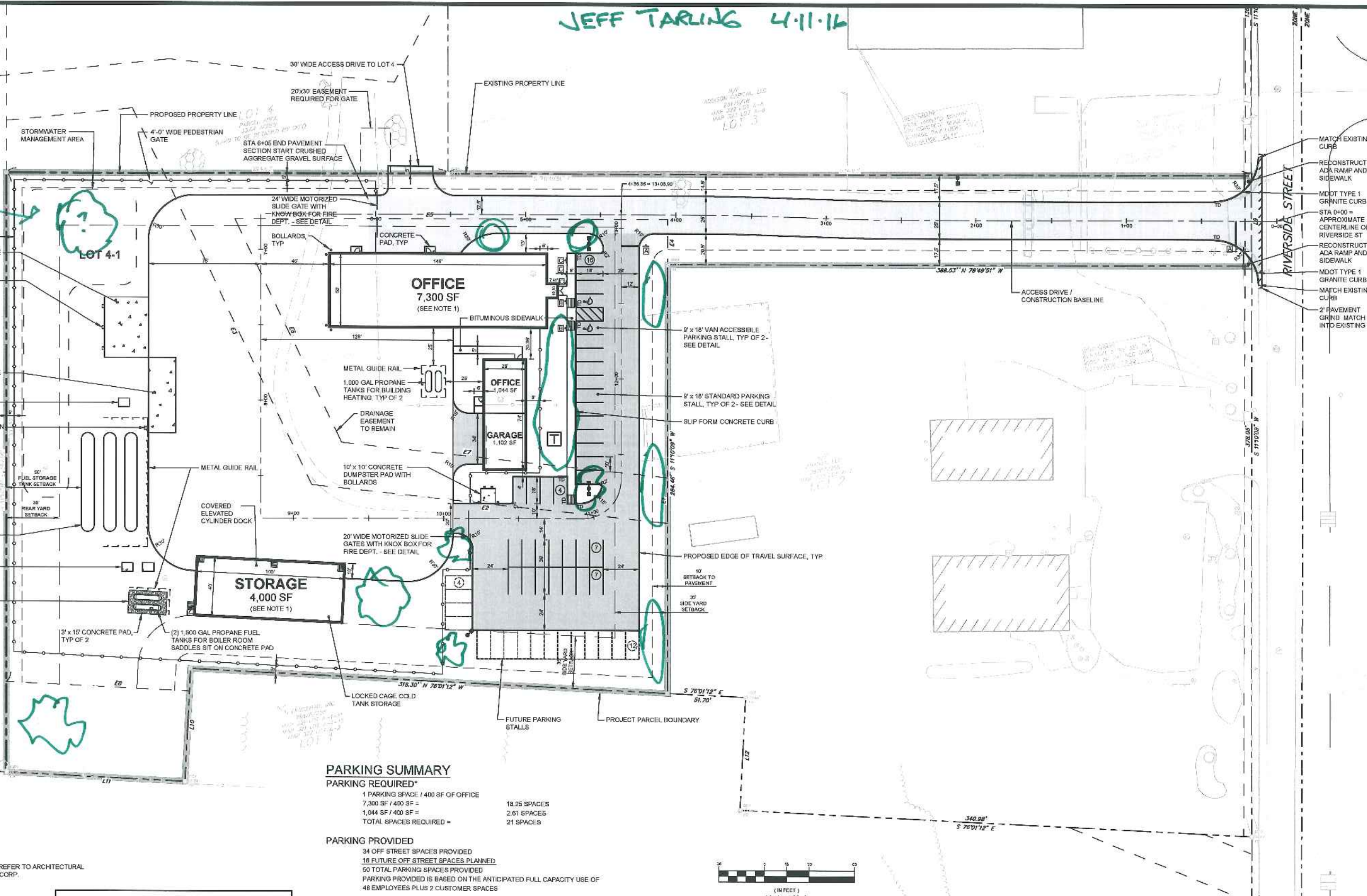
Jeff

Jeff Tarling
Portland Parks & Recreation - City Arborist
55 Portland Street
Portland, ME. 04101
(207) 874.8820
jst@portlandmaine.gov

JEFF TARLING 4.11.16



SWAMP
Whisk Oak
or Maple



PARKING SUMMARY

PARKING REQUIRED*	
1 PARKING SPACE / 400 SF OF OFFICE	
7,300 SF / 400 SF =	18.25 SPACES
1,044 SF / 400 SF =	2.61 SPACES
TOTAL SPACES REQUIRED =	21 SPACES

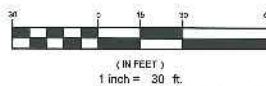
PARKING PROVIDED

34 OFF STREET SPACES PROVIDED
16 FUTURE OFF STREET SPACES PLANNED
50 TOTAL PARKING SPACES PROVIDED
PARKING PROVIDED IS BASED ON THE ANTICIPATED FULL CAPACITY USE OF 48 EMPLOYEES PLUS 2 CUSTOMER SPACES

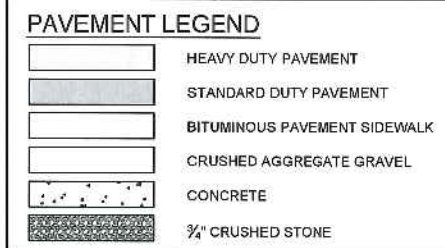
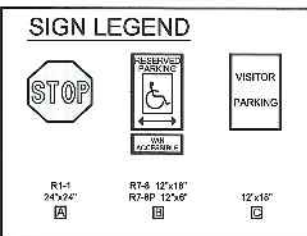
* REFERENCE: CITY OF PORTLAND LAND USE ORDINANCE, OFF STREET PARKING REQUIREMENTS SECTION 14.452 DIVISION 20

SPACE AND BULK SUMMARY IH - INDUSTRIAL ZONE

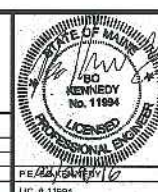
	REQUIRED	PROVIDED
MINIMUM LOT SIZE	NONE	4.12 AC
MINIMUM STREET FRONTAGE	60'	60'
MINIMUM FRONT YARD	25'	N/A
SIDE YARD	35'	35' (COLD STORAGE DOCK)
REAR YARD	35'	>120' (COLD STORAGE DOCK)
MAXIMUM BUILDING HEIGHT	75'	<20'
MAXIMUM IMPERVIOUS RATIO	65%	55%
MINIMUM PAVEMENT SETBACK	10'	14.5'



PRELIMINARY - NOT FOR CONSTRUCTION



REV	DATE	DESCRIPTION
3	02.19.16	FINAL SITE PLANS AND SUBDIVISION PLANS SUBMITTED TO CITY
2	01.22.16	SUBMITTED TO OWNER FOR REVIEW
1	02.11.15	SUBMITTED TO CONTRACTOR FOR PRICING



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	SITE LAYOUT PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: 1" = 30'
CHECKED: BEK	JOB NO. 165350142
FILE NAME: SP-M157 SITE	
SHEET	C-3.0

MEMORANDUM

To: FILE
From: Nell Donaldson
Subject: Application ID: 2016-047
Date: 4/13/2016

Comments Submitted by: Keith Gautreau/Fire on 4/11/2016

Signage or Street numbers for the address location should be located out on Riverside Street in addition to the building.

Comments Submitted by: Keith Gautreau/Fire on 4/11/2016

Emergency access to the proposed site is more than adequate. A proposed Knox Box for after hours access is proposed on the plans.

Comments Submitted by: Keith Gautreau/Fire on 4/11/2016

The proposed private hydrant location is approved per the plans.
New Fire Hydrants. Any hydrant installed, replaced or upgraded shall meet all standards utilized by the Portland Water District at the time of such installation, NFPA 24, Standard for Installation of Private Fire Service Mains and Their Appurtenances, and Section 2.4.



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



February 29, 2016

Ms. Barbara Barhydt

Planning and Urban Development Department
City of Portland
389 Congress Street
Portland, ME 04101-3509

**Subject: Suburban Propane Development
Vicinity of 636 Riverside Street
Final Site Plan and Amended Subdivision Application
Applicant: Thompson's Point Development Co. Inc.**

Dear Barbara:

On behalf of Thompson's Point Development Co., Inc., we are pleased to provide the accompanying package of Final Site Plan and Amended Subdivision submission materials related to the proposed Suburban Propane facility adjacent to 636 Riverside Street. This submission package is intended to meet the City's Final Plan Submission Requirements as outlined in the Level III Final Site Plan Application procedures. These materials represent the design development for the proposed Suburban Propane office, storage, and distribution facility for the property generally bounded by Riverside Street (east), Solaris (east), Lucas Tree (east), Conservation land and Presumpscot River (West), undeveloped land (north), and Schnitzer Northeast (south). It is the Applicant's intent to construct three structures; a 7,300 s.f. office building, 2,146 s.f. two bay garage with associated office space, 4,000 s.f. cylinder storage dock, and fuel distribution storage cylinders. The site plan includes three (3) 30,000 gpd size LP fuel storage tanks and related ancillary equipment. The development site is an approximately 4.12-acre area that is currently unimproved yard area. The site is vacant of any buildings and consists of existing drainage and haul paths from previous fill operations associated with other development activities with-in the subdivision. The Applicant currently has a purchase and sale agreement to acquire the property from the current Owner (on file with the City's Economic Development Group). The development proposal is part of a broader development initiative whereby Suburban's operations are relocated from their current location on Thompson's Point.

The existing site was previously reviewed and approved as part of a Subdivision Application on behalf of the City of Portland Economic Development Department. The lot approved as Lot 4 is proposed to be split into two parcels identified in the submission materials as Lot 4 and Lot 4-1. The project use is permitted in the I-H zone as outlined in Section 14-262 (d).



Ms. Barbara Barhydt
February 29, 2016
Page 2

You will find in the accompanying materials, information including the Final Site Plan, Lighting Package, and Building Elevations that provide details for the building development activities. Information pertaining to the project's utilities needs and statements regarding compliance with the City's Standards are contained within this submission.

On behalf of the Thompson's Point Development, Inc. and Suburban Propane Team, we look forward to your assistance on the project and we look forward to the next available workshop meeting with the Planning Board. Please find one (1) hard copy of the application materials including one set each of 11x17 and full size plans, along with a CD containing PDF files for all submitted materials.

If you have any questions with the information provided, please contact our office.

Sincerely,

STANTEC CONSULTING, INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207.775.1121
Fax: 207.879.0896
Bo.Kennedy@stantec.com

Attachments

c: Chris Thompson

P:\ME\SP-M157-Suburban Propane Relocation\Admin\Permitting\Local\Level III Site Plan & Amended Subdivision Application\SP-M157 2016.02.29-Barhydt-Cover Letter.docx

Portland, Maine



Yes. Life's good here.

Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a **legal signature** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are **paid in full** to the Inspections Office, City of Portland Maine by method noted below:

- ☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- ☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- ☒ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.

Applicant Signature:

February 29, 2016

Date:

Bo Kennedy, P.E.

I have provided digital copies and sent them on:

February 29, 2016

Date:

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.



Level III – Preliminary and Final Site Plans Development Review Application Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: <http://me-portland.civicplus.com/DocumentCenter/Home/View/1080>

Design Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2355>

Technical Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2356>

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

PROJECT NAME: Suburban Propane Development

PROPOSED DEVELOPMENT ADDRESS:

Vicinity of 636 Riverside Street, Portland, Maine

PROJECT DESCRIPTION:

Relocation of Suburban Propane Facility from Thompson's Point to Riverside
Street Industrial Park

CHART/BLOCK/LOT: 322/A003/1

PRELIMINARY PLAN

N/A (date)

FINAL PLAN

2/29/16 (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Chris Thompson Business Name, if applicable: Thompson's Point Development Co. Inc. Address: 501 Danforth Street City/State : Portland, ME Zip Code: 04102	Applicant Contact Information Work # 207-747-5288 Home# Cell # 207-347-1614 Fax# 207-747-5941 e-mail: parrallaxpartners@gmail.com
Owner – (if different from Applicant) City of Portland - Economic Development Name: Attn: Greg Mitchell Address: 389 Congress Street City/State : Portland, ME Zip Code: 04101	Owner Contact Information Work # 207-874-8721 Home# Cell # Fax# 207.456-8258 e-mail: gmittchell@portlandmaine.com
Agent/ Representative Bo E. Kennedy, P.E. Name: Stantec (formerly Fay, Spofford & Thorndike) Address: 778 Main Street, Suite 8 - suite 1A City/State : So. Portland, ME Zip Code: 04106	Agent/Representative Contact information Work # 207-775-1121 Cell # e-mail: bo.kennedy@stantec.com
Billing Information Name: SAME AS APPLICANT Address: City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Bo E. Kennedy, P.E. Name: Stantec (formerly Fay, Spofford & Thorndike) Address: 778 Main Street, Suite 8 City/State : So. Portland, ME Zip Code: 04106	Engineer Contact Information Work # 207-775-1121 Cell # _____ Fax# _____ e-mail: bo.kennedy@stantec.com
Surveyor Sebago Technics Name: Attn: Charles Marchese, PLS Address: 75 John Roberts Road City/State : South Portland, ME Zip Code: 04106	Surveyor Contact Information Work # 207-200-2100 Cell # _____ Fax# _____ e-mail: _____
Architect Sheridan Corp. Name: Attn: Thomas J. Anuszewski, P.E., LEED AP Address: 739 Warren Avenue City/State : Portland, ME Zip Code: 04103	Architect Contact Information Work # 207-774-6138 Cell # _____ Fax# _____ e-mail: Tanuszewski@sheridancorp.com
Attorney Name: Address: City/State : Zip Code:	Attorney Contact Information Work # _____ Cell # _____ Fax# _____ e-mail: _____

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews) ☒ Less than 50,000 sq. ft. (\$500.00) ☐ 50,000 - 100,000 sq. ft. (\$1,000) ☐ 100,000 – 200,000 sq. ft. (\$2,000) ☐ 200,000 – 300,000 sq. ft. (\$3,000) ☐ over 300,00 sq. ft. (\$5,000) ☒ Parking lots over 11 spaces (\$1,000) ☐ After-the-fact Review (\$1,000.00 plus applicable application fee) Plan Amendments (check applicable reviews) ☐ Planning Staff Review (\$250) ☒ Planning Board Review (\$500) The City invoices separately for the following: • Notices (\$.75 each) • Legal Ad (% of total Ad) • Planning Review (\$40.00 hour) • Legal Review (\$75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	Other Reviews (check applicable reviews) ☐ Traffic Movement (\$1,000) ☐ Stormwater Quality (\$250) ☐ Subdivisions (\$500 + \$25/lot) # of Lots ___ x \$25/lot = _____ ☐ Site Location (\$3,000, except for residential projects which shall be \$200/lot) # of Lots ___ x \$200/lot = _____ ☒ Other <u>Subdivision Amendment</u> ☐ Change of Use ☐ Flood Plain ☐ Shoreland ☐ Design Review ☐ Housing Replacement ☐ Historic Preservation
--	--

APPLICATION SUBMISSION:

1. All site plans and written application materials must be submitted electronically on a CD or thumb drive with each plan and each document submitted as separate files. Naming conventions for the individual files can be found on the **Electronic Plan and Document Submittal** page of the City's website at <http://me-portland.civicplus.com/764/Electronic-Plan-and-Document-Submittal>
2. In addition, one (1) paper set of the plans (full size), one (1) paper set of plans (11 x 17), paper copy of written materials, and the application fee must be submitted to the Building Inspections Office to start the review process.

The application must be complete, including but not limited to the contact information, project data, application checklists, wastewater capacity, plan for fire department review, and applicant signature. The submissions shall include one (1) paper packet with folded plans containing the following materials:

1. One (1) full size site plans that must be folded.
2. One (1) copy of all written materials or as follows, unless otherwise noted:
 - a. Application form that is completed and signed.
 - b. Cover letter stating the nature of the project.
 - c. All Written Submittals (Sec. 14-525 2. (c), including evidence of right, title and interest.
3. A stamped standard boundary survey prepared by a registered land surveyor at a scale not less than one inch to 50 feet.
4. Plans and maps based upon the boundary survey and containing the information found in the attached sample plan checklist.
5. One (1) set of plans reduced to 11 x 17.

Please refer to the application checklist (attached) for a detailed list of submission requirements.

APPLICANT SIGNATURE:

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, if a permit for work described in this application is issued, I certify that the Planning Authority and Code Enforcement'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 a Level III Site Plan review. It is not a permit to begin construction. An approved site plan, a Performance Guarantee, Inspection Fee, Building Permit, and associated fees will be required prior to construction. Other Federal, State or local permits may be required prior to construction, which are the responsibility of the applicant to obtain.

Signature of Applicant: 	Date: February 29, 2016
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PROJECT DATA

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

Total Area of Site	179,467 sq. ft.
Proposed Total Disturbed Area of the Site	165,528 sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.	
Impervious Surface Area	
Impervious Area (Total Existing)	75,358 sq. ft.
Impervious Area (Total Proposed)	104,544 sq. ft.
Building Ground Floor Area and Total Floor Area	
Building Footprint (Total Existing)	0 sq. ft.
Building Footprint (Total Proposed)	13,446 sq. ft.
Building Floor Area (Total Existing)	0 sq. ft.
Building Floor Area (Total Proposed)	13,446 sq. ft.
Zoning	
Existing	I - H
Proposed, if applicable	N/A
Land Use	
Existing	N/A
Proposed	Office/Fuel Storage
Residential, If applicable	
# of Residential Units (Total Existing)	N/A
# of Residential Units (Total Proposed)	
# of Lots (Total Proposed)	
# of Affordable Housing Units (Total Proposed)	
Proposed Bedroom Mix	
# of Efficiency Units (Total Proposed)	N/A
# of One-Bedroom Units (Total Proposed)	
# of Two-Bedroom Units (Total Proposed)	
# of Three-Bedroom Units (Total Proposed)	
Parking Spaces	
# of Parking Spaces (Total Existing)	0
# of Parking Spaces (Total Proposed)	50
# of Handicapped Spaces (Total Proposed)	2
Bicycle Parking Spaces	
# of Bicycle Spaces (Total Existing)	0
# of Bicycle Spaces (Total Proposed)	0
Estimated Cost of Project	\$2,000,000

PRELIMINARY PLAN (Optional) - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST
N/A		1	Completed Application form
N/A		1	Application fees
N/A		1	Written description of project
N/A		1	Evidence of right, title and interest
N/A		1	Evidence of state and/or federal approvals, if applicable
N/A		1	Written assessment of proposed project's compliance with applicable zoning requirements
N/A		1	Summary of existing and/or proposed easement, covenants, public or private rights-of-way, or other burdens on the site
N/A		1	Written requests for waivers from site plan or technical standards, if applicable.
N/A		1	Evidence of financial and technical capacity
N/A		1	Traffic Analysis (may be preliminary, in nature, during the preliminary plan phase)
Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST
N/A		1	Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
N/A		1	Preliminary Site Plan including the following: (information provided may be preliminary in nature during preliminary plan phase)
N/A			Proposed grading and contours;
N/A			Existing structures with distances from property line;
N/A			Proposed site layout and dimensions for all proposed structures (including piers, docks or wharves in Shoreland Zone), paved areas, and pedestrian and vehicle access ways;
N/A			Preliminary design of proposed stormwater management system in accordance with Section 5 of the Technical Manual (note that Portland has a separate applicability section);
N/A			Preliminary infrastructure improvements;
N/A			Preliminary Landscape Plan in accordance with Section 4 of the Technical Manual;
N/A			Location of significant natural features (including wetlands, ponds, watercourses, floodplains, significant wildlife habitats and fisheries or other important natural features) located on the site as defined in Section 14-526 (b) (1);
N/A			Proposed buffers and preservation measures for significant natural features, as defined in Section 14-526 (b) (1);
N/A			Location , dimensions and ownership of easements, public or private rights of way, both existing and proposed;
N/A			Exterior building elevations.

FINAL PLAN - Level III Site Plan			
Applicant Checklist	Planner Checklist	# of Copies	GENERAL WRITTEN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
X		1	* Completed Application form
X		1	* Application fees
X		1	* Written description of project
X		1	* Evidence of right, title and interest
N/A		1	* Evidence of state and/or federal permits
X		1	* Written assessment of proposed project's specific compliance with applicable Zoning requirements
X		1	* Summary of existing and/or proposed easements, covenants, public or private rights-of-way, or other burdens on the site
X		1	* Evidence of financial and technical capacity
X		1	Construction Management Plan
X		1	A traffic study and other applicable transportation plans in accordance with Section 1 of the technical Manual, where applicable.
X		1	Written summary of significant natural features located on the site (Section 14-526 (b) (a))
X		1	Stormwater management plan and stormwater calculations
N/A		1	Written summary of project's consistency with related city master plans
X		1	Evidence of utility capacity to serve
X		1	Written summary of solid waste generation and proposed management of solid waste
X		1	A code summary referencing NFPA 1 and all Fire Department technical standards
X		1	Where applicable, an assessment of the development's consistency with any applicable design standards contained in Section 14-526 and in City of Portland Design Manual
X		1	Manufacturer's verification that all proposed HVAC and manufacturing equipment meets applicable state and federal emissions requirements.

Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	Final Site Plans including the following:
X			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
X			Existing and proposed structures on parcels abutting site;
X			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
X			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
X			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
X			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
N/A			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
N/A			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
X			Location of all snow storage areas and/or a snow removal plan;
N/A			A traffic control plan as detailed in Section 1 of the Technical Manual;
N/A			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
N/A			Location and proposed alteration to any watercourse;
X			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
N/A			Proposed buffers and preservation measures for wetlands;
X			Existing soil conditions and location of test pits and test borings;
N/A			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
X			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
X			Grading plan;
X			Ground water protection measures;
X			Existing and proposed sewer mains and connections;

- Continued on next page -

X		Location of all existing and proposed fire hydrants and a life safety plan in accordance with Section 3 of the Technical Manual;
X		Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets;
X		Location and dimensions of off-premises public or publicly accessible infrastructure immediately adjacent to the site;
X		Location and size of all on site solid waste receptacles, including on site storage containers for recyclable materials for any commercial or industrial property;
X		Plans showing the location, ground floor area, floor plans and grade elevations for all buildings;
N/A		A shadow analysis as described in Section 11 of the Technical Manual, if applicable;
N/A		A note on the plan identifying the Historic Preservation designation and a copy of the Application for Certificate of Appropriateness, if applicable, as specified in Section Article IX, the Historic Preservation Ordinance;
X		Location and dimensions of all existing and proposed HVAC and mechanical equipment and all proposed screening, where applicable;
X		An exterior lighting plan in accordance with Section 12 of the Technical Manual;
N/A		A signage plan showing the location, dimensions, height and setback of all existing and proposed signs;
X		Location, dimensions and ownership of easements, public or private rights of way, both existing and proposed.



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447

(Date)

Dear Neighbor:

Please join us for a Neighborhood Meeting to discuss our plans for an office and propane storage facility in the vicinity of 636 Riverside Street, Portland, Maine.

Meeting Location: TBD

Meeting Date: TBD

Meeting Time: TBD

(The City Code requires that property owners within 500 feet (except notices must be sent to property owners within 1,000 feet for industrial zoning map amendments and industrial subdivisions) of the proposed development and residents on an "interested parties list", be invited to participate in a neighborhood meeting. A sign-in sheet will be circulated and minutes of the meeting will be taken. Both the sign-in sheet and minutes will be submitted to the Planning Board.)

If you have any questions, please feel free to contact Bo Kennedy, P.E. at 207-775-1121.

Sincerely,

STANTEC CONSULTING, INC.

Bo Kennedy, P.E.
Senior Civil Engineer

Note: Under Section 14-32(C) and 14-525 of the City Code of Ordinances, an applicant for a Level III development, subdivision of over five lots/units, or zone change is required to hold a neighborhood meeting within three weeks of submitting a preliminary application or two weeks of submitting a final site plan application, if a preliminary plan was not submitted. The neighborhood meeting must be held at least seven days prior to the Planning Board public hearing on the proposal. Should you wish to offer additional comments on this proposed development, you may contact the Planning Division at 874-8721 or send written correspondence to the Planning and Urban Development Department, Planning Division 4th Floor, 389 Congress Street, Portland, ME 04101 or by email to: bab@portlandmaine.gov

R:\2982.05 Amended Site Plan Part II\Admin\Permitting\Abutters\01.08.2015 \Neighborhood Meeting Letter.docx

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C-6.0	EROSION CONTROL PLAN
C-6.1	EROSION CONTROL NOTES
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1. DEVELOPMENT DESCRIPTION

Att. B

1.1 PROJECT OVERVIEW

The project comprises the development of Lot 4 of the formerly approved Industrial Business Park in the vicinity of 636 Riverside Street in the City of Portland to provide an office, fuel storage and distribution operations for Suburban Propane.

1.2 PROJECT PURPOSE AND NEED

The existing site is currently vacant and unused. The project presents an opportunity to relocate an existing industrial use from the new economic development area known as Thompson's Point to a more appropriate location, and to help catalyze the further development of the industrial subdivision at Riverside Street as originally planned by the City of Portland. Suburban Propane has entered into an agreement with Thompson's Point Development Co., Inc. ("Applicant") which entails the exchange of the parcel of land that Suburban Propane owns adjacent to Thompson's Point with the parcel of land that the Applicant has under contract with the City of Portland in the Riverside Industrial Park and which is the subject of this application. Development of the proposed property would trigger the development of a shared use driveway condition required under the current Riverside Street subdivision approvals, a key step in furthering the development of the neighboring industrial sites. This is particularly significant as this was the City's original goal in undertaking the original land acquisition, and given the current need for industrial properties in the City of Portland. The community benefits provided by the project include the following:

- Facilitate the redevelopment and revitalization of Thompson's Point, and support ongoing efforts to expand the Portland Transportation Center.
- Foster the long-desired development of suitable industrial sites, including City-owned parcels whose development will be assisted by the development of this parcel.
- Provide an appropriate location for the current use.

1.3 EXISTING CONDITIONS

The project parcel is described as Tax Map 323, Block A, Lots 3 & 5 and has frontage on Riverside Street via a 60 foot wide shared use right of way. The total site area is approximately 179,500 SF (4.12 acres), and there are no buildings on the site which has a total existing impervious area of approximately 1.73 AC. The existing impervious area is used as laydown, hauling, and parking by the current Lucas Tree operations. Figures are included in Attachment D of the Stormwater Management Report which depict the project location on various available resource maps.

The remainder of the site is compacted overgrown undeveloped area located behind the existing Solaris site. There is currently an existing curb cut onto the property from Riverside Street. This curb cut will need to be modified to provide better access to industrial vehicles. There is sidewalk along the property frontage on Riverside Street, and although there are existing accessible ramps for the driveway they would need to be reconstructed as part of the driveway improvements. The proposed development will not generate a need for dedicated pedestrian access from Riverside Street.

Stormwater generally flows overland to a series of existing catch basins and drains from the interior of the site that are connected to a shared drainage system to an outlet at the edge of the

Presumpscot River. The outer portions of the property drain by sheet flow off the property to the abutting Presumpscot River.

The City of Portland has record of a 12" PVC sanitary sewer main in Riverside Street but does not provide for a service exiting the proposed parcel. We have received confirmation from the Portland Water District on current water main and hydrant locations in the proximity of the property, but there are no records of existing services to the parcel. The site will require an electrical service connection from Riverside Street, connecting overhead to a drop pole on the easterly side of the proposed buildings. The power would then be distributed across the site from a pad mounted transformer.

Photographs of the existing site conditions are included as Attachment A.

1.4 SITE HISTORY

The site was previously undeveloped; however, it has been used by Lucas Tree as part of their landscaping and tree cutting facility. An environmental site assessment was performed as part of the original subdivision application prepared by Woodard & Curran on behalf of the City of Portland. The environmental assessment conducted on the property was intended to identify and classify potential soil contaminants associated with the original filling operations of the property on made land, and the previous uses of the site. The site assessment is on file with the City and available upon request. There are no significant environmental issues on the property.

1.5 PROPOSED DEVELOPMENT

The development program includes the following components.

The applicant proposes development of the site which is consistent with the Zoning Ordinances and City's intent for development in this area. The site will consist of five major site improvement components.

First, the development will include an approximately 400 ft. long by 25 ft. wide paved access drive to the main portion of the parcel. Abutting parcels will have the ability to access this drive, subject to their participation in an equitable cost-sharing arrangement.

Second, a 34 space parking lot includes 2 van accessible barrier free parking stalls and provisions for up to 16 future parking spaces for a total of 50 spaces. The parking lot is sized to accommodate the employees and customers who may visit the site. Provisions are provided for 16 future parking spaces should demand warrant this. The employees and visitors will access the main office building via a door on the outside of the fence gate.

The remaining portions of the site will be enclosed with a 6'-0" high chain link fence with two separate motorized gates. The gated area will house the last three components of the site. A 7,300 SF pre-fabricated metal building will be the home of Suburban Propane District's Office and a small customer service area.

A proposed 2,146 SF building will have a two bay garage and attendant office space. This building will be used to repair and maintain the current Suburban Propane delivery vehicle fleet.

The last component of this development includes the fuel storage and distribution area of the site. A 4,000 SF elevated dock with a protective roof structure will be used for small cylinder storage and filling. Additionally, the site proposes provisions for three 30,000 gallon propane

fuel storage containers with distribution piping to 3 bobtail connections. The bobtail connections will be used for filling of distribution fuel trucks (Single Unit – SU30) for the delivery of propane to customers.

The fenced gravel yard between all of these structures will be used to maneuver vehicles to the different facilities and storage of empty tanks.

The site is void of any formal landscape plantings other than loam and seed to provide permanent erosion control of pervious areas. Landscaping in the IH – High Impact Industrial Zone is not required and the site lacks a significant street presence.

The site grading plan was prepared with the intent to balance common excavation and fill quantities to the extent practicable; however, any unusable excavated materials that cannot be left onsite and appropriately covered may be hauled off-site for disposal in a local contractor stockyard or pit. Portions of the existing drainage system at the site appear to be serviceable; pipes and structures will be replaced as necessary if found to be in poor structural condition.

Provision for solid waste handling is provided by a small dumpster pad.

1.6 LAND ORDINANCE REVIEW

1.6.1 OVERVIEW

The project is located in the IH – High Impact Industrial Zone. The proposed uses include:

- (d) Warehousing and distribution facilities
- (f) Repair services, including all types of automotive repair services

These uses are all allowed by right in the zone.

Space and Bulk Criteria for the IH Zoning District		
Description	Required	Provided
Minimum Lot Size	None	4.12 AC
Minimum Street Frontage	60 FT	60 FT
Minimum Front Yard	25 FT	N/A
Side Yard	35 FT	35 FT
Rear Yard	35 FT	>120 FT
Maximum Building Height	75 FT	< 20 FT
Minimum Pavement Setback	10 FT	14.5 FT
Maximum Impervious Ratio	85%	58%

1.6.2 SHORELAND ZONING

The site is not located within the Shoreland Zoning District.

1.7 STATE AND FEDERAL PERMITS

The project as presented does not require any additional Federal or State level site permits.

1.8 EASEMENTS OR OTHER BURDENS

The proposed parcel is subject to a number of easements as shown on the Amended Subdivision Plan of which they include drainage easements and shared access easements.

1.9 TRAFFIC

Please see the attached Traffic Impact Assessment. This is included as Attachment B.

1.10 PARKING DEMAND

The proposed use will serve approximately 30 to 34 full time employees and a small amount of short term visitors. Additionally, the plan anticipates that upwards of 14 employees may be reassigned to this office location in the future. The site plan proposes the initial construction of 34 paved parking spaces “outside” of the fence which includes two parking stalls designated for van accessible barrier free spaces and three visitor parking stalls, and the provision for adding additional spaces in the future should demand warrant. This will provide enough spaces for all of the office employees and a few visitors.

The City of Portland Land Use Ordinance, Section 14-492, Division 20 requires that 1 off street parking space is available for every 400 SF of office space. Based on this calculation, the Land Use Ordinance requires 21 parking spaces. The 34 proposed parking stalls exceed this minimum standard.

1.11 SOILS/GEOTECHNICAL REVIEW

Summit Geoengineering Services conducted geotechnical investigations at the project site, including seven borings. The subsurface soils were found to consist of top soil overlaying urban fill/re-worked native soil, overlying glacial marine soil (silty clay), overlying a marine fan deposit, overlying glacial till, overlying bedrock. The urban fill was found to consist of a mixture of silty clay with little to some sand and brick fragments, ash, organics, and wood pieces. Evidence of groundwater was found around 19 ft. below finished grade with anticipated fluctuations for seasonal influences. The Geotechnical Report concludes that building additions can be supported on conventional spread footings with suitable subgrade preparation.

1.12 NATURAL FEATURES

There are no natural features on the site. The site is adjacent to a portion of land designated as “Conservation Easement Area”. This conservation area is adjacent to the Presumpscot River which is present at the westerly most boundary of the existing Lot 4. The proposed parcel is approximately 40 vertical feet above the river elevation.

1.13 UTILITIES AND STORMWATER

The water, sewer, and electrical services on the site will need to be extended to serve the proposed development of the site. Further details of planned utility upgrades are included in Section 3 of this narrative.

The project is a redevelopment of an existing site, and as such is not large enough to require a Site Location of Development or Stormwater Permit as required by the Maine DEP. According to the City of Portland Technical Manual **portions** of the site area are subject to meet the Basic and General Standards under Chapter 500, Stormwater Law (City of Portland Technical Manual, Section 5 – Portland Stormwater Management and Maine DEP Chapter 500, 3 (e)). The stormwater management is discussed in detail in Attachment D of this application. The existing drainage patterns, grades, and slopes will be maintained to the maximum extent practical, and there will be no detrimental impacts to downstream infrastructure or receiving waters.

A detailed Soil Erosion and Sedimentation Control Plan has been produced for the project and this is included as Appendix H of Attachment D.

1.14 ATTACHMENTS

Attachment A – Existing Site Photographs
Attachment B – Traffic Impact Assessment
Attachment C – Parking Demand Estimate
Attachment D – Stormwater Management Report

ATTACHMENT A

Existing Site Photographs



**PHOTO 1 – Gravel parking at the proposed entrance to the site.
Looking easterly.**



**PHOTO 2 – Gravel and paved parking on the existing Lucas Tree site
portion to become Suburban Propane. Looking westerly.**



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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 3 – Gravel drive leading onto the site. Looking westerly.



PHOTO 4 – Gravel drive on the site. Looking northerly.



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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 5 – Gravel and meadow site conditions. Looking northerly.



PHOTO 6 – Overview of the site. Looking northerly.



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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**

ATTACHMENT B

Traffic Impact Assessment

Traffic Impact Assessment

This traffic study was based on the proposed use of the site which includes:

- 7,300 SF Office Building
- 2,246 SF Office/Garage Building
- 4,000 SF Cylinder Storage Building/Dock

The site will be accessed via a 25 foot wide paved shared use access drive on Riverside Street. The drive will be extended from an existing curb cut in Riverside Street and serve as the only access into the site from the Public Right-of-Way. Riverside Street is a two lane road with a central dual left turn lane in front of the site.

The trip generation for this project is anticipated to be 23 trips in the Peak Hour Generator (PHG) for the proposed uses. The computations for this trip generation estimate are included with this analysis. The PHG is anticipated to occur during the weekday AM commute due to the type (office space) of use for the proposed site. Trips generated by customers or fueling trucks are anticipated to visit the site during off-peak hours and will be relatively minimal.

This number of trips is not large enough to warrant a MDOT traffic movement permit or a separate right turn lane. A new driveway permit is not required because the site will utilize the existing curb cut. The proposed development is anticipated to have a negligible impact to Riverside Street.

Attachment – Calculations

Suburban Propane Re-Location Parking Requirement Calculations
JN: SP-M157
DATE: 2016.02.18
Stantec
Calculated by: Bo Kennedy

Task: Calculate number of vehicle trips for proposed Suburban Propane Facility
--

Assumptions: The main traffic generator will be the office space. The industrial usage(ie fueling) will be minimal. Total anticipated Employees at Maximum Capacity = 48 Total Office Space Building Area = 8,344 SF = 7,300 SF (Main Building) & 1044 SF (Garage Office) ITE Trip Generation per Employee =
Weekday AM Peak Hour Generator 0.48 per emp Weekday PM Peak Hour Generator 0.46 per emp Saturday Peak Hour Generator 0.09 per emp

Trip Calculation:		
Employees	48	EA
Weekday AM PHG	23.04	Trips
Weekday PM PHG	22.08	Trips
Saturday PHG	4.32	Trips

References: ITE Trip Generation Manual, 7th Edition, Volume 3 fo 3

ATTACHMENT C

Parking Demand Estimate

Suburban Propane Re-Location Parking Requirement Calculations
JN: SP-M157
DATE: 2015.11.20
FST ENGINEERS
Calculated by: Bo Kennedy

Task: Calculate number of required parking spaces for Suburban Propane Office building
--

Givens: 1 Parking space is required per every 400 SF of Office Space Building Area Total Office Space Building Area = 7,300 SF (Main Building) 1044 SF (Garage Office)

Calculation:		
Area	8,344.00	SF
SF per Space	400.00	SF/Space
Total Spaces	20.86	Spaces

References: City of Portland Land Use Ordinances, Section 14-492, Division 20 (off-street parking requirements)

PARKING REQUIREMENT SUMMARY					
ZONE	BUILDING SPACE	BUILDING AREA (sf)	BUILDING AREA REQUIRED PER 1 PARKING SPACE (sf)	PARKING SPACES REQUIRED	PARKING SPACES PROVIDED
IH	OFFICE	8344	400	20.86	34
References: City of Portland Land Use Ordinance, Section 14-492, Division 20 (off-street Parking Requirements)					

ATTACHMENT D

Stormwater Management Report

**STORMWATER MANAGEMENT REPORT
(BASIC AND GENERAL STANDARDS)**

**SUBURBAN PROPANE RELOCATION
PORTLAND, ME**

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO. INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
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FEBRUARY 2016

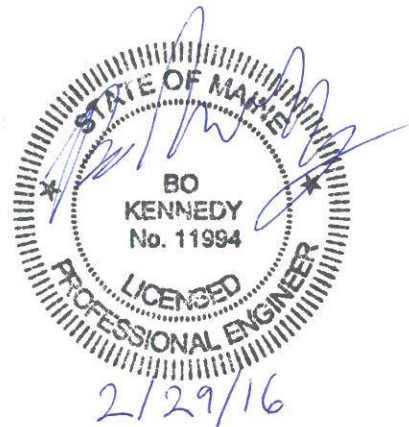


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Appendices

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- B – Existing Conditions Photographs
- C – Impervious Area and Watershed Figures
- D – Stormwater Quality Treatment Computation Summary Sheet
- E – Underdrained Soil Filter Stage Storage Computations
- F – Drawdown Time Calculations – Grassed Underdrain Soil Filter
- G – Geotechnical Report
- H – Erosion Control Plan
- I – Inspection & Maintenance Manual for Stormwater Management and Related Stormwater Facilities
- J – City of Portland – Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development

STORMWATER MANAGEMENT REPORT

1.0 Introduction

Stantec has been retained by Thompson's Point Development Co. Inc. for the preparation of site design and site permitting for the proposed relocation of Suburban Propane from Thompson's Point to a parcel of land located behind 636 Riverside Street (Solaris) in Portland, Maine. The development will include an office building, garage building, cold storage building and propane storage and truck filling stations.

The project's 4.12-acre site is primarily an undeveloped overgrown and heavily compacted "meadow" lot with evidence of existing gravel haul roads. The overall site is rectangular shaped with a 60 ft. wide shared use "right-of-way" extending easterly to Riverside Street. The proposed parcel will be subdivided from Lot 4 of the existing Riverside Street Subdivision prepared for the City of Portland. The westerly property line abuts land to be retained by the City and is restricted by a conservation easement. The southerly line is bound by a development on Lot 1 of the Riverside Street subdivision. The easterly lot line abuts developments on Lots 2 (Solaris) and Lot 3 (Lucas Tree). The northerly lot line abuts land to be retained by the City and developed at a later date.

This proposed project will create a total of 3.80 ac of developed area of which 2.40 ac will be newly constructed structure area (building and other impervious surfaces). Construction of the facility will result in net new structure area of 0.68 ac. Because the net new structure area is less than 1 acre this project does not meet the thresholds which require a MeDEP Stormwater Law permit; however, Chapter 32 of the City of Portland Stormwater Regulations require MeDEP basic and general standards be met for all Level III Site plans. The stormwater management design presented herein will show that it meets the criteria of the City of Portland Stormwater Requirements and the adopted MeDEP Chapter 500 Regulations for the basic and general standards where applicable.

The site flows overland sheet flow in a northerly direction to an existing storm drainage system which discharges to the Presumpscot River. The Presumpscot River is a major water body and therefore the site is eligible for a waiver from the Stormwater flooding standards as detailed in MeDEP Chapter 500 and previously approved as part of the original subdivision.

Runoff from portions of the proposed site will drain to a new inlet and conveyance system and it will be discharged to a stormwater treatment facility. Stormwater storage will be comprised of an open detention basin. The stormwater detention basin will provide channel protection storage meeting the MeDEP General Standards requirements. The stormwater management system is not designed to manage the flows from major storm events and will release flows for the 2, 10 and 25-year storm event at the runoff rate. A grassed underdrain soil filter will be utilized to exceed the stormwater quality standards required under the general standards as outlined in the adopted MeDEP Chapter 500 Stormwater Management Technical Manual. The intent of exceeding the required treatment volume is to make the tributary area eligible for the City of Portland's Stormwater Service Charge Basic and Extra Credits.

USGS, aerial photographs, and related maps are appended to this report in Appendix A.

On behalf of the applicant, Stantec has prepared this report to show the proposed Stormwater Management Plan meets the City's General Stormwater Standards.

2.0 Existing Site Conditions

The site is a 4.12 acre parcel within an industrial business park subdivision and is currently undeveloped with the exception of gravel areas found throughout the site from former site activities, resulting in the following land cover:

TABLE 1 – LAND COVER	
Current Land Cover	Area (acre)
Impervious (gravel)	1.73
Meadow	2.39
Total	4.12

Existing impervious surfaces are depicted in Figure C-1 in Appendix C.

Topography slopes from east to west with slopes ranging from 3% to 14%. The site elevations range from 61 to 73 based on survey completed by Sebago Technics in October of 2015 and topography from the Subdivision Recording Plat prepared by Woodard & Curran in October of 2010.

The soils on the site are shown on the USDA medium intensity soils map to be primarily Elmwood fine sandy loam. Geotechnical explorations by Summit Geoengineering Services in November 2015 show that the soils are predominantly fine sandy silt topsoil overlying silty sand reworked native soils with some gravel and fill overlying glacial marine soil (silty clay) overlying a marine fan deposit of silty fine sand overlying bedrock. The Geotechnical Report is included in Appendix G of this report. Figure 3 appended to the report provides the USDA medium intensity soils map for the site.

The site is in the IH Industrial – High Impact Zone and the proposed use is a permitted use according the Chapter 14 – Land Use in the City of Portland Code of Ordinances.

The existing conditions are shown on Drawing C-2.0 and supplemented by photographs appended to the end of this narrative in Appendix B.

The proposed development portion of Lot 4 is not located in a mapped 100-year floodplain and is denoted as Zone X areas determined to be outside of the 500-year floodplain based upon the Dec. 8, 1998 FEMA mapping. Portions of the overall 2nd amended subdivision as depicted by Sebago Technics on Sheet C-2.1 of the plan set does fall within a special flood hazard area as delineated on the flood insurance rate map for the City of Portland, Maine, Cumberland County, Community-Panel number 2300510006 C, having an effective date of December 8, 1988. Portions of the subdivision property in proximity to the Presumpscot River, its tributaries and adjacent areas fall within a Zone AE, areas of 100-year flood, having a base flood elevation of 35 in the subject area. Flood zones are depicted on Figure 2 provided by MGIS Firm Panel # 230051 Panel #06-C.

The stormwater runoff from the site is tributary to the Presumpscot River. A portion of the site is captured in an existing stormwater management system that begins at Lot 2 and discharges in northerly portion of the existing Lot 4 in the direction of the river.

3.0 **Proposed Project**

The proposed project is generally described below and is shown on Drawing C-3.0. The project will develop 3.80 acres of the 4.12 acre site. The net developed area as part of this project is 2.07 acres. The net impervious area created as part of this project is 0.68 acres as shown on Figure C-2 in Appendix C.

The proposed project will include construction of a 7,300 s.f. office building, a 2,146 s.f. garage/office building and a 4,000 s.f. cylinder storage building. The development will also include paved parking and driveway around the property, a new paved entrance to the site, and a stormwater treatment area on the northwesterly portion of the site. The proposed impervious surfaces are depicted in Figure C-3 Appendix C and summarized in Table 2 below.

The proposed land use for the site after development will be as follows:

TABLE 2 – LAND USE (ONSITE ONLY)		
Proposed Land Cover	Area (acre)	Change from Current (acre)
Meadow	0.32	-2.07
Lawn/Landscaped Planting Areas	1.39	+1.39
Pavement/Roof	2.40	+0.68
Total	4.12	0

The Erosion Control Plan contained in Appendix H of this section outlines the erosion control measures which will be required for the project (Basic Stormwater Standards).

4.0 **Watershed Delineation Method**

The following resources were used for watershed delineation:

- USGS Topographic Mapping
- Field Reconnaissance
Adrienne Fine, EI, Engineer Stantec
Reviewed by Bo Kennedy P.E., Senior Civil Engineer, Stantec
- Site Topographic Survey
Sebago Technics, dated October, 2015.
- Hydrologic Soil Group Information
USDA SCS Medium Intensity Mapping

5.0 **References**

- Urban Hydrology for Small Watersheds from the USDA SCC Technical Release SS, dated 1986
- Erosion and Sediment Maine Erosion and Sediment Control BMPs”, published by the MeDEP in 2003 <http://www.maine.gov/dep/blwg/docstand/escbmps/index.htm>
- City of Portland – Code of Ordinances, Section 32 Rev. 9-17-09
- Portland Stormwater Management – Section 5 Adopted 7-19-10.
- Stormwater Management for Maine Volume III – BMP Technical Design Manual
- Chapter 500 DEP Rules, revision October 2010.

6.0 **Modeling Software**

- Microsoft Excel 2010, Microsoft Corporation – used for spreadsheet computations.

7.0 **Design Storms**

TABLE 3 – RAINFALL	
Rainfall Amount (inches/hr) IDF Curve – City of Portland	
25-Year Storm	5.8

8.0 **Presentation of Analysis**

The stormwater analysis has been performed for the project to determine the requirements of the City of Portland, Section 5 and adopted MeDEP Chapter 500 Stormwater Rules and to show a plan which will generally meet the requirements with the exceptions noted herein. The analysis is documented with supporting spreadsheet computations appended to this narrative.

9.0 **Modeling Assumptions**

- The Tc flow paths were assumed to be a min. of 6 minutes as recommended in the TR-55 technical manual.

10.0 **Predevelopment Analysis**

This applicant is seeking a waiver from the MeDEP Chapter 500 Flooding Standards because the project parcel is tributary to a major river segment (Presumpscot River). Therefore, peak discharge rates are not calculated for predevelopment conditions. Runoff from the existing site flows from the east in a westerly direction and generally passes over the property line as sheet flow. A portion of the stormwater runoff from the existing site enters an existing stormwater management system that flows from the southeast to the northwest and discharges through a 12” PVC pipe towards the Presumpscot River. The existing stormwater management system consists of drainage pipes, catch basins and manholes and originates at the industrial site on Lot 2 of the subdivision.

Runoff from a small portion of the site in the eastern corner adjacent to Riverside Street flows easterly along the existing gravel drive and ultimately enters the City of Portland storm drainage system tributary to the Presumpscot River. This area of the site does not contribute to the new impervious area of the site and does not contribute to the existing or proposed stormwater management system so it is excluded from this analysis.

11.0 Postdevelopment Analysis

The proposed project will develop 3.80 acres of the 4.12 acre site with a net developed area of 2.07 acres and a net impervious area of 0.68 acres. This project is not required to meet the Flooding Standard so peak discharge rates at the points of discharge are not calculated for postdevelopment conditions.

The development is broken into nine (9) subcatchments which enter a series of catch basin inlets that are tributary to either the proposed stormwater management underdrained soil filter or the existing stormwater drainage system on site. Subcatchments 1, 2, 3, 4 and 9 are tributary to the proposed underdrained soil filter. These subcatchments are summarized in the Stormwater Quality Treatment Computation Sheet attached in Appendix D.

The Rational Method was used to calculate postdevelopment flows to size stormwater collection pipes. The stormwater collection and treatment system is shown on the Grading and Drainage plan on Sheet C-3.0 of the plan set.

Each subcatchment has been modeled using the Rational Method and routed to a catch basin inlet. The Rational Method was used to determine the peak flow rates entering the stormwater underdrained soil filter. For the calculations it was assumed that each subcatchment has a minimum Time of Concentration (T_c) of 6.0 min. The 25-year storm intensity of 5.8 inch/hr was used based on the IDF curve for the City of Portland. The resulting stormwater discharge entering the proposed underdrained soil filter computed using the Rational Method is 4.41 cfs. Rational Method calculations are also summarized in the attached Appendix D.

Flows from larger storms such as the 25-year event and 100-year event storms are anticipated to surcharge the stormwater conveyance system and flow overland to directly to the Presumpscot River as it does in the Pre-development conditions.

12.0 Stormwater Management Objectives

The goal of the Stormwater Management Plan is to design, operate, and maintain the development to avoid downstream erosion or significant water quality impairment.

This goal will be achieved by:

- Designing the project to meet the Portland Stormwater Management Standards adopted 7/19/10 and Basic Standards and General Standards of MeDEP (revised January 2015).

- Designing water quality measures to provide long-term removal of non-point contaminants.
- Implementing a plan to control erosion, sedimentation, or fugitive dust emissions during construction.
- Maintenance of the Stormwater Management System in accordance with the Stormwater O&M Manual (provided as a separate document).

The plan has been designed in accordance with the City of Portland Stormwater Rules.

13.0 Stormwater Management Quantity Summary

A waiver is being requested from the flooding standard because the project site is directly tributary to a major river.

14.0 Stormwater Management Quality Summary

The City of Portland Site Plan requirements classify this project as a Level III Site Plan Application because the proposed development will disturb 3.00 or more acres of area. Due to this classification the City also requires MeDEP Chapter 500 Stormwater Rules be met for projects requiring a level III Site Plan. MeDEP Chapter 500 states the Basic Standards be met for projects with 1.00 acre or more of impervious area. The Chapter 500 General Standards must also be met for projects with greater than 1.00 acre but less than 3.00 acres of impervious area. However, the MeDEP Stormwater Management Law provides for relief from the General Standards for redevelopment sites, stating that the redevelopment of impervious area in existence as of November 16, 2005 is not required to meet General Standards provided that the new use of the existing impervious area is not likely to increase stormwater impacts beyond the level of impact already caused by runoff from the existing impervious area.

The General Standards have been applied to the net impervious area of 0.68 acres based on the MeDEP Stormwater Management Law for projects including redevelopment. Based on our analysis it was determined that the Basic Standards must be met and the General Standards must be met only for the net impervious area of 0.68 acres.

This stormwater management system is designed to treat a volume exceeding the MeDEP General Standard requirements in an effort to seek relief from the City of Portland Stormwater Service Charge. The volume for 1.6" of runoff from the tributary area will make portions of the site eligible for the basic and extra levels of credits.

Implementation

Our office has laid out a plan which utilizes a Grassed Underdrained Soil Filter as described in Chapter 7.0 Filtration BMPs of the MeDEP Volume III BMPs Technical Design Manual to meet the minimum treatment standards as required by the General Standards. The plan shown on Sheet C-4.0 incorporates an underdrained soil filter with surface area 2,471 SF to best utilize the site conditions. The plan sheets detailing this system are enclosed in the full plan set.

A water quality summary chart of the project is appended with this application in Appendix D. The basis of design of the Grassed Underdrained Soil Filter treatment method is as follows:

- **Grassed Underdrained Soil Filter:**

The Grassed Underdrained Soil Filter has been designed to treat 100% of the net new impervious area and gain an additional 25% water quality management credit of the City of Portland stormwater service charge.

To meet Chapter 500, the Channel Protection Volume provided must be equal to or greater than the following:

1"/12 x impervious area (0.78 ac) plus 0.4"/12 x landscaped area (0.44 ac) = Water Quality Volume (3,457 cubic feet)

To gain an extra 25% water quality management credit of the City of Portland stormwater service charge the filter will be sized to treat 1.6" of rainfall instead of 1" (shown above). The resulting 1.6" Water Quality Volume is 5,152 CF.

Computations of the water quality volume requirements are appended in Appendix D.

The water quality volume provided is equal to 5,195 cubic feet in the grassed underdrained soil filter at an elevation of 58.00 which exceeds the required 1" WQV of 3,457 CF and 1.6" WQV of 5,152 CF. The filter stage storage calculations are appended in Appendix E.

Based on Chapter 7 of the MeDEP Best Stormwater Practices the Grassed Underdrained Soil Filter shall be sized to treat the entire water quality volume in 24 to 48 hours. The discharge from the filter is collected in 4" underdrain and the rate is controlled with an orifice plate sized to meet the required 24 to 48 hour drawdown time. The orifice drawdown computations are appended in Appendix F.

Discharge from larger storm events overflows through a 15" outlet pipe set at elevation 59.63 (i.e. the basin stage when the 1.6" water quality volume has been reached) into a precast concrete outlet control structure. The overflow piping network is sized to handle runoff from a 25-year storm event. A rain event exceeding the storm drainage network capacity would flood the channel protection basin and discharge over the reinforced turf overflow spillway at the northwest corner of the basin.

Pretreatment for flow entering from the inlet pipe to the underdrained soil filter will be provided via the installation of a riprap lined sediment forebay.

Therefore, water quality goals for the Grassed Underdrained Soil Filter meet the General Stormwater Standards of the November 2005 Chapter 500 Rules of MeDEP (rev. January 2015) and gain an additional 25% water quality management credit of the City of Portland stormwater service charge. Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development is included in Appendix J.

15.0 Chapter 500 Treatment Percent Compliance

The proposed redevelopment project creates 0.68 acres of newly constructed impervious area and 1.39 acres of pervious area for a total disturbed area of approximately 2.07 acres.

The proposed Stormwater Management Plan provides treatment for 0.78 acres or greater than 100 percent of the 0.68 acres of net new impervious area to satisfy the minimum requirements stated in the City of Portland Stormwater Standards.

16.0 Erosion Control

An Erosion Control Narrative, Plan, and Details have been prepared for the project and accompanies this submission in Appendix H.

17.0 Operations and Maintenance

An Operations & Maintenance Manual has been prepared and accompanies this application in Appendix I.

18.0 Permit Requirements

City of Portland review and permitting of the Stormwater Management Plan is required and will be completed with the review of the Site Plan Application submitted to the City of Portland Planning Authority.

19.0 Drainage Network Pipe Sizing

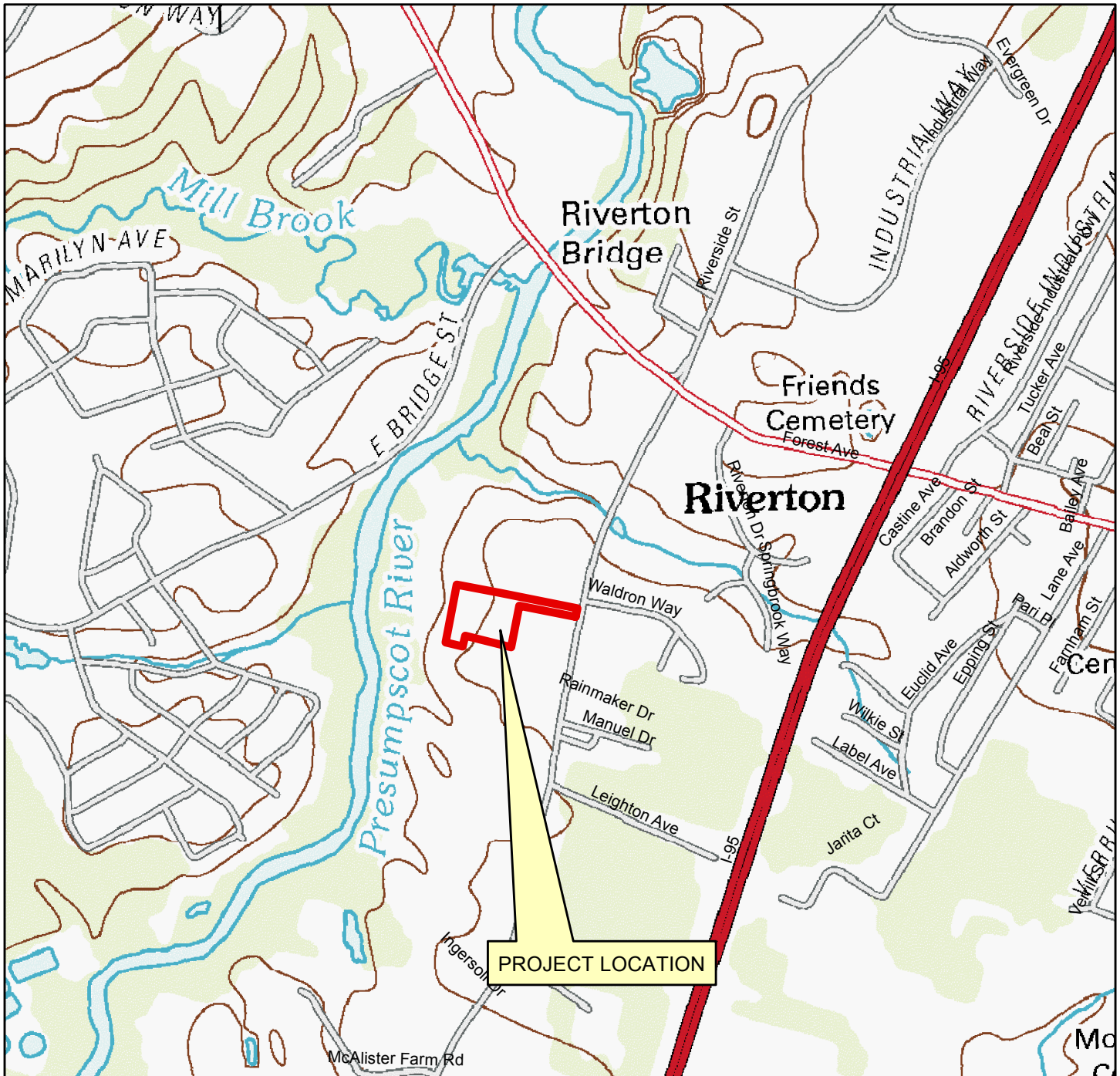
The drainage network has been sized using the flows computed by the Rational Method in Microsoft excel. The pipe sizes are noted on the drawings.

20.0 Appendices

- A – Figures
- B – Existing Conditions Photographs
- C – Impervious Area and Watershed Figures
- D – Stormwater Quality Treatment Computation Summary Sheet
- E – Underdrained Soil Filter Stage Storage Computations
- F – Drawdown Time Calculations – Grassed Underdrained Soil Filter
- G – Geotechnical Report
- H – Erosion Control Plan
- I – Inspection & Maintenance Manual for Stormwater Management and Related Stormwater Facilities
- J – City of Portland – Form 2 – Non-Residential Stormwater Credits: New Development/Re-Development

APPENDIX A

Figures



USGS LOCATION MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 USGS
SCALE:	1 inch = 1,000 feet

FIGURE

1



FLOOD MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

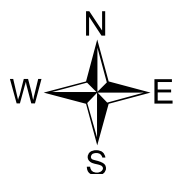
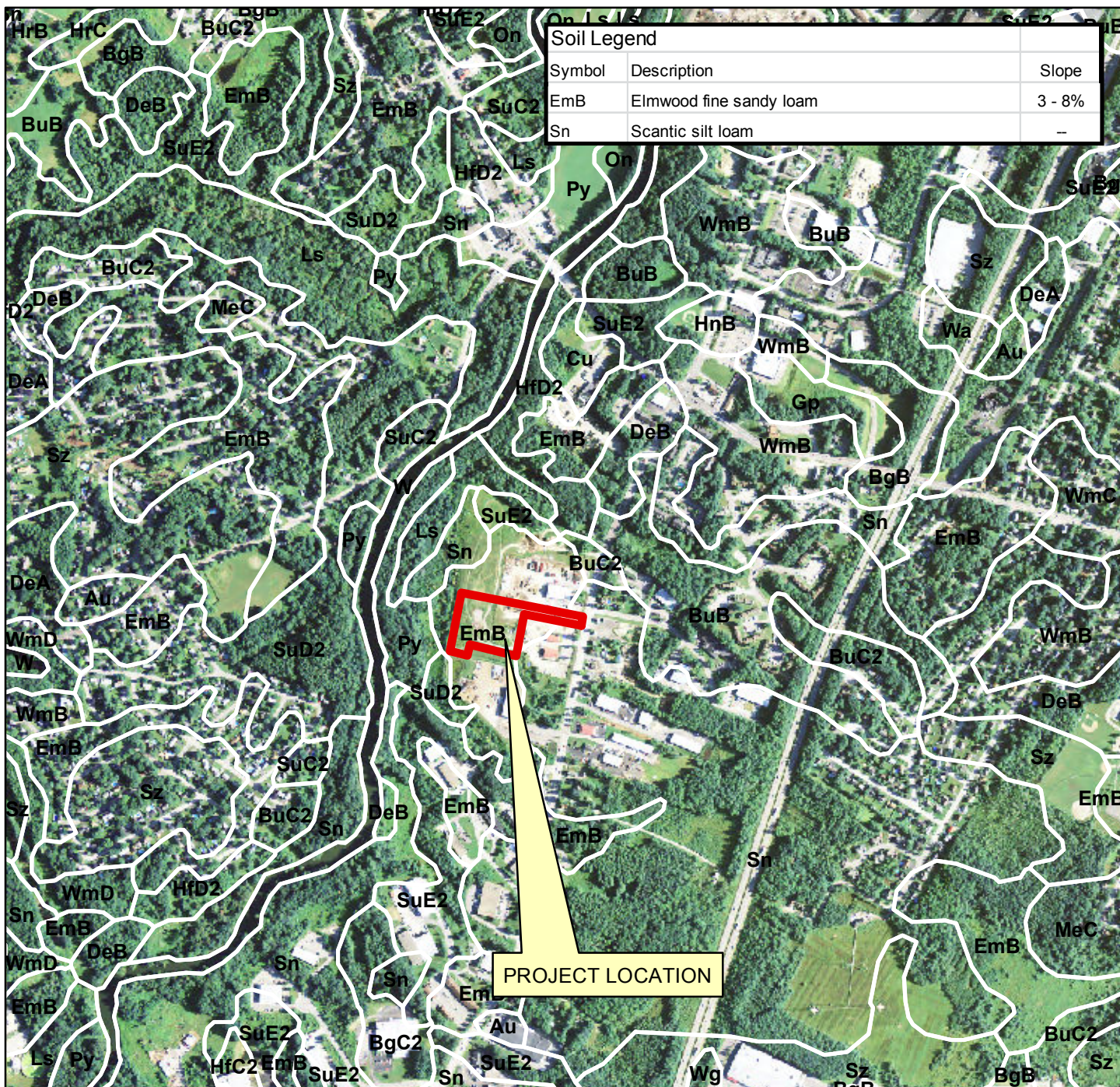
778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 FLOOD
SCALE:	1 inch = 1,000 feet

FIGURE

2



SOILS MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN: DED
CHECKED: ARF
DATE: JAN 2015
FILENAME: SP-M157 SOILS
SCALE: 1 inch = 1,000 feet

FIGURE

3



AERIAL PHOTOGRAPH SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 AERIAL
SCALE:	1 inch = 1,000 feet

FIGURE

4



TAX MAP SUBURBAN PROPANE RELOCATION PORTLAND, MAINE

SOURCE: MAINE OFFICE OF GIS

STANTEC CONSULTING SERVICES INC.

778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN:	DED
CHECKED:	ARF
DATE:	JAN 2015
FILENAME:	SP-M157 TAX MAP
SCALE:	1 inch = 1,000 feet

FIGURE

5

APPENDIX B

Existing Conditions Photographs



**PHOTO 1 – Gravel parking at the proposed entrance to the site.
Looking easterly.**



**PHOTO 2 – Gravel and paved parking on the existing Lucas Tree site
portion to become Suburban Propane. Looking westerly.**



**FAY, SPOFFORD &
THORNDIKE NOW STANTEC**
778 Main Street, Suite 8
South Portland, ME 04106
Toll Free: 800.835.8666
Main: 207.775.1121
Fax: 207.879.0896

**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**



PHOTO 3 – Gravel drive leading onto the site. Looking westerly.



PHOTO 4 – Gravel drive on the site. Looking northerly.



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South Portland, ME 04106
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Fax: 207.879.0896

Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)



PHOTO 5 – Gravel and meadow site conditions. Looking northerly.



PHOTO 6 – Overview of the site. Looking northerly.

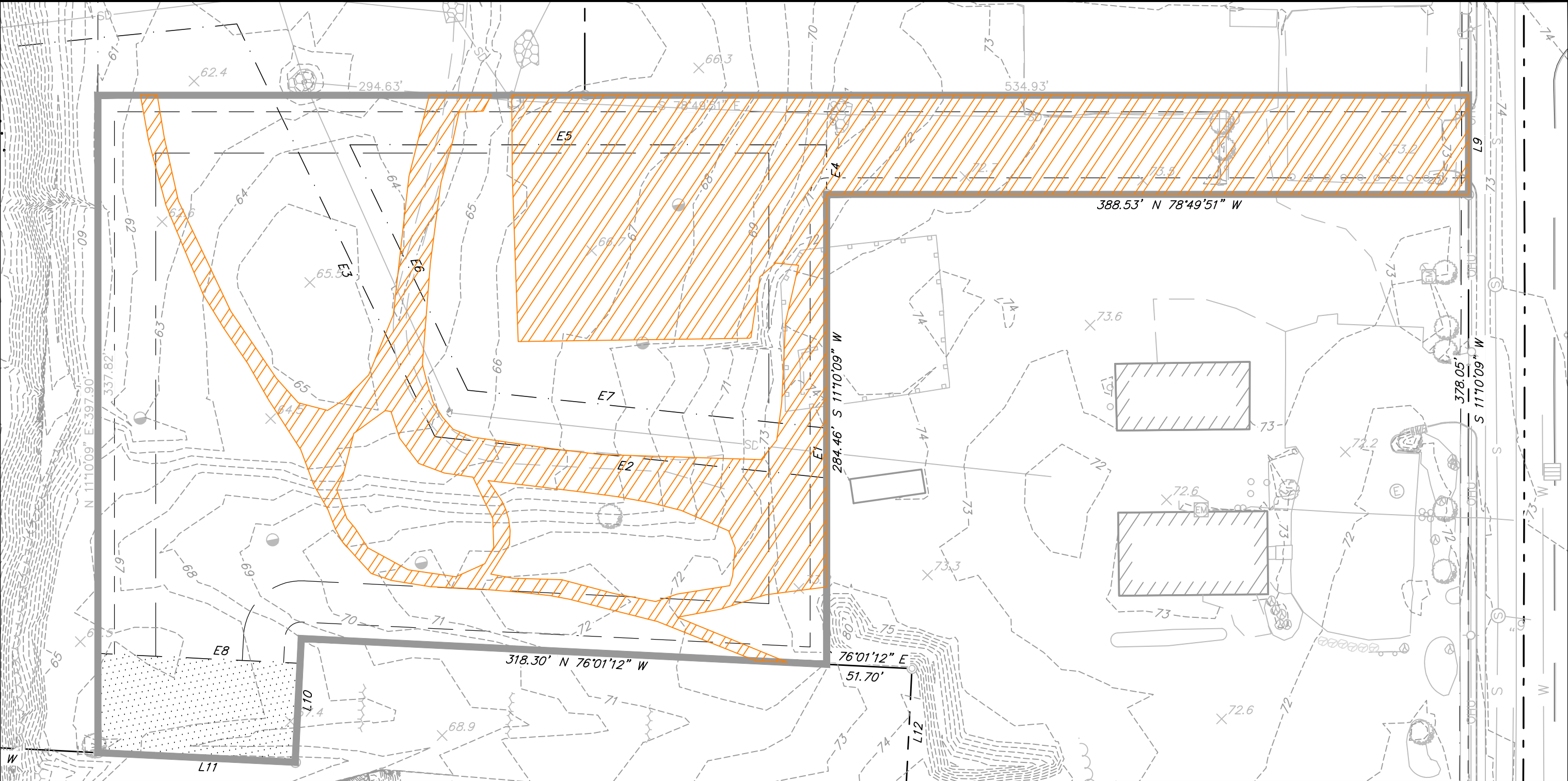


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**Suburban Propane – Portland, Maine
Photos Taken by FST – 07/28/14
(FST JN SP-M157)**

APPENDIX C

Impervious Area and Watershed Figures



PLAN REFERENCE:

- 1. "EXISTING CONDITIONS PLAN OF LAND" DATED OCTOBER 29, 2015 PREPARED BY SEBAGO TECHNICS
- 2. GOOGLE EARTH AERIAL IMAGERY ©2015
- 3. FIELD OBSERVATIONS PERFORMED BY A. FINE ON DECEMBER 12, 2015

LEGEND:

EXISTING IMPERVIOUS AREA = 1.73 ACRES

TOTAL SITE AREA = 4.12 ACRES

STANTEC CONSULTING SERVICES INC.

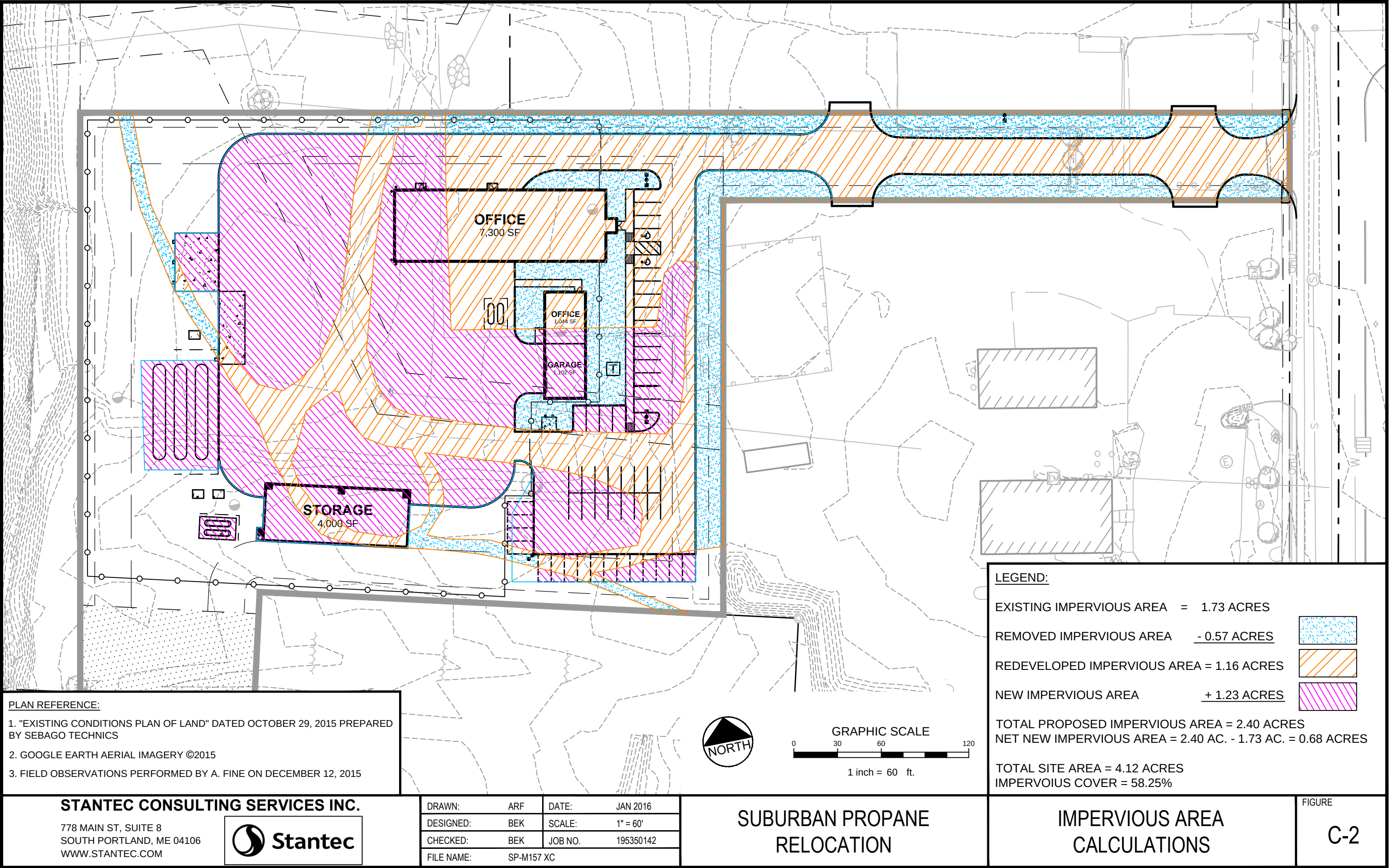
778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM

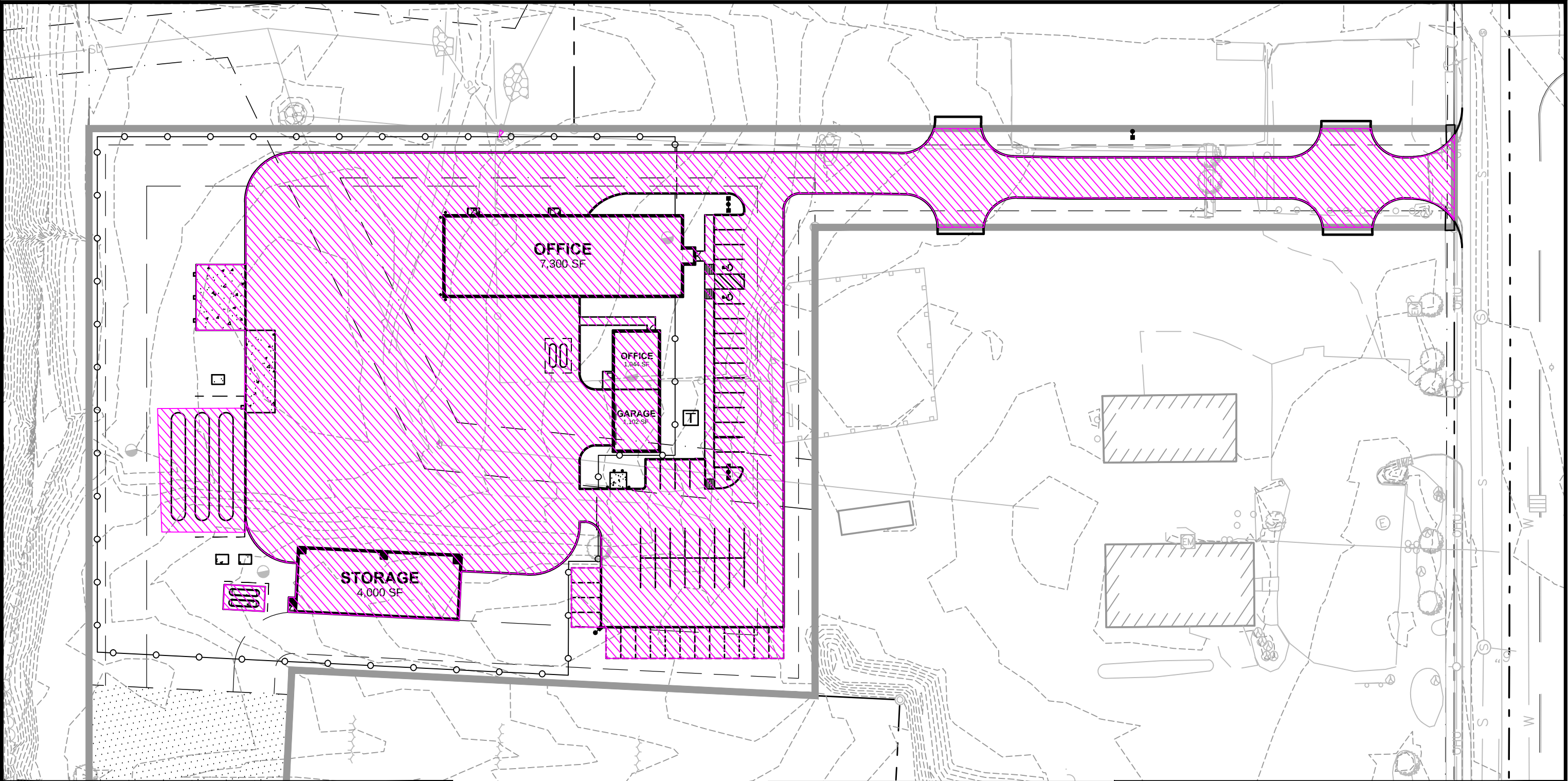
DRAWN:	ARF	DATE:	JAN 2016
DESIGNED:	BEK	SCALE:	1" = 60'
CHECKED:	BEK	JOB NO.	195350142
FILE NAME:	SP-M157 XC		

SUBURBAN PROPANE
RELOCATION

EXISTING CONDITIONS
IMPERVIOUS AREA

FIGURE
C-1





PLAN REFERENCE:

1. "EXISTING CONDITIONS PLAN OF LAND" DATED OCTOBER 29, 2015 PREPARED BY SEBAGO TECHNICS
2. GOOGLE EARTH AERIAL IMAGERY ©2015
3. FIELD OBSERVATIONS PERFORMED BY A. FINE ON DECEMBER 12, 2015

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778 MAIN ST, SUITE 8
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DRAWN:	ARF	DATE:	JAN 2016
DESIGNED:	BEK	SCALE:	1" = 60'
CHECKED:	BEK	JOB NO.	195350142
FILE NAME:	SP-M157 XC		



GRAPHIC SCALE

0 30 60 120

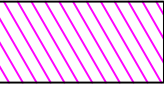
1 inch = 60 ft.

**SUBURBAN PROPANE
RELOCATION**

LEGEND:

PROPOSED IMPERVIOUS AREA = 2.40 ACRES

TOTAL SITE AREA = 4.12 ACRES
IMPERVIOUS COVER = 58.25%



**PROPOSED CONDITIONS
IMPERVIOUS AREA**

FIGURE

C-3

APPENDIX D

Stormwater Quality Treatment Computation Summary Sheet

Stormwater Quality Treatment Computation Sheet Grassed Underdrain Filter - Updated February 19, 2016														
Water Quality Treatment Sizing								Rational Method						
Subcatchment ID / Catch Basin	Total Area (SF)	Impervious Area (SF)	Pervious Area (SF)	Treated Impervious Area (SF)	Treated Pervious Area (SF)	1" Water Quality Volume (1 in x imp + 0.4 in x pervious) (CF)	1.6" Water Quality Volume (1.6 in x imp + 0.4 in x pervious) (CF)	A (acres)	Impervious %	Pervious %	C	Tc	i	Q=CiA (cfs)
CB 1	17,646	16,795	851	16,795	851	1,428	2,268	0.405	0.952	0.048	0.907	6	5.8	2.130
CB 2	4,513	2,291	2,222	2,291	2,222	265	380	0.104	0.508	0.492	0.507	6	5.8	0.305
CB 3	2,754	1,598	1,156	1,598	1,156	172	252	0.063	0.580	0.420	0.572	6	5.8	0.210
CB 4	9,779	9,487	292	9,487	292	800	1,275	0.224	0.970	0.030	0.923	6	5.8	1.202
9 - Direct Runon to Pond	18,198	3,717	14,481	3,717	14,481	792	978	0.418	0.204	0.796	0.234	6	5.8	0.567
Subtotal Tributary to WQ Treatment Area ^{1 2}	52,890	33,888	19,002	33,888	19,002	3,457.41	5,152						Total Flow to Filter ³	4.413
Required Treatment of Net Impervious Area ⁴		29,621		29,621		2,468	3,949							
CB 5	22,829	15,425	7,404	-	-	-	-	0.524	0.676	0.324	0.658	6	5.8	2.000
CB 6	4,360	295	4,065	-	-	-	-	0.100	0.068	0.932	0.111	6	5.8	0.064
CB 7	14,603	13,304	1,299	-	-	-	-	0.335	0.911	0.089	0.870	6	5.8	1.691
CB 8	10,603	1,010	9,593	-	-	-	-	0.243	0.095	0.905	0.136	6	5.8	0.192
Total Proposed Site	158,174	127,431	60,364	33,888	19,002									

Notes:

1. Pond Surface Area required based on area tributary to water quality treatment filter (5% imp + 2% pervious) = 2,074 SF and is used in Appendix D: Underdrained Soil Filter Stage Storage Computations
2. Areas and water quality volumes bolded in this table are used in calculations in Appendix D: Underdrained Soil Filter Stage Storage Computations
3. Total flow to the underdrained soil filter of 4.413 cfs was used to determine appropriate pipe sizes in and out of the filter. Other flows (Q) for each CB calculated using the Rational Method were used to size the stormwater collection system
4. Treatment required for this project is based on the net impervious area of 0.68 acres (29,621 sf) calculated on Figure C-2

APPENDIX E

Underdrained Soil Filter Stage Storage Computations

Job No. SP-M157
Suburban Propane
1/12/2016

Underdrained Soil Filter

Tributary Area (Subcatchments 1, 2, 3, 4 and 9)

Impervious	33,888 SF
Landscape	19,002 SF

Required Treatment Volume = (1.0 or 1.6 inch X Impervious area) + (0.4 inch X Landscape area)

1" Required Treatment Volume:	3,457 CF
1.6" Required Treatment Volume:	5,152
Treatment Volume Provided:	5,195 CF

Minimum Filter Area = (5% of the Impervious area) + (2% of the Landscaped area)

Minimum Filter Area:	2,074 SF
Filter Area Provided:	2,471 SF

Stage	Surface Area (sf)	Incremental Volume (cf)	Cumulative Volume (cf)	Notes
58	2,471	0	0	Filter Bottom
59	3,347	2,898	2,898	
59.2	3,421	677	3,575	
59.5	3,827	1,792	4,690	
59.63	3,945	118	5,195	Treatment Volume
59.7	4,008	783	5,474	
59.8	4,100	1,189	5,879	
60	4,285	2,027	6,717	

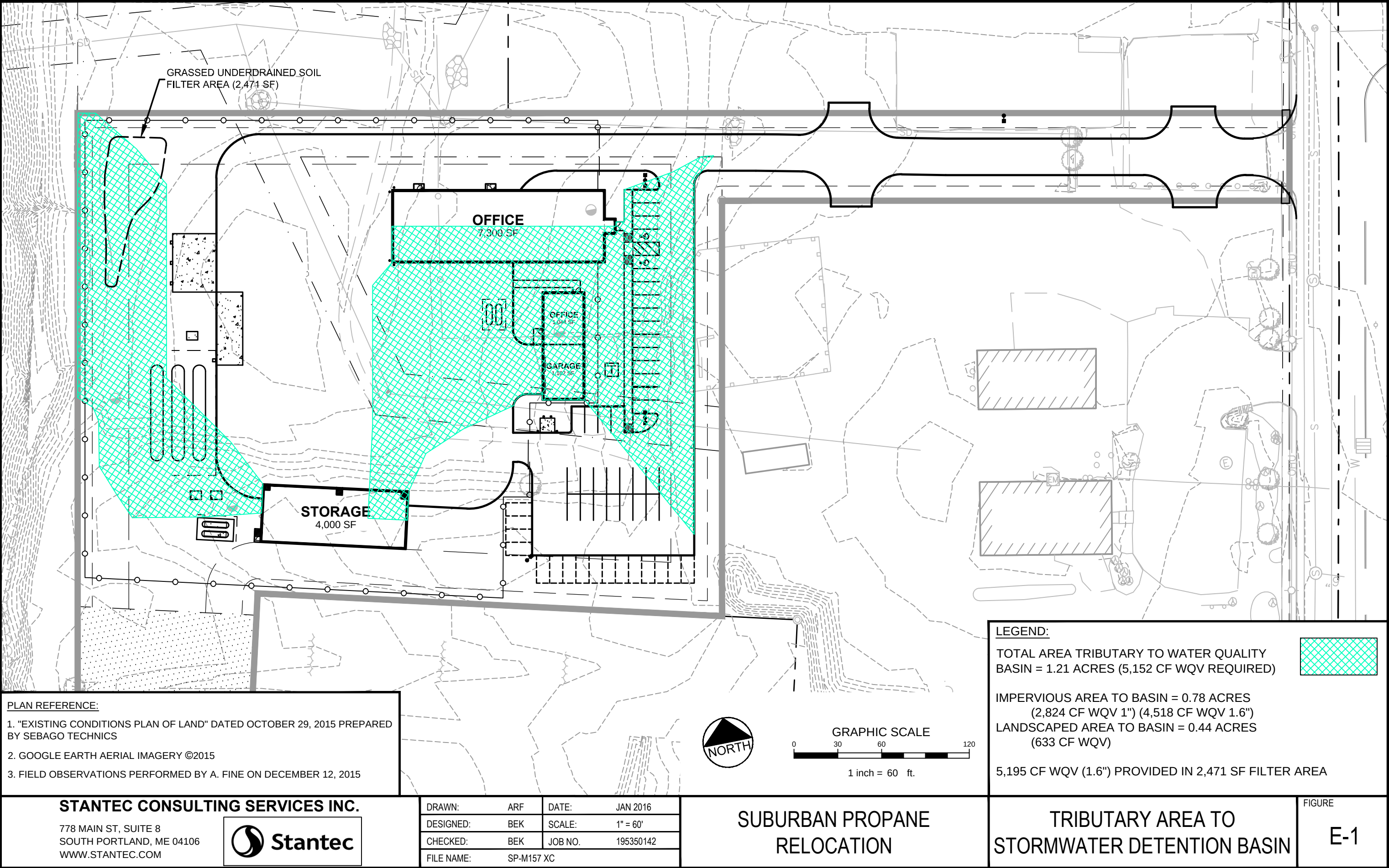
Pretreatment Sizing:

Sediment Loading @ 50CF/ACRE-YR =

39 CF Required

Sediment Forebay w/

57 CF Storage Provided



APPENDIX F

Drawdown Time Calculations – Grassed Underdrained Soil Filter

Underdrained Soil Filter

DRAWDOWN CALCULATIONS
Suburban Propane Relocation
Portland, ME

SP-M157
ARF
January 2016

ORIFICE DIAMETER FOR GRASSED UNDERDRAIN SOIL FILTER

Updated 2016.01.11

Description of Elevation	Elevation	Depth (ft)	Surface Area (sq.ft)	Area End (sq.ft)	Area End Depth (ft)	Incremental Stage Volume (c.f)	Cumulative Volume (c.f.)	Head (ft)	Orifice Flow (cfs)	Drawdown Time (secs)	Drawdown Time (hours)
Overflow Weir Elev	61.00	3.00	5,241.00	4331.00	1.80	7795.80	11355.60	5.33	0.039	200988.38	55.8
	60.00	2.00	4,285.00	4115.00	0.37	1522.55	6666.04	4.33	0.035	43551.34	12.1
1.6" WQV	59.63	1.63	3,945.00	3683.00	0.43	1583.69	5143.49	3.96	0.033	47369.24	13.2
	59.20	1.20	3,421.00	3384.00	0.20	676.80	3559.80	3.53	0.032	21441.09	6.0
	59.00	1.00	3,347.00	3102.00	0.50	1551.00	2883.00	3.33	0.031	50589.87	14.1
Bottom of Forebay	58.50	0.50	2,857.00	2664.00	0.50	1332.00	1332.00	2.83	0.028	47128.64	13.1
Bottom of Filter	58.00	0.00	2,471.00	0.00	0.00	0.00	0.00	2.33	0.026	0.00	0.0
TOTAL									0.116	TOTAL	27.1

$$CA (2gh)^{1/2}$$

Orifice Diameter	0.8	inch
Area	0.0035	sq.ft
Head		feet
g	32.174	ft/s ²
C	0.6	Orifice/Grate

APPENDIX G

Geotechnical Report



MEMORANDUM

Date: December 15, 2015

To: Chris Thompson, Thompson's Point Development Company

From: William Peterlein, P.E., Summit Geoengineering Services

RE: Proposed Suburban Propane Facility, Storage Tank Footing Subgrade Preparation and Bearing Capacity, Portland, Maine #15185

Summit Geoengineering Services (SGS) has evaluated the subsurface conditions in the area of the proposed 30,000 gallon propane storage tanks. Based on site plans provided to us, there will be a total of 3 tanks near the back end of the site (north end).

SGS drilled a boring (Boring B-5) close to the area of the proposed tanks. Based on the results from our explorations, we recommend that the footings for the propane tanks be sized using an allowable bearing pressure of 3,000 psf, provided that the following subgrade preparation methods are completed:

- All topsoil is removed from within the proposed tank area.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Footing trenches are overexcavated 1 foot below bottom of footing elevation. Exposed soil at the bottom of the excavation is proofrolled with a minimum of 4 passes with a walk-behind plate compactor.
- A geotextile is placed on top of the proofrolled subgrade soil. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard and should be extended a minimum of 2 feet beyond the proposed edge of footing on all sides.
- 12" of ¾" crushed stone or Structural Fill (SF) is placed on top of the geotextile beneath the bottom of footing elevation. If SF is used, it should be compacted to 95% of its optimum dry density in accordance with ASTM D1557. If crushed stone is used, it should be compacted with a minimum of 4 passes with a walk-behind plate compactor.

Note that these are the same footing subgrade preparation methods as the cold storage building. The gradation requirements for SF can be found in our geotechnical report. If you have any questions, please feel free to contact us.



GEOTECHNICAL REPORT

Proposed Suburban Propane Facility 656 Riverside Street Portland, Maine

Prepared for:

Fay, Spofford, & Thorndike
778 Main Street, Suite 8
South Portland, Maine 04106

Prepared by:

Summit Geoengineering Services
145 Lisbon St.
Lewiston, Maine

Project #15156
November 2015



November 18, 2015
SGS #15156

Bo Kennedy, P.E.
Fay, Spofford, & Thorndike
778 Main Street, Suite 8
South Portland, Maine 04106

Reference: Geotechnical Recommendations, Proposed Suburban Propane
656 Riverside Street, Portland, Maine

Dear Bo;

Summit Geoengineering Services, Inc. (SGS) has completed a geotechnical investigation for the proposed Suburban Propane facility at the site reference above. Our scope of services included the drilling of 7 borings throughout the proposed development and preparing this geotechnical report summarizing our findings and providing geotechnical recommendations.

Our scope of services for this project did not include an environmental site assessment or further investigation for the presence or absence of hazardous or toxic material on, below, or around the site. Any statements in this report, or on the soil boring logs, regarding odors or unusual soil conditions observed are for informational purposes and are not intended to constitute an environmental assessment.

1.0 Project Description

We understand that the project consists of the construction of a new office building, garage with office space, and cold storage building at the site referenced above. We understand that the office will have a footprint of approximately 7,300 square feet with a finish floor elevation of 67.2 feet. The garage and additional office space will have a combined footprint of approximately 1,780 square feet and a finish floor elevation of 68.7 feet. The cold storage building will have a footprint of approximately 4,000 square feet with a finish floor elevation of 74.86 feet, raised from the surrounding finish grade for truck loading/unloading access. Construction will also include paved parking and driveway around the property, a new paved entrance to the site, and a stormwater treatment area on the western end of the site near the crest of the slope adjacent to the Presumpscot River.

The site is located at 656 Riverside Street in Portland, Maine, behind the Lucas Tree Experts warehouse. The proposed site area is divided by a chain-link fence near the eastern edge of the property. Inside the fence (east of the fence) the ground surface is relatively flat at approximately elevation 68 feet with a gravel surface. This is the area of the proposed office and mixed garage/office space. Outside of the fence (west of the fence), the ground surface slopes gently downward in a westerly direction and is heavily vegetated. There is a berm running along the southern side of the property. The new office building and garage/additional office space are

proposed to be constructed at or near existing grade. The finish floor elevation for the cold storage building is approximately 3 to 6 feet above existing grade.

2.0 Exploration

2.1 Exploration

Summit Geoengineering Services (SGS) observed the subsurface conditions at the site with the drilling of 7 borings on October 13, 2015. Borings B-1, B-2, and B-6 were drilled to refusal while the remainder of the borings were terminated before refusal was encountered. Refusal ranged from 18.1 to 45.2 feet below ground surface, increasing in depth towards the southwestern end of the site towards the Presumpscot River. Borings were advanced using either 3" diameter casing or 2 1/2" hollow stem augers. During the borings, split spoon sampling was conducted in general accordance with ASTM D1586 to collect blow counts and soil samples. Collected samples were visually classified and pocket penetrometer testing was performed on samples exhibiting cohesion.

Locations of the seven borings were marked by SGS prior to the day of drilling by measuring from surrounding landmarks. These locations can be seen in the Boring Location Plan in Appendix A. The boring logs can be found in Appendix B.

3.0 Subsurface Conditions

3.1 Soil

The soil at the site generally consists of topsoil overlying fill/reworked native soil overlying glacial marine soil (silty clay) overlying a marine fan deposit overlying glacial till overlying bedrock.

The topsoil, present in B-5, B-6, and B-7, is described as dark brown fine sandy silt with roots, rootlets, and organics. The layer ranged in thickness from 6" to 8", is humid and loose and classifies as ML in accordance with the Unified Soil Classification System. This layer only occurred in the vegetated area of the site west of the chain link fence. Fill (see below) was present at the ground surface for borings B-1, B-2, B-3, and B-4.

The fill/reworked native soil encountered at the site varied in composition and depth between the borings inside of the fence (B-1, B-2, B-3, and B-4) and the borings outside of the fence (B-5, B-6, and B-7). For the borings inside of the fence, the fill is present at the ground surface and is described as brown silty fine to coarse sand with little to some gravel. It is humid, compact, and ranges in thickness from 1.5 feet to 3 feet. It appears that the fill was placed to provide a working surface for the Lucas Tree Experts wood chipper. Standard Penetration Test blow counts (SPT-N) in the layer ranged from 7 to 24 with an average of 16. It classifies as SM or SP-SM in accordance with the Unified Soil Classification System.

The fill/reworked native soil encountered in the borings outside of the fence is located below the topsoil and is described as olive gray to black silty clay with little to some sand and no to some

gravel. Brick fragments, ash, organics, and wood pieces were present at various depths throughout the layer. It is soft to compact, humid, and contains a slight petroleum odor. SPT-N in the layer ranged from 6 to 28 with an average of 14. The fill/reworked native ranges in thickness from 9.5 feet to 11.5 feet. It classifies as ML, CL, or SP in accordance with the Unified Soil Classification System.

The glacial marine soil was encountered in 6 of the 7 borings and is described as olive brown to olive gray stiff silty clay with occasional silt seams. It is mottled, blocky, humid, and ranges in pocket penetrometer measurements (a rough estimate of unconfined compressive strength) from 3,000 psf to greater than 9,000 psf. The thickness of this layer is approximately 10 feet. It classifies as CL in accordance with the Unified Soil Classification System.

In boring B-7, the stiff silty clay transitioned into soft, gray silty clay at approximately 19 foot depth. A pocket penetrometer reading in this sample was approximately 500 psf. This apparently isolated layer also classifies as CL.

The marine fan deposit, encountered in borings B-1 and B-2 is described as dark tan silty fine sand with little gravel. The layer is slightly to moderately mottled, humid to damp, and compact. The layer starts at depth 13 feet below ground surface and is approximately 3.5 feet thick. SPT-N in this layer ranged from 18 to 24 with an average value of 21. The layer classifies as SM in accordance with the Unified Soil Classification System.

The glacial till was encountered in boring B-1 and B-2 is described as gray gravelly clay with little sand and silt. It ranges in thickness from 1.5 feet to 4 feet and directly overlies bedrock. SPT-N in this layer ranged from 20 to 37. The glacial till is very stiff and humid and classifies as ML in accordance with the Unified Soil Classification System.

3.2 Groundwater

Groundwater was not encountered in any of the borings on the day of the explorations. However, based visual inspection of the moisture from the soft, silty clay collected from Boring B-7, groundwater is anticipated to be at approximately 19 feet depth in this location (elevation 54 feet). Mottling of the glacial marine deposit indicates that the groundwater rises seasonally or during wet periods.

3.3 Bedrock

Bedrock was encountered at the site ranging from 18.1 feet to 45.2 feet below existing ground surface. The bedrock surface appears to slope downward at the site in a southwesterly direction. Bedrock mapping by the Maine Geological Survey classifies the bedrock at the site as the Berwick Formation consisting of fine-grained medium gray quartz-plagioclase biotite gneiss and granofels with minor light medium gray calc-silicate gneiss or granofels.

4.0 Evaluation

The key geotechnical issues at the site include the following:

- Presence of unsuitable soils at the proposed bottom of footing elevation for the cold storage building.
- Potential for settlement of the clay under the 3 to 6 feet of fill required for the cold storage slab.
- Presence of poorly-drained soils within the proposed paved driveway entrance.

Based on our explorations, proposed site grades, and the proposed finish floor elevation of the cold storage building, the subgrade soil beneath the footings will consist of reworked clay/silt with brick, ash and intermixed gravel/sand. Local ground improvement is recommended beneath the cold storage building footings as recommended in Section 5.1.2. These recommendations only apply to the cold storage building and are not necessary for the office and office/garage buildings.

Up to 6 feet of fill will be required to construct the slab for the cold storage building. Explorations in this area indicate that the stiff, silty clay transitioned into a softer deposit at approximately 20 feet below ground surface. Refusal was encountered at approximately 45 feet. We believe that if the fill is constrained within the building footprint and is limited to a thickness of 6 feet, that the settlement of the clay will remain within tolerable limits of the building.

Stiff, silty clay was encountered at approximately 1.5 feet below ground surface at Boring B-3, within the proposed paved driveway entrance to the site. This soil is poorly drained and has high frost-susceptibility. Recommendations for constructing the proposed driveway are presented in Section 7.0.

5.0 Foundation Recommendations

5.1. *Allowable Bearing Pressure*

Based on our explorations and the proposed finish floor elevations, we anticipate that the interior and exterior footings for the office and office/garage buildings will be supported on stiff clay and the footings for the cold storage building will be supported on reworked clay/silt. We recommend that footings for all of the buildings be proportioned using an allowable bearing pressure of 3,000 psf, assuming that the recommendations from this report are followed. Total settlement is expected to be less than 1.0" and differential settlement is expected to remain within tolerable limits. The allowable bearing pressure above is based on the following conditions:

5.1.1 *Office and Office/Garage Buildings:*

- All topsoil is removed from within the proposed building footprints.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Foundation underdrains are included for the buildings as described in Section 5.5.
- Footing excavations are completed using a smooth-edged bucket to reduce local

disturbance to the silty clay soil. Proofrolling of the exposed silty clay is not necessary. If granular soil (existing fill) is exposed at the bottom of the footing excavation, it should be proofrolled with a minimum of 4 passes with a walk-behind plate compactor.

- Soft or unsuitable soils are removed and replaced with ¾" crushed stone or Structural Fill (SF, See Section 5.2 for gradation requirements). This includes portions of the exposed silty clay which become softened upon exposure to rain or surface water.
- All placed fill within the building footprint consists of SF placed in a maximum of 12" lifts and compacted to 95% of its optimum dry density in accordance with ASTM D1557.

5.1.2 Cold Storage Building:

- All topsoil is removed from within the proposed building footprint.
- Footings are constructed at the minimum recommended frost protection depth of 4 feet below exterior finish grade.
- Footings are constructed on unfrozen soil.
- Foundation underdrains are included for the buildings as described in Section 5.5.
- Interior and exterior footing trenches are overexcavated 1 foot below bottom of footing elevation. Exposed soil at the bottom of the excavation is proofrolled with a minimum of 4 passes with a walk-behind plate compactor.
- A geotextile is placed on top of the proofrolled subgrade soil. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard and should be extended a minimum of 2 feet beyond the proposed edge of footing on all sides.
- 12" of ¾" crushed stone or SF is placed on top of the geotextile beneath the bottom of footing elevation. If SF is used, it should be compacted to 95% of its optimum dry density in accordance with ASTM D1557. If crushed stone is used, it should be compacted with a minimum of 4 passes with a walk-behind plate compactor.

5.2 Slabs-on-grade

5.2.1 Office and Office/Garage Buildings:

Based on a finish floor elevation of 67.2 feet for office building and 68.7 feet for the office/garage building, we anticipate that the slab will be supported by a combination existing fill and imported fill. We have assumed that the office/garage space will be continuously heated.

We recommend that the slab-on-grade in both office and the garage/office be constructed on a minimum of 12" of compacted Structural Fill (SF, see table below for gradation requirements). Exposed soil (existing fill) beneath the SF should be proofrolled with a minimum of 4 passes with a vibratory roller with a minimum operating weight of 10 tons. Any exposed soft or unsuitable soil should be removed and replaced with compacted SF.

The portion of SF passing the 3" sieve shall meet the following gradation requirements:

STRUCTURAL FILL (SF)	
Sieve Size	Percent finer
3 inch	100
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

The maximum particle size should be limited to 6 inches. Structural Fill should be placed in 6 to 12 inch lifts and should be compacted to a minimum of 95 percent of its maximum dry density, determined in accordance with ASTM D1557.

For the conditions described above, the slab can be designed using a subgrade modulus value of 175 pci.

5.2.2 Cold Storage Building:

Based on a finish floor elevation of 74.85 feet for the cold storage building and existing grades provided to us, 3 to 6 feet of fill will be required to raise the grade within the building footprint for the slab. We recommend that all imported fill beneath the slab consist of Gravel Borrow (GB, see table below for gradation requirements) overlying a non-woven geotextile. Once the topsoil has been removed from within the building footprint, the exposed subgrade should be proofrolled prior to the placement of the geotextile. The geotextile should consist of a non-woven fabric with a minimum weight of 8 oz. per square yard.

The portion of GB passing the 3" sieve shall meet the following gradation requirements:

GRAVEL BORROW (GB)	
Sieve Size	Percent finer
¾ inch	0 to 70
No. 200	0 to 10

Reference: MDOT Specification 703.20, Gravel Borrow

The maximum particle size should be limited to 6 inches. GB should be placed in 6 to 12 inch lifts and should be compacted to a minimum of 95 percent of its maximum dry density, determined in accordance with ASTM D1557.

For the conditions described above, the slab can be designed using a subgrade modulus value of 150 pci.

5.3 Frost Protection and Foundation Backfill

Based on a 10-year design air freezing index of 1,200 degree F days for the Portland, Maine

region, all foundation walls or isolated footings exposed to freezing temperatures should be constructed at a minimum depth of 4 feet below finish exterior grade (or finish floor elevation for interior columns). We recommend that interior columns in heated portions of the buildings be constructed at a minimum of 2 feet below the finish floor grade. We recommend that the exterior of all foundation elements exposed to freezing temperatures be backfilled with Foundation Backfill (FB). The portion of FB passing the 3" sieve size should meet the following gradation requirements:

FOUNDATION BACKFILL (FB)	
Sieve Size	Percent finer
3 inch	100
¼ inch	25 to 100
No. 40	0 to 50
No. 200	0 to 7

Reference: MDOT Specification 703.06, Type E

Maximum particle size should be limited to 6 inches. Foundation Backfill should be placed in 6 to 12 inch lifts and compacted to 95% of its optimum dry density determined in accordance with ASTM D1557.

5.4 Seismic Site Class and Design Criteria

Based on the blow counts collected during split spoon sampling, the depth to bedrock encountered in the borings, and the proposed finish floor elevations, the site classifies as Site Class D "stiff soil" in accordance with the 2012 International Building Code. The following seismic site coefficients should be used:

SEISMIC DESIGN COEFFICIENTS	
Seismic Coefficient	Site Class D
Short period spectral response (S_s)	0.246
1 second spectral response (S_1)	0.079
Maximum factored spectral response (S_{MS})	0.393
1 second factored spectral response (S_{M1})	0.190
Design short period spectral response (S_{DS})	0.262
Design 1 second spectral response (S_{D1})	0.127

No liquefiable soils were encountered in our subsurface exploration.

5.5 Groundwater Considerations

Groundwater was encountered at approximately elevation 54 feet. Soil samples recovered in the office and office/garage area were heavily mottled, indicating that the groundwater table rises above its current elevation during wet periods. Accordingly, we recommend that perimeter underdrains be constructed around the foundation walls of these buildings. However, for the cold

storage building, underdrains are not strictly necessary. It is generally good practice, however, that foundation underdrains be installed around the perimeter of the building. Perimeter underdrains, if used, should consist of 4" rigid perforated PVC surrounded by a minimum of 6" of crushed stone wrapped in filter fabric to prevent clogging from the migration of fine soil particles into the backfill soil. The underdrains should be placed at the base of the foundation and outlet to a free draining location or pumped if necessary.

6.0 Stormwater Design

We understand that a stormwater treatment system is being proposed near the southwest corner of the site, near the crest of the slope adjacent to the Presumpscot River. The subgrade at this location is primarily fill/reworked soil consisting of sandy/gravelly clay and silt. Permeability of this soil should be considered low, on the order of 0.15 to 0.0015 in/hr. Groundwater can be assumed to be at elevation 54 feet.

7.0 Pavement Section Recommendations

The mean annual freezing index for the Portland area is estimated at 900 degree days. Based on the subgrade and mean annual freezing index, the anticipated mean annual frost penetration depth is 36 inches. We recommend a minimum total pavement section thickness of 50% of the mean annual frost penetration or approximately 18 inches. We further recommend that the pavement section consist of the following materials.

PAVEMENT SECTION MATERIALS AND THICKNESSES		
Material	Thickness (in)	Specification
Asphalt Surface Course	1	MDOT 703.09, Type 9.5 mm
Asphalt Binder Course	2	MDOT 703.09, Type 19 mm
Base Soil	3	MDOT 703.06 Type A
Subbase Soil	12	MDOT 703.06 Type D

We recommend the following gradation requirements be used for Base and Subbase Soil:

MATERIAL SPECIFICATIONS		
Sieve Designation	Percent Passing a 3-inch Sieve	
	MDOT Type A (Base)	MDOT Type D (Subbase)
3 Inch	100	100
2 Inch	100	--
½ Inch	45 – 70	35 - 80
¼ Inch	30 – 55	25 – 65
No. 40	0 – 20	0 – 30
No. 200	0 – 6	0 - 7

The material specifications are referenced to the Maine Department of Transportation Standard Specifications, 2014 Edition.

8.0 Construction Consideration

Based on the groundwater levels observed from our explorations, we do not anticipate that groundwater will be encountered within the building foundation excavations. Diversion and control of surface water should be performed to prevent water flow from adjacent wet areas or from rain or snowmelt from entering the excavations.

Excavations deeper than 4 feet should be sloped no greater than 1.5H to 1V for fill or previously disturbed soils and 0.75H:1V for the stiff silty clay soil. Excavations below groundwater should be limited to 1.5H to 1V. These slopes are based on the current OSHA Excavation Guidelines.

The silty clay subgrade is susceptible to softening if it is disturbed when wet. Disturbed, wet, and soft areas beneath the foundations should be removed and replaced with SF, $\frac{3}{4}$ " crushed stone, and/or geotextile.

If a significant quantity of soft, unsuitable, and/or non-mineral soil is exposed in the footing trenches for the cold storage building, it should be brought to the attention of SGS.

9.0 Closure

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

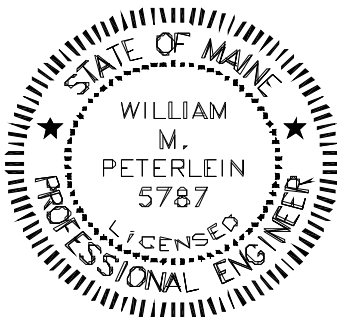
We recommend that a qualified geotechnical consultant be retained to monitor and test soil materials used during construction and confirm that soil conditions and construction methods are consistent with this report.

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.

Sincerely,
Summit Geoengineering Services, Inc.



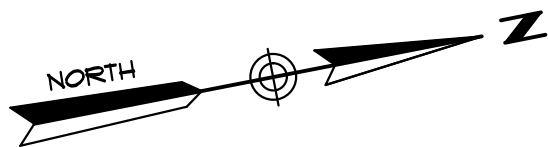
Mathew Hardison, EI
Geotechnical Engineer



William M. Peterlein, PE
Principal Geotechnical Engineer

APPENDIX A

BORING LOCATION PLAN

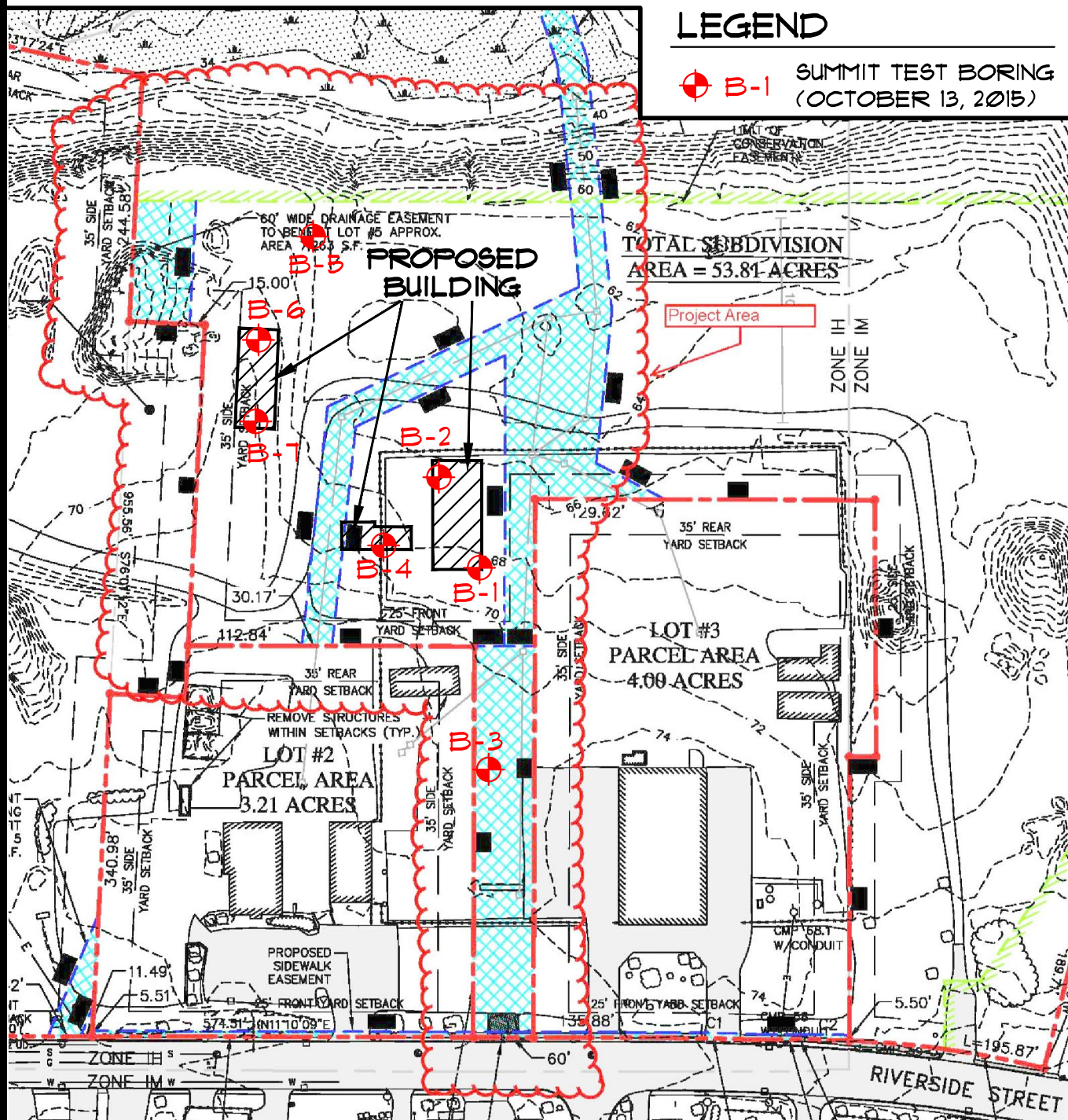


PLAN REFERENCE

"SUBDIVISION RECORDING PLAT, RIVERSIDE
SUBDIVISION", DATED SEPTEMBER 8, 2010,
PREPARED BY WOODARD & CURRAN

LEGEND

 **B-1** SUMMIT TEST BORING
(OCTOBER 13, 2015)



TEST BORING LOCATION PLAN SUBURBAN PROPANE SITE

656 RIVERSIDE STREET - PORTLAND, MAINE

PREPARED FOR

FAY, SPOFFORD & THORNDIKE

DATE: 10-15-2015	DRAWN BY: KRF	CHECKED BY: UMP
JOB: 15156	SCALE: 1" = 200'	FILE: 15156 BOR

145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT

GEOENGINEERING SERVICES
www.summitgeoeng.com

APPENDIX B
BORING LOGS



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

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

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:

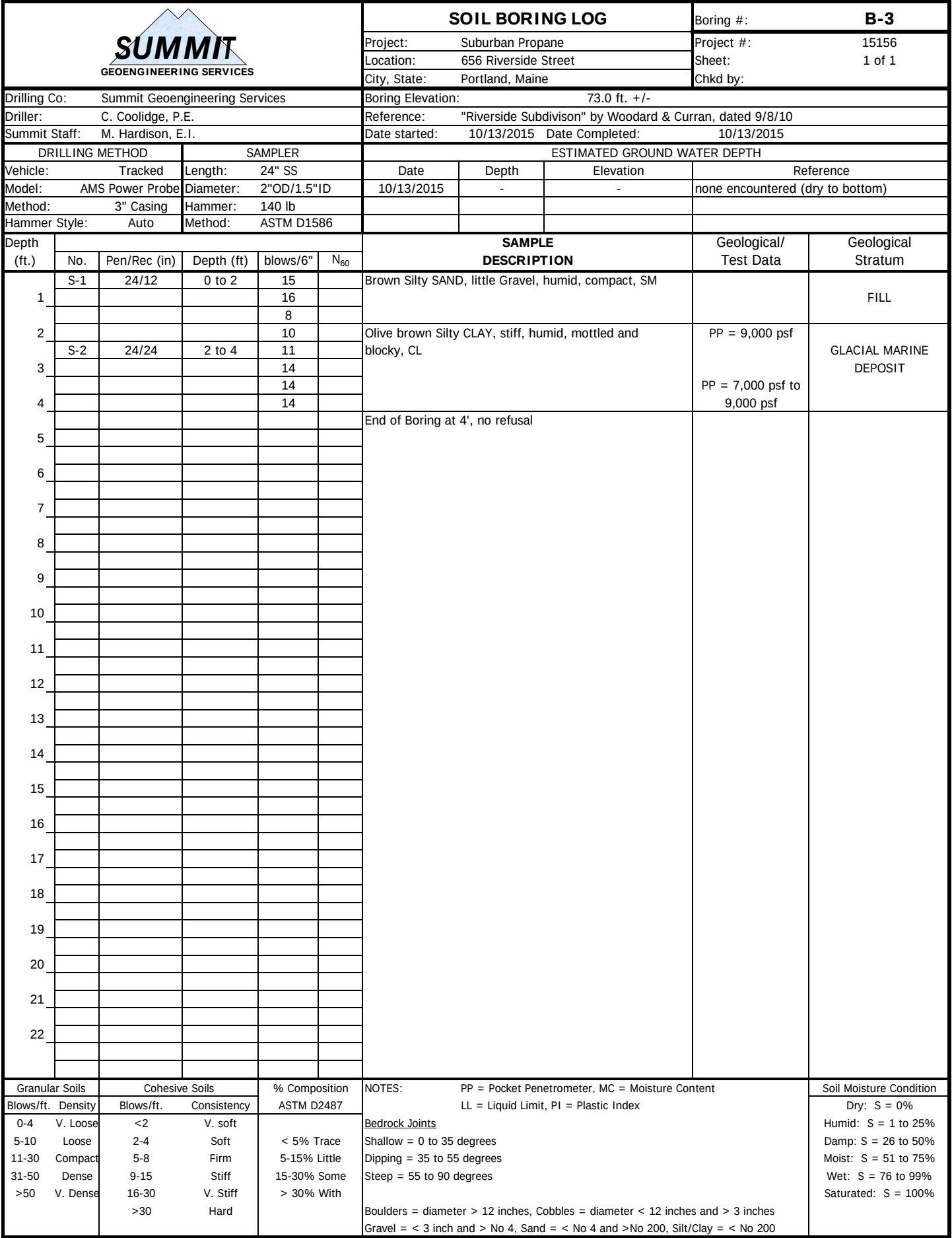
Boulders:	Over 12 inches	Trace:	Less than 5%
Cobbles:	12 inches to 3 inches	Little:	5% to 15%
Gravel:	3 inches to No.4 sieve	Some:	15% to 30%
Sand:	No.4 to No. 200 sieve	Silty, Sandy, etc.:	Greater than 30%
Silt:	No. 200 sieve to 0.005 mm		
Clay:	less than 0.005 mm		

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		

						SOIL BORING LOG			Boring #: B-1	
						Project: Suburban Propane			Project #: 15156	
						Location: 656 Riverside Street			Sheet: 1 of 1	
						City, State: Portland, Maine			Chkd by:	
Drilling Co: Summit Geoengineering Services						Boring Elevation: 68.0 ft. +/-				
Driller: C. Coolidge, P.E.						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10				
Summit Staff: M. Hardison, E.I.						Date started: 10/13/2015 Date Completed: 10/13/2015				
DRILLING METHOD		SAMPLER		ESTIMATED GROUND WATER DEPTH						
Vehicle: Tracked		Length: 24" SS		Date	Depth	Elevation	Reference			
Model: AMS Power Probe		Diameter: 2"OD/1.5"ID		10/13/2015	-	-	none encountered (dry to bottom)			
Method: 3" Casing		Hammer: 140 lb								
Hammer Style: Auto		Method: ASTM D1586								
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION	Geological/ Test Data	Geological Stratum		
1	S-1	24/16	0 to 2	5		Brown Silty fine to coarse SAND, trace Gravel, humid, compact, SM			FILL	
				10						
				6						
2				6		bottom 6" dark gray fine Silty SAND, clay balls and intermixed wood pieces (reworked native)				
3										
4										
5										
6	S-2	24/24	5 to 7	4		Olive brown Silty CLAY, stiff, humid, mottled, slightly blocky, CL	PP = 6,000 psf to 9,000 psf		GLACIAL MARINE DEPOSIT	
				6						
				8						
7				8						
8										
9										
10										
11	S-3	24/24	10 to 12	3		same as above, not blocky	PP = 3,000 psf to 4,000 psf			
				4						
				6						
12				7						
13										
14										
15										
16	S-4	24/24	15 to 17	5		Dark tan Silty fine SAND, mottled, damp, compact, little Gravel in spoon tip, SM			MARINE FAN DEPOSIT	
				9						
				15						
17				22						
18										
19										
20										
21	S-5	24/2	20 to 22	50/2"		Gray Gravelly CLAY, very stiff, little Sand and Silt, CL			GLACIAL TILL	
22						End of Boring at 20.2', spoon refusal on likely bedrock			BEDROCK	
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> Shallow = 0 to 35 degrees Dipping = 35 to 55 degrees Steep = 55 to 90 degrees 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487					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%	
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							

						SOIL BORING LOG				Boring #: B-2	
Drilling Co: Summit Geoengineering Services						Project: Suburban Propane				Project #: 15156	
Driller: C. Coolidge, P.E.						Location: 656 Riverside Street				Sheet: 1 of 1	
Summit Staff: M. Hardison, E.I.						City, State: Portland, Maine				Chkd by:	
Boring Elevation: 66.0 ft. +/-						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10					
Date started: 10/13/2015						Date Completed: 10/13/2015					
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH					
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference		
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	-	-	none encountered (dry to bottom)		
Method: 3" Casing			Hammer: 140 lb								
Hammer Style: Auto			Method: ASTM D1586								
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data		Geological Stratum
1	S-1	24/10	0 to 2	4		Brown Gravelly SAND, little to some Silt, humid, compact SP-SM				FILL	
				8							
				8							
2				6		bottom 4" dark gray fine Silty CLAY, wood pieces, (reworked native)					
3						Olive brown Silty CLAY, stiff, humid, mottled, slightly blocky, CL			PP = 5,000 psf to 5,500 psf	GLACIAL MARINE DEPOSIT	
4											
5											
6	S-2	24/24	5 to 7	3							
7				5							
8				6		same as above, not blocky, trace intermixed fine sand			PP = 3,000 psf to 4,000 psf		
9				8							
10											
11	S-3	24/24	10 to 12	2							
12				4							
13				6		Dark tan Silty fine SAND, trace Clay, little Gravel in bottom 6", humid, slightly mottled, SM				MARINE FAN DEPOSIT	
14				6							
15											
16	S-4	24/24	15 to 17	5							
17				7							
18				9		Gray Gravelly CLAY, very stiff, little Sand and Silt, CL				GLACIAL TILL	
19				11							
20											
21						End of Boring at 18.1', casing refusal on likely bedrock				BEDROCK	
22											
Granular Soils		Cohesive Soils		% Composition		NOTES:					Soil Moisture Condition
Blows/ft. Density		Blows/ft. Consistency		ASTM D2487		PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index					Dry: S = 0%
0-4 V. Loose		<2 V. soft				Bedrock Joints					Humid: S = 1 to 25%
5-10 Loose		2-4 Soft		< 5% Trace		Shallow = 0 to 35 degrees					Damp: S = 26 to 50%
11-30 Compact		5-8 Firm		5-15% Little		Dipping = 35 to 55 degrees					Moist: S = 51 to 75%
31-50 Dense		9-15 Stiff		15-30% Some		Steep = 55 to 90 degrees					Wet: S = 76 to 99%
>50 V. Dense		16-30 V. Stiff		> 30% With		Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches					Saturated: S = 100%
		>30 Hard				Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200					



						SOIL BORING LOG				Boring #: B-4	
Drilling Co: Summit Geoengineering Services						Project: Suburban Propane				Project #: 15156	
Driller: C. Coolidge, P.E.						Location: 656 Riverside Street				Sheet: 1 of 1	
Summit Staff: M. Hardison, E.I.						City, State: Portland, Maine				Chkd by:	
Boring Elevation: 68.4 ft. +/-						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10					
Date started: 10/13/2015						Date Completed: 10/13/2015					
DRILLING METHOD		SAMPLER				ESTIMATED GROUND WATER DEPTH					
Vehicle: Tracked		Length: 24" SS				Date	Depth	Elevation	Reference		
Model: AMS Power Probe		Diameter: 2"OD/1.5"ID				10/13/2015	-	-	none encountered (dry to bottom)		
Method: 3" Casing		Hammer: 140 lb									
Hammer Style: Auto		Method: ASTM D1586									
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data		Geological Stratum
1	S-1	24/0	0 to 2	2		Drove cobble piece, no recovery, likely granular fill (from visual inspection of surface)					FILL
				4							
				3							
2				3		Olive brown Silty CLAY, stiff, humid, mottled, slightly blocky, CL			PP = 4,000 psf to 7,000 psf		GLACIAL MARINE DEPOSIT
3											
4											
5											
6	S-2	24/24	5 to 7	4							
7				4							
8				8							
9				8							
10											
11	S-3	24/24	10 to 12	3							
12				5							
13				5							
14				6		End of Boring at 12', no refusal					
15											
16											
17											
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						SOIL BORING LOG				Boring #: B-5		
Drilling Co: Summit Geoengineering Services						Project: Suburban Propane				Project #: 15156		
Driller: C. Coolidge, P.E.						Location: 656 Riverside Street				Sheet: 1 of 1		
Summit Staff: M. Hardison, E.I.						City, State: Portland, Maine				Chkd by:		
Boring Elevation: 66.0 ft. +/-						Reference: "Riverside Subdivison" by Woodard & Curran, dated 9/8/10						
Date started: 10/13/2015						Date Completed: 10/13/2015						
DRILLING METHOD		SAMPLER				ESTIMATED GROUND WATER DEPTH						
Vehicle: Tracked		Length: 24" SS				Date	Depth	Elevation	Reference			
Model: AMS Power Probe		Diameter: 2"OD/1.5"ID				10/13/2015	-	-	none encountered (dry to bottom)			
Method: 3" Casing		Hammer: 140 lb										
Hammer Style: Auto		Method: ASTM D1586										
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION			Geological/ Test Data		Geological Stratum	
1	S-1	24/12	0 to 2	1		Dark brown Sandy SILT, humid, loose, rootlets, ML					TOPSOIL	
				2		Olive gray Sandy CLAY, little to some Silt, slightly mottled, loose, humid, CL					FILL/REWORKED NATIVE	
				4								
2				4								
3						Gray Gravelly CLAY, little to some Silt, little Sand, humid, compact, CL						
4												
5												
	S-2	24/20	5 to 7	2								
6				11								
				17								
7				12		Dark brown Sandy SILT, some wood pieces and organics, plastic piece, trace Clay, ML						
8												
9												
10						End of Boring at 12', no refusal						
	S-3	24/22	10 to 12	2								
11				4								
				2								
12				2								
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						SOIL BORING LOG		Boring #: B-6		
						Project: Suburban Propane		Project #: 15156		
Location: 656 Riverside Street						Sheet: 1 of 1		Chkd by:		
City, State: Portland, Maine						Boring Elevation: 69.0 ft. +/-				
Drilling Co: Summit Geoengineering Services						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10				
Driller: C. Coolidge, P.E.						Date started: 10/13/2015 Date Completed: 10/13/2015				
Summit Staff: M. Hardison, E.I.										
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH				
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference	
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	-	-	none encountered (dry to bottom)	
Method: 3" Casing			Hammer: 140 lb							
Hammer Style: Auto			Method: ASTM D1586							
Depth (ft.)	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀	SAMPLE DESCRIPTION		Geological/ Test Data	Geological Stratum	
1	S-1	24/18	0 to 2	4		Dark brown Sandy SILT, humid, loose, rootlets, ML			TOPSOIL	
				5		Brown to black Silty CLAY, brick fragments, intermixed gravel, cobble piece, CL				
				14						
	2			10						
3										
4										
5										
6	S-2	24/12	5 to 7	5		Gray Gravelly SAND, little SILT, humid, SP				
7				4		Gray Silty CLAY, intermixed Sand and Gravel, humid, soft, CL				
8				5						
9				5						
10										
11	S-3	24/24	10 to 12	3		Dark brown Silty CLAY, intermixed wood and organics, soft, humid, CL or ML		PP = 7,000 psf to 9,000 psf	GLACIAL MARINE DEPOSIT	
12				4		Olive gray Silty CLAY, very stiff, humid, mottled and blocky, CL				
13				7						
14				9						
15										
16	S-4	24/24	15 to 17	4		same as above, stiff, not blocky, heavily mottled				
17				6						
18				9						
19				9						
20										
21	S-5	24/24	20 to 22	4		same as above		PP = 4,000 psf		
22				5						
				6						
45				7						
						Pushed spearhead probe to refusal				
						End of Boring at 45.2', probe refusal on likely bedrock			REFUSAL	
Granular Soils		Cohesive Soils		% Composition		NOTES: PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index <u>Bedrock Joints</u> Shallow = 0 to 35 degrees Dipping = 35 to 55 degrees Steep = 55 to 90 degrees 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	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487					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%	
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							

						SOIL BORING LOG				Boring #: B-7	
						Project: Suburban Propane				Project #: 15156	
						Location: 656 Riverside Street				Sheet: 1 of 1	
						City, State: Portland, Maine				Chkd by:	
Drilling Co: Summit Geoengineering Services						Boring Elevation: 72.0 ft. +/-					
Driller: C. Coolidge, P.E.						Reference: "Riverside Subdivision" by Woodard & Curran, dated 9/8/10					
Summit Staff: M. Hardison, E.I.						Date started: 10/13/2015 Date Completed: 10/13/2015					
DRILLING METHOD			SAMPLER			ESTIMATED GROUND WATER DEPTH					
Vehicle: Tracked			Length: 24" SS			Date	Depth	Elevation	Reference		
Model: AMS Power Probe			Diameter: 2"OD/1.5"ID			10/13/2015	19.0 ft.	54 ft. +/-	observed from recovered soil samples		
Method: 3" Casing			Hammer: 140 lb								
Hammer Style: Auto			Method: ASTM D1586								
Depth (ft.)						SAMPLE DESCRIPTION			Geological/ Test Data	Geological Stratum	
	No.	Pen/Rec (in)	Depth (ft)	blows/6"	N ₆₀						
1	S-1	24/12	0 to 2	2		Dark brown Sandy SILT, humid, loose, rootlets, ML				TOPSOIL	
				9		Black SILT, little Sand, Gravel, Ash, Brick, trace Clay, humid, loose, ML					
				8							
	2			5							
	3										
	4					brick fragments in auger spoils, moderate petroleum odor					
5	S-2	24/16	5 to 7	7		Olive gray to gray Silty CLAY, intermixed Gravel and Sand, slight petroleum odor, CL				FILL/RUBBLE	
6				6							
				6							
7				6							
8											
9											
10											
11	S-3	24/20	10 to 12	10		Dark brown Silty CLAY, intermixed wood and organics, soft, humid, CL or ML				OLD TOPSOIL	
				21							
				15		Olive brown Silty CLAY, very stiff, humid, mottled and blocky, CL					
12				12							
13											
14											
15											
16	S-4	24/24	15 to 17	5		same as above, stiff, slightly mottled			PP = 6,000 psf PP = 3,000 psf to 5,000 psf	GLACIAL MARINE DEPOSIT	
				6							
				7							
17				9							
18											
19											
20											
21	S-5	24/24	20 to 22	1		Gray Silty CLAY, wet, soft, CL			PP = 500 psf		
				2							
				3							
22				3							
						End of Boring at 22', no refusal					
Granular Soils		Cohesive Soils		% Composition		NOTES:				Soil Moisture Condition	
Blows/ft.	Density	Blows/ft.	Consistency	ASTM D2487		PP = Pocket Penetrometer, MC = Moisture Content LL = Liquid Limit, PI = Plastic Index				Dry: S = 0%	
0-4	V. Loose	<2	V. soft			<u>Bedrock Joints</u>				Humid: S = 1 to 25%	
5-10	Loose	2-4	Soft	< 5% Trace		Shallow = 0 to 35 degrees				Damp: S = 26 to 50%	
11-30	Compact	5-8	Firm	5-15% Little		Dipping = 35 to 55 degrees				Moist: S = 51 to 75%	
31-50	Dense	9-15	Stiff	15-30% Some		Steep = 55 to 90 degrees				Wet: S = 76 to 99%	
>50	V. Dense	16-30	V. Stiff	> 30% With		Boulders = diameter > 12 inches, Cobbles = diameter < 12 inches and > 3 inches				Saturated: S = 100%	
		>30	Hard			Gravel = < 3 inch and > No 4, Sand = < No 4 and >No 200, Silt/Clay = < No 200					

APPENDIX H

Erosion Control Plan

EROSION AND SEDIMENTATION CONTROL REPORT

SUBURBAN PROPANE RELOCATION PORTLAND, ME

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO., INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

February 2016

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Figures and Photographs (See Section 1 – Attachment A of the Application)

Figure 1 – USGS Location Map
Figure 2 – Flood Map
Figure 3 – USDA SCS Soils Map
Figure 4 – Aerial Photograph
Figure 5 – Tax Map

Attachments

Attachment A – Seeding Plan
Attachment B – Sample Erosion Control Compliance Certification and Inspection Forms
Attachment C – Ditch Scour Computations
Attachment D – DirtGlue™ Application and Use Requirements
Attachment E – SiteOps Computer Earthwork Analysis

A. INTRODUCTION

Stantec has been retained by Thompson's Point Development Co., Inc. for the preparation of site design and site permitting for the proposed relocation of Suburban Propane at 656 Riverside Street in Portland, Maine. The development will include an office building, garage building, cold storage building and propane truck filling stations.

A USGS Map, Flood, Soils, Aerial, and Tax Map figures are provided in Appendix A of the Stormwater Management Report to depict the location of the project. The accompanying plan set includes erosion control details and overall erosion control plan.

This study and section of the permit application presents the Erosion Sediment Control Plan designed for the project. The erosion control plans will be contained in the contract documents for implementation by the Contractor who is awarded the bid for the project. This project is coordinated with the MeDEP erosion control requirements. The Contract documents will require that turbid discharges from the site do not occur, fugitive dust emissions will be controlled, the requirements of this erosion control plan, and all permit requirements will be fulfilled. Winter construction may be required and have specific winter time construction standards. Specific erosion controls stipulated by the plan and this report are minimum requirements.

B. EXISTING SITE CONDITIONS

The current site cover conditions are summarized in the table below:

SUMMARY OF LAND USE COVER	
Current Land Cover	Area (acre)
Meadow	2.39
Impervious (gravel)	1.73
Total	4.12

C. EXISTING DRAINAGE FEATURES

The stormwater runoff from the site is tributary to the Presumpscot River. A portion of the site is captured in an existing stormwater management system that begins at Lot 2 and discharges in the northerly portion of the existing Lot 4 in the direction of the river.

Topography slopes from east to west with slopes ranging from 3% to 14%. The site elevations range from 61 to 73 based on survey completed by Sebago Technics in October of 2015 and topography from the Subdivision Recording Plat prepared by Woodard & Curran in October of 2010. Existing topography sheet flows across the westerly property line and drainage is towards the Presumpscot River.

The soils on the site are shown on the USDA medium intensity soils map to be primarily Elmwood fine sandy loam. Geotechnical explorations by Summit Geoengineering Services in November 2015 show that the soils are predominantly fine sandy silt topsoil overlying silty sand reworked native soils with some gravel and fill overlying glacial marine soil (silty clay) overlying a marine fan deposit of silty fine sand overlying bedrock.

D. OVERVIEW OF SOIL EROSION AND SEDIMENTATION CONCERNS

The susceptibility of soils to erosion is indicated on a relative “K” scale of values over a range of 0.02 to 0.69. The “K” value is frequently used with the universal soil loss equation. The higher values are indicative of the more erodible soils. The relative K values of the underlying material at the site would be as follows:

Soil Symbol	Soil Description	“K” Value
Elmwood – EmB	Fine sandy loam	0.32 - 0.43

The primary emphasis of the Erosion and Sedimentation Control Plan to be implemented for this project is as follows:

- **Temporary Measures:** Planning the project to have erosion resistant measures in place by implementing measures intended to prevent erosion from occurring.
- **Phasing Sequencing:** The plan includes measures to intercept and convey runoff to temporary sediment ponds and control devices as the construction of the project occurs. The use of small collection sumps with a clean sand filter above an underdrained discharge is recommended to supplement the principal sumps to help reduce turbidity. Turbidity should be controlled in any discharge through the use of settling, filters, or chemical coagulants.
- **Use of Type 1 Settling:** Installing sediment sumps and swales early in the construction sequence to provide secondary relief for erosion control measures within the site until late in the project when the sedimentation areas need to be removed for final restoration.
- **Restabilization:** Stabilization of areas denuded to underlying parent material must occur within stipulated time frame to minimize the period of soil exposure and stabilization of drainage paths to avoid rill and gully erosion.
- **Interim Entrapment:** The use of on-site measures to capture sediment (hay bales/silt fence, etc.) before it is conveyed to sediment sumps.
- **Long Term Site Protection:** The implementation of long-term measures for erosion/sediment and pollutant treatment through the construction of permanent water quality measures.
- **Special Winter Construction Measures:** These will be required for work between September 15 and April 15.

E. DESCRIPTION AND LOCATION OF LIMITS OF ALL PROPOSED EARTH MOVEMENTS

The construction of the project will disturb about 3.80 acres of land. The limit of disturbance is generally coincident with the limit of grading. The earthwork involved is summarized on the SiteOps computer analysis graphic and available upon request.

The earth moving will include trenching for underground utilities, excavation for the water quality measures, earthwork to prepare and shape the parking lots, and excavation attendant with the buildings and excavation and borrow for the project improvements.

F. PROPOSED DRAINAGE FEATURES

The postdevelopment plan includes consideration and design for water quality of stormwater runoff. These constitute the stormwater management.

Certain manholes on the project provide flow management by directing stormwater to different areas. The hydraulic control manholes for this project include hydraulic control manholes to regulate the discharge and overflow manholes.

The proposed cover conditions for the site upon completion of the project will be as follows:

Proposed Land Cover	Area (acre)	Change from Current (acre)
Meadow	0.32	-2.07
Lawn/Landscaped Planting Areas	1.39	+1.39
Pavement/Roof	2.40	+0.68
Total	4.12	0

G. CRITICAL AREAS

Critical resource areas include the Presumpscot River, a conservation area with wetlands west of the site, and the steep slopes on site. The Presumpscot River is approximately 550 ft. westerly downstream of the proposed project. The property just westerly of the site boundary is a conservation area with wetlands downgradient towards the Presumpscot River. On the easterly portion of the site adjacent to Lot 2 (Solaris) there is a steep slope of 2:1 that will be stabilized with reinforced turf. Slopes surrounding the stormwater management basin are 3:1 and will be reinforced with erosion control mesh. No special species habitats have been identified on the site. It is noted that certain stormwater systems including underdrained grass soil filter shall not be activated until the tributary areas have been stabilized and at least three weeks has passed subsequent to placement of bituminous concrete paving materials. It will be critical to establish the underdrained grass soil filter vegetation prior to placing it permanently online.

H. EROSION/SEDIMENTATION CONTROL DEVICES

As part of the site development, the Contractor will be obligated to implement the following erosion and sediment control devices. These devices shall be installed as indicated on the plans or as described within this report. For further reference on these devices, see the *Maine Department of Environmental Protection Erosion and Sediment Control BMPS Manual (March, 2003)*.

1. Siltation Barrier shall be installed down slope of any disturbed areas to trap runoff borne sediments until the site is revegetated. The silt barrier shall be installed per the detail provided in the plan set and inspected immediately after each rainfall and at least daily during prolonged rainfall. The Contractor shall make repairs immediately if there are any signs of erosion or sedimentation below the barrier line. If such erosion is observed, the Contractor shall take proactive action to identify the cause of the erosion and take action to avoid its reoccurrence. Typically, this requires that stabilization measures be undertaken. Proper placement of stakes and keying the bottom of silt fence fabric into the ground is critical to the fence's effectiveness. If there are signs of undercutting at the center or the edges, or impounding of large

volumes of water behind the barrier, the barrier shall be replaced with a stone check dam and measures taken to avoid the concentration of flows not directed to the silt fence.

2. Silt barrier is shown by three types, depending upon the timing and intent, as follows:

SCHEDULE OF SILT BARRIER REQUIREMENTS		
Silt Barrier	Type/Purpose	Time of Installation
Condition 1	To trap sediment along the grading edge where the new contours nearly parallel existing contours.	At initial site preparation, prior to other work.
Condition 2	To trap sediment from the work area; install in short sections parallel to existing contour; typically occurs where proposed and existing contours form a "V" shape.	At initial site preparation, prior to other work. On occasion, this needs to be deferred until the area for the silt fence installation can be reached.
Condition 3	To trap sediment along the base of proposed contours, typically in cut areas.	During construction after new grade is shaped. Time between work in area and shaping new grade to allow silt fence to be installed shall be minimized.

Conditions 2 and 3 silt barriers will be used extensively between project phases.

3. Straw or hay mulch including hydroseeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulching should be occurring several times per week when the site construction activity is high and at sufficient intervals to reduce the period of exposure of bare soils to the time limits set forth in this plan. 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 fabric netting as immediately after mulching as practicable and anchored with staples in accordance with the manufacturer's recommendations. Proposed drainage channels, which are to be revegetated, shall receive Curlex blankets by American Green selected for the slope, velocity, and whether the measure is temporary or intended to be in place for a sustained period. Mulch application rates are provided in Attachment A of this section. Hay mulch shall be available on site at all times in order to provide immediate temporary stabilization when necessary. Where necessary, a windrow of crushed stone and/or gravel shall be placed at the top of the slope and directed to a temporary stone channel or pipe sluice to convey runoff down slopes. A dissipation device such as stone or a plunge pool should be installed at the base of the slope and sluice outlet to dissipate the energy of the water from the sluice or channel.
4. Temporary sediment sumps will provide sedimentation control for stormwater runoff from disturbed areas during construction until stabilization has been achieved. The sediment sumps need to include a sand filter above an underdrain or a chemical coagulant to remove fine-grained sediment.

5. Riprap slopes, ditch linings, stone check dams, hay bale barriers, and culvert outlet aprons are intended to stabilize and protect denuded soil surfaces or dissipate the energy and erosive forces from concentrated flows. Installation details and stone sizes are provided in the construction plan set on the erosion control detail sheets.
6. A construction entrance will be constructed at all access points onto the site to prevent tracking of soil onto adjacent local roads and streets and the existing parking lot.
7. Stone sediment traps or a premanufactured SiltSack™ and a sediment bag will be installed at catch basin inlets to prevent silt from entering the storm drain system. Installation details are provided in the plan set on the erosion control detail sheets.
8. Dirtbags™ will be required to be on site and available for construction dewatering. The Contractor will be required to provide four Dirtbags™ with one prepared for operation prior to commencing any trenching operations. Dirtbags™ will need to be installed above filter sand and crushed stone in accordance with the details shown on the plan set will need to be installed.
9. Loam and seed is intended to serve as the primary permanent revegetative measure for all denuded areas not provided with other erosion control measures, such as reinforced turf mat.
10. Stone check dams will be installed in areas noted on the plan or as warranted, based upon observations during construction of the site.
11. Silt logs are an option for stone check dams and may be substituted provided the devices are well anchored.
12. Sorbent booms are intended to capture oils and the asphalt sheen from paved surfaces and shall be installed in all catch basins before pavement is installed.
13. DirtGlue™ is an acceptable means of temporary stabilization and is intended to form a "crust" on the surface that is resistant to erosion. However, applications where DirtGlue™ is used must be protected from traffic that would crack the "crust" and the DirtGlue™ has temperature limitations that restrict the periods of use. Use of this material shall conform to the requirements of Attachment D.
14. Wattles (constructed of rice straw) are to be used for small areas where the surface is irregular and where an immediate measure is needed to protect downstream measures.

I. TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES

The following are planned as temporary erosion/sedimentation control measures during construction:

1. Crushed stone-stabilized construction entrances shall be placed at any construction access points from adjacent streets. The locations of the construction entrances shown on the drawings should be considered illustrative and will need to be adjusted as appropriate and located at any area where there is the potential for tracking of mud and debris onto existing roads or streets. Stone stabilized construction entrances will require the stone to be removed and replaced, as it becomes covered or filled with mud and material tracked by vehicles exiting the site.
2. Conditions 1 and 2 silt barriers shall be installed along the downgradient side of the proposed improvement areas. The silt fence will remain in place and properly maintained until the site is acceptably re-vegetated. Silt barrier needs to be checked to insure the bottom is properly keyed in and inspected after significant rains. Wood

chips or Erosion Control Mix is often used on the construction side of the silt fence to provide an extra margin of safety and security for the silt fence. This practice is encouraged, provided the chips are removed when the fence is removed.

3. Dirtbags™ shall be installed in accordance with the details in the plan set. The purpose of the Dirtbags™ is to receive any water pumped from excavations during construction. A Dirtbag™ shall be installed and prepared for operation prior to any trenching on site. When Dirtbags™ are observed to be at 50% capacity, they shall be cleaned or replaced. Stone and filter sand under the Dirtbag™ shall be removed and replaced concurrently with the replacement of the Dirtbag™.
4. Temporary stockpiles of common excavation will be protected as follows:
 - a) Temporary stockpiles shall not be located at least 50 feet upgradient of the perimeter silt fence.
 - b) Inactive stockpiles shall be stabilized within 5 days by either temporarily seeding the stockpile with a hydroseed method containing an emulsified mulch tackifier or by covering the stockpile with mulch. If necessary, mesh shall be installed to prevent wind from removing the mulch.
5. All denuded areas except gravel areas shall receive mulch, erosion control mesh fabric, or other approved temporary erosion sediment measure within 7 days of initial disturbance of soil or before a predicted rain event of $>1/2$ " unless permanent measures are installed.
6. All soils disturbed between September 15 and April 15 will be covered with mulch within 5 days of disturbance, prior to any predicted storm event of the equivalent of $1/2$ " of rainfall in a 24-hour period, or prior to any work shutdown lasting more than 35 hours (including weekends and holidays). The mulch rate shall be double the normal rate.

For work that is conducted between September 15 and April 15 of any calendar year, all denuded areas will be covered with hay mulch, applied at twice the normal application rate, and (in areas over 10% grade) anchored with a fabric netting. The time period for applying mulch shall be limited to 5 days for all areas, or immediately in advance of a predicted rainfall event.

7. Stone check dams, silt logs, or hay bale barriers will be installed at any evident concentrated flow discharge points during construction and earthwork operations.
8. Silt fencing with a maximum stake spacing of 6 feet should be used, unless the fence is supported by wire fence reinforcement of minimum 14 gauge and with a maximum mesh spacing of 6 inches, in which case stakes may be spaced a maximum of 10 feet apart. The bottom of the fence should be properly anchored a minimum of 6" per the plan detail and backfilled. Any silt fence identified by the owner or reviewing agencies as not being properly installed during construction shall be immediately repaired in accordance with the installation details.
9. Storm drain catch basin inlet protection shall be provided through the use of stone sediment barriers or a premanufactured SiltSack™. Stone sediment barrier installation details are provided in the plan set. The barriers or SiltSacks™ shall be inspected after each rainfall and repairs made as necessary, including the removal of sediment. Sediment shall be removed and the barrier or SiltSack™ restored to its original dimensions when the sediment has accumulated to one-half the design depth

of the barrier. Sediment shall be removed from SiltSacks™ as necessary. Inlet protection shall be removed when the tributary drainage area has been stabilized.

10. All slopes steeper than 4:1 shall receive erosion control mesh.
11. Slopes steeper than 3:1 shall receive reinforced turf.
12. Slopes steeper than 2:1 shall receive riprap.
13. Condition 3 silt barriers shall be installed as construction progresses.
14. Areas of visible erosion and the temporary sediment sumps shall be stabilized with crushed stone. The size of the stone shall be determined by the contractor's designated representative in consultation with the Owner.
15. New catch basins and certain existing catch basins shall all be installed with an opening 2'-6" below finish grade to receive a 4" underdrain with an end cap except for inlets along underdrains and within 100 feet of nearby wells. A 3'-0" stub of underdrain surrounded by 6" of ¾" crushed stone and filter fabric shall be installed. The purpose of this measure is to provide drainage relief until site grades are at finish elevations.
16. All catch basins, which receive runoff from current or paved areas being constructed as part of this project, shall have a sorbent boom installed prior to placing the basin in operation installing binder pavement, or overlays. These sorbent booms shall be checked weekly for the three weeks following paving and replaced as necessary with the booms disposed of in accordance with local and State regulations.
17. Any flow from the site that is concentrated must be directed to a sump with sand filter and underdrained discharge.
18. Concentrated runoff shall be diverted away from slopes of over 10 percent unless the slope is armored with stone.
19. Underground utilities must be installed in compliance with the following standards and other requirements of this erosion control plan:
 - No more than 500 linear feet of trench may be opened at one time;
 - Excavated materials shall be placed on the uphill side of trenches;
 - Dewatering of the trench shall be pumped through a Dirtbag™ and appropriate sediment control facilities to avoid a turbid discharge; and
 - Stabilization shall occur as soon as practicable.
20. Rice straw wattles shall be used to control localized erosion.
21. Maintenance of the erosion control, sedimentation facilities, and control of fugitive dust must occur until the site is stabilized with permanent erosion control measures. For turf areas, stabilization shall be defined to be the establishment of a 90 percent "catch of grass" with no areas larger than 2 square feet, and no spots that cumulatively add up to more than 5 square feet per 100 square feet.

J. STANDARDS FOR STABILIZING SITES FOR THE WINTER

The construction of the project will require winter construction. The project is anticipated to require about 18 months to construct. For permitted winter construction, the erosion

control measures are substantially more stringent due to the cold temperatures and lack of weather conditions which aid in drying the subgrade soils through evaporation.

If construction activities involving earth disturbance continue past September 15 or begin before April 15, the following must be incorporated with the erosion control plan and implementation:

1. Enlarged access points must be stabilized to provide for snow stockpiling.
2. Limits of disturbance shall be reduced to the extent practicable.
3. A snow management plan including adequate storage and control of snowmelt, requiring cleared snow to be stored downgradient of all areas of disturbance shall be prepared by the contractor and submitted to the Owner for review and approval.
4. Snow shall not be stored in sediment basins or to preclude drainage structures from operating as intended.
5. A minimum 25-foot buffer maintained from perimeter controls such as silt fence shall be maintained on the "work area side" to allow for snow clearing and maintenance.
6. Drainage systems intended to operate during the winter shall be catalogued, shown on a plan, and inspected after each snow removal period to make sure the drainage structures are open and free of snow and ice dams.
7. To ensure cover of disturbed soil in advance of a melt event, areas of disturbed soil must be stabilized at the end of each work day, with the following exceptions:
 - If no precipitation within 24 hours is forecast and work will resume in the same disturbed area within 24 hours, daily stabilization is not necessary.
 - Disturbed areas that collect and retain runoff, such as house foundations or open utility trenches.
8. Standard for the timely stabilization of ditches and channels: The Contractor shall construct and stabilize all stone-lined ditches and channels on the site by September 15. The contractor shall construct and stabilize all grass-lined ditches and channels on the site by September 1. If the Contractor fails to stabilize a ditch or channel to be grass-lined by September 1, then the Contractor shall take one of the following actions to stabilize the ditch for late fall and winter.
 - i. Install a sod lining in the ditch. The contractor shall line the ditch with properly installed sod by September 15. Proper installation includes the applicant pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, watering the sod to promote root growth into the disturbed soil, and anchoring the sod with jute or plastic mesh to prevent the sod strips from sloughing during flow conditions.
 - ii. Install a stone lining in the ditch. The contractor shall line the ditch with stone riprap by September 15. The contractor shall hire a registered professional engineer to determine the stone size and lining thickness needed to withstand the anticipated flow velocities and flow depths within the ditch. If necessary, the Contractor shall regrade the ditch prior to placing the stone lining so as to prevent the stone lining from reducing the ditch's cross-sectional area.

9. Standard for the timely stabilization of disturbed slopes: The Contractor shall construct and stabilize stone-covered slopes by September 15. The Contractor shall seed and mulch all slopes to be vegetated by September 1. The Department will consider any area having a grade greater than 15% (10H:1V) to be a slope. If the Contractor fails to stabilize any slope to be vegetated by September 1, then the Contractor shall take one of the following actions to stabilize the slope for late fall and winter.
- i. Stabilize the soil with temporary vegetation and erosion control mesh. By September 15, the Contractor shall seed the disturbed slope with winter rye at a seeding rate of 3 pounds per 1,000 square feet and apply erosion control mats over the mulched slope. The contractor shall monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed slope by September 15, then the Contractor shall cover the slope with a layer of wood waste compost as described in item iii of this standard or with stone rip rap as described in item iv of this standard.
 - ii. Stabilize the slope with sod. The Contractor shall stabilize the disturbed slope with properly installed sod by September 15. Proper installation includes the Contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The Contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 33% (3H:1V) or having groundwater seeps on the slope face.
 - iii. Stabilize the slope with wood waste compost. The Contractor shall place a six-inch layer of wood waste compost on the slope by September 15. Prior to placing the wood waste compost, the Contractor shall remove any snow accumulation on the disturbed slope. The contractor shall not use wood waste compost to stabilize slopes having grades greater than 50% (2H:1V) or having groundwater seeps on the slope face.
 - iv. Stabilize the slope with stone rip rap. The Contractor shall place a layer of stone riprap on the slope by September 15. The Contractor shall hire a registered professional engineer to determine the stone size needed for stability and to design a filter layer for underneath the riprap.
10. Standard for the timely stabilization of disturbed soil: By September 1, the Contractor shall seed and mulch all disturbed soils on areas having a slope less than 15%. If the Contractor fails to stabilize these soils by this date, then the Contractor shall take one of the following actions to stabilize the soil for late fall and winter.
- i. Stabilize the soil with temporary vegetation. By September 15, the Contractor shall seed the disturbed soil with winter rye at a seeding rate of 3 pounds per 1,000 square feet, lightly mulch the seeded soil with hay or straw at 75 pounds per 1,000 square feet, and anchor the mulch with plastic netting. The Contractor shall monitor the growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before September 15, then the Contractor shall mulch the area for over-winter protection as described in item iii of this standard.

- ii. Stabilize the soil with sod. The Contractor shall stabilize the disturbed soil with properly installed sod by September 15. Proper installation includes the Contractor pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.
- iii. Stabilize the soil with mulch. By September 15, the Contractor shall mulch the disturbed soil by spreading hay or straw at a rate of at least 150 pounds per 1,000 square feet on the area so that no soil is visible through the mulch. Prior to applying the mulch, the Contractor shall remove any snow accumulation on the disturbed area. Immediately after applying the mulch, the Contractor shall anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.
- iv. Stabilize all stockpiles with mulch within 24 hours.

K. SPECIAL MEASURES FOR SUMMER CONSTRUCTION

The summer period is generally optimum for construction in Maine, but it is also the period when intense short duration storms are most common, making denuded areas very susceptible to erosion, when dust control needs to be the most stringent, and when the potential to establish vegetation is often restricted by moisture deficit. During these periods, the Contractor must:

1. Implement a program to apply dust control measures on a daily basis except those days where the precipitation exceeds 0.25 inch. This program shall extend to and include adjacent streets used by construction vehicles.
2. Spray any mulches with water after anchoring to dampen the soil and encourage early growth. Spraying may be required several times. Temporary seed may be required until the late summer seeding season.
3. Mulch, cover, and moisten stockpiles of fine-grained materials, which are susceptible to erosion. In the summer months, the potential for wind erosion is of concern, as well as erosion from the intense, short-duration storms, which are more prevalent in the summer months.
4. Take additional steps needed to control fugitive dust emissions to minimize reductions in visibility and the airborne disbursement of fine-grained soils. This is particularly important along the adjacent streets.

These measures may also be required in the spring and fall during the drier periods of these seasons.

L. SEDIMENTATION SUMPS

The sediment sumps shall be sized in accordance with the plan and specifications. The bottom of the sumps is intended to be used for infiltration.

Discharge must be through a sand filter over an underdrained outlet to aid in the control of turbidity levels in the discharge. An emergency bypass shall be included and shall be constructed of reinforced turf and discharge to undisturbed turf.

M. PERMANENT EROSION CONTROL MEASURES

The following permanent erosion control measures have been designed as part of the Erosion/Sedimentation Control Plan:

1. The drainage conveyance systems have been designed to intercept and convey the 25-year storm. In the case of open channels or swales, this includes the design of measures to resist scour of the channel. Flow computations for ditch capacity are attached as Attachment C.
2. All storm drain pipes shall have riprap aprons at their outlet to protect the outlet and receiving channel of the culverts from scour and deterioration. Installation details are provided in the plan set. The aprons shall be installed and stabilized prior to directing runoff to the tributary pipe or culvert. It is noted that all inlets and outlets over 18" in diameter are to have a flared concrete inlet and an aluminum bar rack. Small pipes will be protected with rodent guards. Orifices in hydraulic control structures will be protected with a wire mesh screen with an opening of no more than 25 percent of the orifice size and a surface area of at least 25 times the area of the orifice.
3. All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.), will be loamed, limed, fertilized, mulched, and seeded. Fabric netting, anchored with staples, shall be placed over the mulch in areas where the finish grade slope is greater than 10 percent. Native topsoil shall be stockpiled and temporarily stabilized with seed and mulch and reused for final restoration when it is of sufficient quality.
4. Catch basins shall be provided with sediment sumps for all outlet pipes that are 12" in diameter or greater. Catch basins that are not within 100 feet of wells have been designed with an under drain connection to allow the subbase gravel to drain and reduce frost heave and movement at the basin. A sediment collection bag shall be installed in all basins.
5. Permanent seeding shall be conducted only in April through May and in late summer until September 15.
6. Turf Reinforcement shall be provided for slopes greater than 2:1 to reduce erosion effects from stormwater runoff and provide support for vegetation growing on steep slopes.
7. An Overflow Spillway shall be provided as part of the stormwater quality treatment measures to allow storm events greater than the 25-year storm to overflow the water quality basin to a stabilized channel into wetlands westerly of the site.

N. TIMING AND SEQUENCE OF EROSION/SEDIMENTATION CONTROL MEASURES

The site is quite susceptible to erosion when denuded soils are wet and caution is made to the contractor to limit construction activity during inclement weather. The Contractor must control fugitive dust emissions, respect and not impede the neighboring land uses, and control sediment laden runoff. For all grading activities, the Contractor shall exercise extreme caution not to overexpose the site by limiting the disturbed area and shall stabilize any steep slopes within 24 hours if final slope grading and stabilization will not be

completed within 7 days. Any final slopes shall have the specified erosion control measures installed within 7 days of final stabilization.

The following construction sequence shall be required, (unless otherwise authorized in writing by the Owner's project manager or authorized permit agent).

The description of the work is:

The initial onset of the project will include the removal of the overhead utility lines, the razing of existing buildings, and the installation of the sedimentation facilities to serve the construction of the project. The Contractor will need to perform the following work:

- Mark the work limits.
- Install safety fence and security signs around the perimeter of the site.
- Establish and install construction entrances with gates.
- Install silt barrier along the perimeter and other designated areas requiring Type 1 silt barrier.
- Establish Dirtbag™ area and pump system for dewatering activities.
- Construct temporary sedimentation facilities with stabilized overflow outlets to existing drainage system.
- Construct a diversion swale to direct as much of the site to the sedimentation basins as possible including the installation of culverts and rip rap where the diversion swale passes under the construction access drives.
- Install temporary seed and mulch around the perimeter of the sedimentation facility.
- Install permanent stormdrain collection and conveyance infrastructure.
- Construct site features including buildings, underground utilities and parking areas.
- Stabilize the site with pavement and permanent cover of grass and reinforced turf.
- Construct permanent water quality filter. Placement of the underdrained grass soil filter on line should not occur until the site has been stabilized and pavement has been allowed to "cure" for a period of three weeks.

The erosion control measures are shown on Drawings C-6.0, C-6.1 and C-6.2 of the plan set.

O. CONTRACTING PROCEDURE

The onsite components of the project will be constructed by a General Contractor under contract to the Developer. The Contractor shall submit a schedule for the completion of the work, which will satisfy the following criteria:

1. The construction sequence of Section M should generally be completed in the specified order; however, several separate items may be constructed simultaneously. Work must also be scheduled or phased to prevent the duration of areas exposed or susceptible to erosion as specified below. The intent of this sequence is to provide for erosion control and to have structural measures such as silt fence and construction entrances in place before large areas of land are denuded.
2. The work shall be conducted in sections which will:
 - a) Limit the amount of exposed area to those areas in which work is expected to be undertaken during the preceding 30 days.
 - b) Revegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading and temporarily stabilized within 7 days of initial disturbance or before a predicted storm event of over ½" of rain.
 - c) Incorporate planned inlets and drainage system as early as possible into the construction phase. The ditches shall be immediately lined or revegetated as soon as their installation is complete.
 - d) Achieve the parking space numbers indicated in the construction phasing.
3. Once final grade has been established, the Contractor may choose to dormant seed the disturbed areas prior to placement of mulch and placement of fabric netting anchored with staples.
 - a) If dormant seeding is used for the site, all disturbed areas shall receive 6" of loam and seed at an application rate of 5#/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 75 percent catch) shall be revegetated by replacing loam, seed, and mulch.
 - b) If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.
4. The area of denuded, non-stabilized construction shall be limited to the minimum area practicable. An area shall be considered to be denuded until the subbase gravel is installed in parking areas, or the areas of future loam and seed have been loamed, seeded, and mulched. The mulch rate shall be twice the rate specified in the seeding plan. [For example, 115#/1,000 s.f. x 2 = 230#/s.f.]
5. Within the exposed work area, temporary sedimentation sumps shall be provided any concentrated flow area with sand filter or chemical coagulation. Additional information is provided in prior sections of this narrative and on the Erosion Control Details of the plan set. 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.
6. The schedule shall be subject to the approval of the Owner.
7. The Contractor must maintain an accurate set of record drawings indicating the date when an area is first denuded, the date of temporary stabilization, and the date of final stabilization. On September 15 of any calendar year, the Contractor shall submit a detailed plan for stabilizing the site for the winter and a description of what activities are planned during the winter.

8. The Contractor must install any added measures which may be necessary to control erosion/sedimentation and fugitive dust emissions from the site, with adjustments made dependent upon forecasted and actual site and weather conditions.
9. The Contractor shall note that no area within 50 feet of a slope with a vertical drop of more than 3' in 50 feet shall remain denuded for a period of over 5 days before it is temporarily stabilized. Temporary stabilization shall be the installation of mulching. All other areas shall be stabilized within 7 days or before a predicted rain event. For construction between September 15 and April 15 of any calendar year, all areas shall be temporarily stabilized at the earlier time frames specified above.
10. Certain erosion control products (such as DirtGlue™) come in a form that a release could occur on the site or into the environs. The Contractor shall include MSDS information for all products that have the potential for release to the environment and shall be responsible for implementing a safety control program for proper handling of these materials on the site.
11. The Stormwater Pollution Prevention Plan (SWPPP) is defined to consist of the Erosion Control Report, the Stormwater Management Plan, and the Stormwater O&M Plan. The SWPPP shall be maintained at a secure locked location at the contractor's field trailer from commencement of the project. These documents shall be moved to a designated locked location inside the building(s) at the period when the contractor's trailers are removed and maintained until the Notice of Termination has been filed by the Owner.

A notice and point of contact with cell phone number shall be posted at the trailer to permit access to the records during normal work hours and in case of emergency at other times. All additions and construction records shall be copied via e-mail to the following addresses:

bo.kennedy@stantec.com [Bo Kennedy]

parallaxpartners@gmail.com [Chris Thompson]

The Owner reserves the right to add additional personnel to this list at the pre-construction conference or at reasonable intervals during the project.

12. The Owner will provide a copy of the NOI acceptance letter to the Contractor. This letter shall be maintained at the site with the SWPPP.
13. Any revisions to the SWPPP must be authorized in writing by the Preparer of the Plan (Stantec). The Preparer of the Plan shall be permitted reasonable time to review and notify the city and other agencies of said changes. Revisions to the SWPPP will be required:
 - a. Whenever the current provisions prove to be ineffective in minimizing pollutants in stormwater *discharges* from the site;
 - b. Whenever there is a change in design, construction, or operation at the construction site that has or could have an effect on the discharge of pollutants; and
 - c. To address issues or deficiencies identified during an inspection by the *qualified inspector*, the Department, or other regulatory authority.

14. Should the Owner notify the contractor that the activity on the site is in violation of the SWPPP, the Contractor shall at its sole cost correct the deficiencies and file a photographic log with a list of corrective actions with the Owner within 7 days of notification by the Owner.
15. The Contractor shall engage a qualified inspector to monitor the work. This inspector shall be approved by the Owner prior to the individual being engaged on the project. This inspection shall be a part of the Contractor's Quality Control Plan for the project by the Contractor. The inspector's qualifications and duties that he shall perform are as follows:
 - a. Licensed Professional Engineer or Certified Professional in Erosion Control.
 - b. Covered by Workman's Compensation Insurance.
 - c. Experienced in this type of work, the specific erosion controls applicable to this project with a resume approved by the engineer.
 - d. Compensated on a unit rate basis with no incentives for reduced costs or subject to any type of compensation for passing inspections.
 - e. Approved by the Owner and the preparer of this plan.

The *qualified inspectors* shall conduct site inspections in accordance with the following timetable:

- a. Where soil disturbance activities are on-going, the *qualified inspector* shall conduct a site inspection at least once every seven (7) calendar days.
- b. Where soil disturbance activities have been temporarily suspended (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the *qualified inspector* shall conduct a site inspection at least once every thirty (30) calendar days. The *owner or operator* shall notify the City's stormwater contact person or, in areas under the jurisdiction of a *regulated traditional land use control MS4*, the MS4 (provided the MS4 is not the *owner or operator* of the construction activity) in writing prior to reducing the frequency of inspections.
- c. Where soil disturbance activities have been shut down with partial project completion, the *qualified inspector* can stop conducting inspections if all areas disturbed as of the project shutdown date have achieved *final stabilization* and all post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational. The *owner or operator* shall notify the City's stormwater contact person in writing prior to the shutdown. If soil disturbance activities are not resumed within 2 years from the date of shutdown, the Contractor shall have the *qualified inspector* perform a final inspection and certify that all disturbed areas have achieved *final stabilization*, and all temporary, structural erosion and sediment control measures have been removed, and that all post-construction stormwater management practices have been constructed in conformance with

the SWPPP by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the Notice of Termination. The *owner or operator* shall then submit the completed Notice of Termination form to the City of Portland.

At a minimum, the *qualified inspector* shall inspect all erosion and sediment control practices to ensure integrity and effectiveness, all post-construction stormwater management practices under construction to ensure that they are constructed in conformance with the SWPPP, all areas of disturbance that have not achieved *final stabilization*, all points of discharge to natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site, and all points of discharge from the construction site.

The *qualified inspector* shall prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

- a. Date and time of inspection;
- b. Name and title of person(s) performing inspection;
- c. A description of the weather which shall be consistent with the National Weather Service Forecast Office, Portland-Gray, ME and soil conditions (e.g. dry, wet, saturated) at the time of the inspection;
- d. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- e. A description of the condition of all natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which received runoff from disturbed areas. This shall include identification of any *discharge* of sediment to the surface water body;
- f. Identification of all erosion and sediment control practices that need repair or maintenance;
- g. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;
- i. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and technical standards;

- j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
- k. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.

Within one business day of the completion of an inspection, the *qualified inspector* shall notify the owner the appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame, at its sole cost.

All inspection reports shall be signed by the *qualified inspector*. The inspection reports shall be maintained on site with the SWPPP and distributed via email at the time of filing.

- 16. The Owner reserves the right to have quality assurance monitoring of the work. The Contractor shall, at its sole cost, cooperate with the Owner and their quality assurance monitoring of the work including maintaining an accurate schedule for performing the work. The Owner will notify the contractor if any particular elements of the work should be uncovered or available for observation by the Quality Assurance Monitor selected by the Owner. The Owner reserves the right to conduct the quality assurance monitoring during working hours at any time during the project.

P. PROVISIONS FOR MAINTENANCE OF THE EROSION/SEDIMENTATION CONTROL FEATURES

The project will be contracted to a General Contractor. The project is subject to the requirements of the local permits, and a state regulated Construction General Permit and Stormwater Permit.

This project requires the 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 and as contained in the Erosion and Sedimentation Control Plan of the contract drawings. Specific responsibilities of the inspector(s) will include:

- 1. Execution of the Contractor/Subcontractor Certification contained in Attachment B by any and all parties responsible for erosion control measures on the site as required by the permit authorities.

2. 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).
3. In addition to the weekly certifications, the inspector(s) shall maintain written reports recording construction activities on site which include:
 - Dates when major grading activities occur in a particular areas.
 - Dates when major construction activities cease in a particular area, either temporarily or permanently.
 - Dates when an area is stabilized.
4. Inspection of this project work site on a weekly basis and after each significant rainfall event (0.5 inch 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 each erosion control measure is properly operating. If not, identify damage to the control device and determine remedial measures.
 - Identify areas which appear vulnerable to erosion and determine additional erosion control measures which should be used to improve conditions.
 - Inspect areas of recent seeding to determine percent catch of grass. A minimum catch of 90 percent is required prior to removal of erosion control measures.
 - All erosion controls shall be removed within 30 days of permanent stabilization except for mulch and netting not detrimental to the project. Removals shall include but not be limited to all silt fence, hay bales, inlet protection, and stone check dams.
 - 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 silt fencing when the depth of the sediment reaches 6 inches.
 - Silt sacks should be removed and replaced at least every three months and at any time where the weekly inspection reveals that siltation has significantly retarded the rate of flow through the silt sack.
5. If inspection of the site indicates 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 of the change.
6. Arranging for an on-site meeting prior to commencing winter construction to assure that all special winter construction measures will be implemented and to review the specific requirements of this plan for winter construction.

All certifications, inspection forms, and written reports prepared by the inspector(s) shall be filed with the Owner, and the Permit File contained on the project site. All written

certifications, inspection forms, and written reports must be filed within one (1) week of the inspection date.

The Contractor has sole responsibility for complying with the erosion/sediment control report, including control of fugitive dust, and shall be responsible for any monetary penalties resulting from failure to comply with these standards.

Once construction has been completed, long-term maintenance of the stormwater management system will be the responsibility of the applicant. Inspection and Maintenance items with a list of maintenance requirements and frequency are described in a separate document. In the event of defective workmanship or any failure by the contractor and its subcontractors to adhere to the Standards set forth in these documents, the Contractor shall be responsible to correct, at its sole cost, any latent defects together with reimbursement of Owner for any expenses borne by the Owner up to the time of said correction. This provision shall remain in effect beyond any stated or implied warranty period.

Q. PRECONSTRUCTION CONFERENCE

Prior to any construction at the site, representatives of the Contractor, the Owner, and the site design engineer and any personnel identified in the permit conditions shall meet to discuss the scheduling of the site construction and the designation of the responsible parties for implementing the plan. The Contractor shall be responsible for scheduling the meeting. Prior to the meeting, the Contractor will prepare a detailed schedule and a marked-up site plan indicating areas and components of the work and key dates showing date of disturbance and completion of the work. The Contractor shall conduct a meeting with employees and sub-contractors to review the erosion control plan, the construction techniques which will be employed to implement the plan, and provide a list of attendees and items discussed at the meeting to the Owner. Three copies of the schedule, the Contractor's meeting minutes, and marked-up site plan shall be provided to the Owner.

R. ATTACHMENTS

Attachment A – Seeding Plan
Attachment B – Sample Erosion Control Compliance Certification and Inspection Forms
Attachment C – Ditch Scour Computations
Attachment D – DirtGlue™ Application and Use Requirements
Attachment E – SiteOps Computer Earthwork Analysis

S. PLAN REFERENCES

Drawings C-6.0 to C-6.2 Erosion/Sediment Control Plans, Details and Notes

ATTACHMENT A

Seeding Plan

PERMANENT SEEDING PLAN (TURF AROUND PERIMETER)

Project: Suburban Propane Relocation

Site Location: Riverside Street, Portland, ME

X Permanent Seeding Temporary Seeding

1. **Area to be Seeded:** Approximately 1.30 acre(s) or /M. Sq. Ft. (refer to Surface Treatment plan)
2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method use (do not overcompact).
3. **Apply Lime as Follows:** #/acres or 138#/M Sq. Ft. or per soil test
4. **Fertilize:** pounds of - N-P-K/ac.
20 pounds of 3-27-5 N-P-K/M Sq. Ft. or per soil test
5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.
6. **Seed with the following mixture (slice seed in each direction where practical):**
30% Perennial Rye
35% Kentucky Bluegrass
35% Penn Lawn Tall Fescue
7. **Mulching Instructions:** Apply at the rate of tons per acre or 115 pounds per M. Sq. Ft.
8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	8.0	#/1,000 s.f.
Total Mulch	115	#/1,000 s.f.
Total Other		

9. Remarks:

Seeding dates April 15 to May 31 and August 1 until September 1. Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis.

Deep tine aerate if soil is compacted.

If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 6%.

PERMANENT SEEDING PLAN (LAWNS)

Project: Suburban Propane Relocation

Site Location: Riverside Street, Portland, ME

X Permanent Seeding Temporary Seeding

1. **Area to be Seeded:** Approximately 0.16 acre(s) or /M. Sq. Ft.
2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method used (do not over compact).
3. **Apply Lime as Follows:** #/acres or 138#/M Sq. Ft. or per soil test
4. **Fertilize:** pounds of - N-P-K/ac.
20 pounds of 10-20-20 N-P-K/M Sq. Ft. or per soil test
5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.
6. **Seed with the following mixture:**

35% Kentucky Bluegrass
20% Creeping Red Fescue
15% Chewings Fescue
15% Perennial Ryegrass
15% Annual Ryegrass
7. **Mulching Instructions:** Apply at the rate of tons per acre or 230 pounds per M. Sq. Ft.
8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	5	#/1,000 s.f.
Total Mulch	230	#/1,000 s.f.
Total Other		

9. Remarks:

Seeding dates April 15 to May 31 and August 1 until September 1. Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 8%.

Deep tine aerate if soil is compact.

TEMPORARY SEEDING PLAN (EROSION CONTROL MIX)

Project: Suburban Propane Relocation

Site Location: 656 Riverside Street, Portland, ME

 X Permanent Seeding X Temporary Seeding

1. **Area to be Seeded:** Approximately 1 acre(s) or /M. Sq. Ft.
2. **Instructions on Preparation of Soil:** Prepare a good seed bed for planting method used.
3. **Apply Lime as Follows:** #/acres or 138# /M Sq. Ft. or per soil test
4. **Fertilize:** pounds of - N-P-K/ac.
 20 pounds of 10-10-10 N-P-K/M Sq. Ft. or per soil test
5. **Method of Applying Lime and Fertilizer:** Spread and work into the soil before seeding.
6. **Seed with the following mixture:**

Annual Rye-grass	50%
Timothy	25%
Winter Rye	25%

7. **Mulching Instructions:** Apply at the rate of tons per acre or 230 pounds per M. Sq. Ft.
8. **Application:**

Type	Unit#	Tons, Etc.
Total Lime	138	#/1,000 s.f.
Total Fertilizer	20	#/1,000 s.f.
Total Seed	1	#/1,000 s.f.
Total Mulch	230	#/1,000 s.f.
Total Other		

9. Remarks:

For areas with slopes >10% and fall and winter erosion control areas, mulch netting shall be used per manufacturer's specifications.

R Permanent seeding should be made prior to September 1 or as a dormant seeding after the first killing frost and before the first snowfall. If seeding cannot be done within these seeding dates, temporary seeding and mulching shall be used to protect the site. Permanent seeding shall be delayed until the next recommended seeding period.

Fertilizer requirements shall be subject to actual test results of the topsoil used for the project. The Contractor shall be responsible for providing topsoil test results for pH and recommended fertilizer application rates to the Owner.

Seed mixture shall be fresh, clean, new crop seed. Seed may be mixed by an appropriate method on the site or may be mixed by the dealer. If the seed is mixed on the site, each variety shall be delivered in the original containers bearing the dealer's guaranteed analysis. If seed is mixed by the dealer, the Seeding Contractor shall furnish to the Owner the dealer's guaranteed statement of the composition of the mixture and the percentage of purity and germination of each variety.

Seed shall be purchased from a recognized distributor and shall test to a minimum percentage of 95% for purity and 85% for germination.

All loam shall have compost or peat admixtures to raise the organic content to 6%.

ATTACHMENT B

Sample Erosion Control Compliance Certification and Inspection Forms

**MAINE CONSTRUCTION GENERAL PERMIT
CONTRACTOR/SUBCONTRACTOR CERTIFICATION**

PROJECT INFORMATION

Project Name: Suburban Propane Relocation
Address: Riverside Street, Portland, ME

CONTRACTOR/SUBCONTRACTOR INFORMATION

Firm Name:

Address:

Telephone:

Type of Firm:

CERTIFICATION STATEMENT

"I certify under penalty of law that I understand the terms and conditions of the Maine Construction General Permit (MCGP) permit that authorizes the stormwater discharges associated with construction activity from the project site identified as part of this certification."

Signature

Typed Name

Title

Date

MAINE CONSTRUCTION GENERAL PERMIT
INSPECTION REPORT

PROJECT INFORMATION

Project Name: Suburban Propane Relocation
Address: 656 Riverside Street, Portland, ME

INSPECTOR INFORMATION

Inspector Name: _____
Firm: _____
Title: _____
Qualifications: _____
Weather and Soil Conditions: _____

INSPECTION SUMMARY

Date of Inspection: _____
Major Observations: _____

1. Attach the following to the Report:

- a. A description of the condition of the runoff at all points of discharge from the construction site. This shall include identification of any *discharges* of sediment from the construction site. Include *discharges* from conveyance systems (i.e. pipes, culverts, ditches, etc.) and overland flow;
- b. A description of the condition of all natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which received runoff from disturbed areas. This shall include identification of any discharge of sediment to the surface water body;
- c. Identification of all erosion and sediment control practices that need repair or maintenance.
- d. Identification of all erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;
- e. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection;

- f. Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPP and technical standards;
 - g. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices; and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s); and
 - h. Digital photographs, with date stamp, that clearly show the condition of all practices that have been identified as needing corrective actions. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven (7) calendar days of the date of the inspection. The *qualified inspector* shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The *qualified inspector* shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven (7) calendar days of that inspection.
2. Within one business day of the completion of an inspection, the *qualified inspector* shall notify the owner the appropriate contractor or subcontractor of any corrective actions that need to be taken. The contractor or subcontractor shall begin implementing the corrective actions within one business day of this notification and shall complete the corrective actions in a reasonable time frame.
 3. All inspection reports shall be signed by the *qualified inspector*. The inspection reports shall be maintained on site with the SWPP and distributed via email at the time of filing.

THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN WITH THE FOLLOWING EXCEPTIONS:

ACTIONS NECESSARY TO BRING FACILITY INTO COMPLIANCE:

REQUIRED MODIFICATIONS TO STORMWATER POLLUTION PREVENTION PLAN (MUST BE SUBMITTED WITHIN 2 DAYS OF INSPECTION TO OWNER FOR APPROVAL):

CERTIFICATION STATEMENT:

"I certify under penalty of law that this document and all Appendices were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature

Typed Name

Title

Date

ATTACHMENT C

Ditch Scour Computations

Manning's Flow Computations for Scour Areas

Scour Areas	Area (sf)	Area (Acres)	Impervious	Pervious	Impervious %	Pervious %	C	Tc	i	Q=CiA (cfs)
Driveway North	27538	0.632	22683	4855	0.824	0.176	0.791	6	5.15	2.58
Driveway South	12808	0.294	8706	4102	0.680	0.320	0.662	6	5.15	1.00
Parking Lot East	14596	0.335	9412	5184	0.645	0.355	0.630	6	5.15	1.09

FILE NAME: [P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls](#)
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Northern Side of Driveway

CHANNEL CONFIGURATION:

BOTTOM WIDTH	2.00 FT	Manning's Flow = 2.58 cfs
LEFT SIDE SLOPE (HORZ:1 VERT)	2.67	<u>For Channel Capacity 2.31-2.71 CFS:</u>
RIGHT SIDE SLOPE (HORZ:1 VERT)	3.60	Depth in Flow = 2.75 - 3 in
DITCH SLOPE	3.90 %	Flow Velocity = 3.71 - 3.89 FPS
GRASSED SWALE MANNING'S N	0.025	Flow Velocity > 3 FPS so
		Fabric Lining Required
DEPTH INCREMENT	0.25 INCH	

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.42	0.49	0.55	0.62	0.70	0.77	0.85	0.93
WETTED PERIMETER (FT)	3.10	3.23	3.37	3.51	3.65	3.78	3.92	4.06
HYDRAULIC RADIUS (FT)	0.14	0.15	0.16	0.18	0.19	0.20	0.22	0.23
FLOW VELOCITY (FPS)	3.10	3.31	3.52	3.71	3.89	4.07	4.24	4.40
CHANNEL CAPACITY (CFS)	1.30	1.61	1.94	2.31	2.71	3.14	3.60	4.10

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	1.01	1.10	1.19	1.28	1.38	1.47	1.57	1.68
WETTED PERIMETER (FT)	4.19	4.33	4.47	4.61	4.74	4.88	5.02	5.15
HYDRAULIC RADIUS (FT)	0.24	0.25	0.27	0.28	0.29	0.30	0.31	0.33
FLOW VELOCITY (FPS)	4.56	4.71	4.86	5.01	5.15	5.29	5.42	5.55
CHANNEL CAPACITY (CFS)	4.63	5.19	5.79	6.42	7.09	7.80	8.54	9.32

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.78	1.89	2.00	2.12	2.23	2.35	2.47	2.60
WETTED PERIMETER (FT)	5.29	5.43	5.57	5.70	5.84	5.98	6.12	6.25
HYDRAULIC RADIUS (FT)	0.34	0.35	0.36	0.37	0.38	0.39	0.40	0.42
FLOW VELOCITY (FPS)	5.68	5.81	5.94	6.06	6.18	6.30	6.42	6.54
CHANNEL CAPACITY (CFS)	10.14	10.99	11.89	12.83	13.81	14.82	15.89	16.99

FILE NAME: P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Southern Side of Driveway

CHANNEL CONFIGURATION:

BOTTOM WIDTH 1.00 FT
 LEFT SIDE SLOPE (HORZ:1 VERT) 3.00
 RIGHT SIDE SLOPE (HORZ:1 VERT) 4.00
 DITCH SLOPE 3.65 %
 GRASSED SWALE MANNING'S N 0.025

Manning's Flow = 1.00 cfs
 For Channel Capacity 0.91 - 1.12 CFS:
 Depth in Flow = 2.25 - 2.5 in
 Flow Velocity = 2.93 - 3.11 FPS
 Flow Velocity < 3 FPS so OK

DEPTH INCREMENT 0.25 INCH

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.26	0.31	0.36	0.41	0.47	0.53	0.59	0.65
WETTED PERIMETER (FT)	2.21	2.37	2.52	2.67	2.82	2.97	3.12	3.28
HYDRAULIC RADIUS (FT)	0.12	0.13	0.14	0.15	0.17	0.18	0.19	0.20
FLOW VELOCITY (FPS)	2.75	2.93	3.11	3.27	3.43	3.59	3.73	3.88
CHANNEL CAPACITY (CFS)	0.73	0.91	1.12	1.35	1.61	1.89	2.20	2.54

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	0.72	0.79	0.87	0.94	1.02	1.11	1.19	1.28
WETTED PERIMETER (FT)	3.43	3.58	3.73	3.88	4.04	4.19	4.34	4.49
HYDRAULIC RADIUS (FT)	0.21	0.22	0.23	0.24	0.25	0.26	0.28	0.29
FLOW VELOCITY (FPS)	4.02	4.16	4.29	4.42	4.55	4.68	4.80	4.93
CHANNEL CAPACITY (CFS)	2.90	3.30	3.72	4.18	4.66	5.18	5.73	6.32

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.38	1.47	1.57	1.67	1.77	1.88	1.99	2.11
WETTED PERIMETER (FT)	4.64	4.79	4.95	5.10	5.25	5.40	5.55	5.71
HYDRAULIC RADIUS (FT)	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37
FLOW VELOCITY (FPS)	5.05	5.16	5.28	5.40	5.51	5.62	5.73	5.84
CHANNEL CAPACITY (CFS)	6.94	7.59	8.28	9.01	9.78	10.58	11.42	12.30

FILE NAME: <P:\ME\SP-M157-Suburban Propane Relocation\Eng\Calculations\STORMWATER\Channel Capacity Calc - Mannings Eq.xls>
 PROJECT: Suburban Propane Relocation
 LOCATION: Portland, ME
 DATE: 1/15/2016
 BY: A. Fine

C Section Channel - Eastern Side of Parking

CHANNEL CONFIGURATION:

BOTTOM WIDTH	1.00 FT	Manning's Flow = 1.09 cfs
LEFT SIDE SLOPE (HORZ:1 VERT)	3.00	<u>For Channel Capacity 1.02-1.20 CFS:</u>
RIGHT SIDE SLOPE (HORZ:1 VERT)	2.00	Depth in Flow = 2.75 - 3 in
DITCH SLOPE	2.58 %	Flow Velocity = 2.83 - 2.96 FPS
GRASSED SWALE MANNING'S N	0.025	Flow < 3FPS so OK
DEPTH INCREMENT	0.25 INCH	

DEPTH OF FLOW (IN)	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75
AREA OF FLOW (SQ. FT.)	0.24	0.28	0.32	0.36	0.41	0.45	0.50	0.56
WETTED PERIMETER (FT)	1.90	2.01	2.12	2.24	2.35	2.46	2.57	2.69
HYDRAULIC RADIUS (FT)	0.12	0.14	0.15	0.16	0.17	0.18	0.20	0.21
FLOW VELOCITY (FPS)	2.38	2.54	2.68	2.83	2.96	3.09	3.22	3.34
CHANNEL CAPACITY (CFS)	0.56	0.70	0.85	1.02	1.20	1.41	1.62	1.86

DEPTH OF FLOW (IN)	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75
AREA OF FLOW (SQ. FT.)	0.61	0.67	0.73	0.79	0.85	0.92	0.98	1.05
WETTED PERIMETER (FT)	2.80	2.91	3.02	3.14	3.25	3.36	3.47	3.59
HYDRAULIC RADIUS (FT)	0.22	0.23	0.24	0.25	0.26	0.27	0.28	0.29
FLOW VELOCITY (FPS)	3.46	3.58	3.69	3.80	3.91	4.01	4.12	4.22
CHANNEL CAPACITY (CFS)	2.12	2.39	2.68	2.99	3.32	3.68	4.05	4.44

DEPTH OF FLOW (IN)	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
AREA OF FLOW (SQ. FT.)	1.13	1.20	1.28	1.35	1.43	1.52	1.60	1.69
WETTED PERIMETER (FT)	3.70	3.81	3.92	4.04	4.15	4.26	4.37	4.49
HYDRAULIC RADIUS (FT)	0.30	0.31	0.32	0.34	0.35	0.36	0.37	0.38
FLOW VELOCITY (FPS)	4.32	4.42	4.51	4.61	4.70	4.79	4.89	4.98
CHANNEL CAPACITY (CFS)	4.86	5.29	5.75	6.24	6.74	7.27	7.83	8.40

ATTACHMENT D

DirtGlue™ Application and Use Requirements

DIRTGLUE™
APPLICATION INSTRUCTIONS FOR DUST CONTROL

METHODOLOGY

A. Heavy Duty Driving Surface

Application Rates (per surface area)

<i>DirtGlue</i> ™ polymer emulsion:	2,400 gallons
Water:	3,600 -14,400 gallons

Application Process

1. Loosen the existing soil using a scarifying attachment mounted on a grader (or similar piece of equipment) or a tractor with an agriculture disk attachment. If additional soil is required, it should be applied and mixed into the existing soil at this time. It is important to loosen the soil to ensure penetration of the *DirtGlue*™/water mixture into the soil.
2. Apply *DirtGlue*™/water mixture to soil using a water truck equipped with a gravity feed drip bar, spray bar, or automated distributor truck. Multiple passes will be necessary to get the desired amount of *DirtGlue*™ polymer emulsion for the specific application. Multiple passes will also ensure gradual, thorough saturation of the soil.
3. Thoroughly blend the *DirtGlue*™/water mixture into the soil with a rototiller, "S" harrow, or similar attachment. The soil must be evenly mixed and saturated with the *DirtGlue*™/water mixture to a depth of four (4") inches.
4. Grade the soil to finish grade with a grader, a small dozer or other suitable equipment.
5. Compact the soil with a vibratory roller. The final compaction should be greater than asphalt (Strive for 100% compaction, but always in excess of 95%).
6. Immediately after compacting, apply a topcoat of *DirtGlue*™ polymer emulsion to seal the road surface. In order to ensure a longer life and superior performance of the application, an additional coat should be applied between twenty four to forty eight hours after completion and then annually as an ongoing maintenance procedure. This topcoat should be applied at a rate of 250 gallons per surface acre.

B. Temporary Light Duty Driving Surface

This type of application will provide acceptable performance when used by cars and light trucks. It is not intended for constant use by heavy-duty trucks and/or tracked construction equipment. Areas that will be used by this type of equipment should be treated as a heavy-duty application as noted above.

Application Rates (per surface acre)

<i>DirtGlue</i> ™ polymer emulsion:	1,200 gallons
Water:	3,600-6000 gallons

Application Process:

7. Loosen the existing soil for a depth of two (2") inches using a scarifying attachment mounted on a grader (or similar piece of equipment) or a tractor with a rototiller or agriculture disk attachment. If additional soil is required, it should be applied and mixed into the existing soil at this time. It is important to loosen the soil to ensure penetration of the **DirtGlue™**/water mixture into the soil.
8. Apply **DirtGlue™**/water mixture to soil using a water truck equipped with gravity feed drip bar, spray bar, or automated distributor truck. Multiple passes will be necessary to get the desired amount of **DirtGlue™** polymer emulsion for the specific application. Multiple passes will also ensure gradual, thorough saturation of the soil. Do not apply the **DirtGlue™**/water mixture so heavy as to create run-off.
9. Grade the soil to finish grade with a grader, a small dozer or other suitable equipment.
10. Compact with a vibratory roller. The final compaction should be greater than asphalt (Strive for 100% compaction, but always in excess of 95%).
11. Immediately after compacting, apply a topcoat of **DirtGlue™** polymer emulsion to seal the road surface. In order to ensure a longer life and superior performance of the application, an additional coat should be applied between twenty four to forty eight hours after completion and then again annually as an ongoing maintenance procedure.

C. Dust & Erosion Control (Non-driving Areas)

This type of application is intended for pedestrian use only. Vehicular use will break through the skin and adversely affect the performance of the application. Areas that will require any vehicular use should be treated as a light-duty application as noted above or retreated as traffic damage occurs.

Application Rates (per surface acre)

<i>DirtGlue™</i> polymer emulsion:	300 gallons (windblown dust control) 600 gallons (bank stabilization, erosion/silt, run-off control)
Water:	2,000-6,000 gallons

Application Process

1. Apply *DirtGlue™*/water mixture to existing soil using a water truck equipped with a gravity feed spray bar or tank and pump (i.e. hydro seeder).
2. Add *DirtGlue™* to water rather than water to *DirtGlue™* or place a fill hose at bottom of tank, underneath surface of liquid to prevent foaming.
3. When applying *DirtGlue™*/water mixture, dispense large droplets. Avoid any fine mist. The intent is to apply a sheet of liquid onto the soil.
4. It is important to determine the moisture content of the soil prior to starting an application. The moisture content will have an effect on the dilution ratio of the *DirtGlue™*/water mixture. Your *DirtGlue™* representative will assist you in determining the correct dilution ratio for the conditions on your site.

5. Temperature and, to a lesser extent, humidity have a significant effect on curing/drying time. Testing has shown that applications should be done only when the air temperature will be above 50° F for at least 72 hours following the application. Soil temperature must be above 40° F for several days.
6. The *DirtGlue*™ application must be protected from the rain until the curing process has formed a skin on the surface. Uncured *DirtGlue*™ is water soluble. If the application is exposed to rain before it has the opportunity to cure, the rainwater will dilute the polymer and wash it out of the soil. If this happens, the application will not be as strong.

**CONDITIONS FOR USE OF DIRTGLUE™ (REGISTERED TRADEMARK OF
DIRTGLUE™ ENTERPRISES)
APPROVED MATERIALS LIST**

Applicant: DirtGlue™ Enterprises

General Conditions

1. DirtGlue™ Enterprises shall ensure that every applicator of DirtGlue™™ is provided a copy of these conditions.
2. These Conditions do not override the need for any applicator to obtain permits (including DEP permits) or approvals that may be required (e.g., use associated with activities in or near regulated wetlands, surface waters, or other regulated natural resources).
3. DirtGlue™ shall only be used as stated in these conditions and shall not be mixed with any other chemicals, including petroleum products.
4. No application shall be conducted when the National Weather Service forecasts greater than 25% probability of precipitation in the application area to occur within 24 hours, or the temperature will drop below 35° F anytime within 24 hours after the application.
5. Applications shall not be conducted when the ground is saturated (due to precipitation or wetting) as defined by visible pools of water at or in the vicinity of the application, in order to prevent movement of DirtGlue™ beyond the shoulder of the road.
6. DirtGlue™ must not be applied or handled in a manner that could result in spillage or application within 100 feet of a wetland regulated by New York State, or 50 feet of all other water bodies and bridges.
7. Any spill which could enter the waters of the state shall be reported to the DEC Spills Hotline within two hours (1-800-457-7362). Any required response (including any needed cleanup) in addition to that being conducted shall then be determined by the DEC regional office.
8. The time of application shall be chosen to take meteorological conditions into account, to avoid significant potential airborne or odor impacts.
9. Prior to application, DirtGlue™ Material Safety Data Sheet shall be provided to applicators and others who would come in proximity or contact with the material.

ATTACHMENT E

SiteOps Computer Earthwork Analysis

(To Be Provided Upon Request)

APPENDIX I

Inspection & Maintenance Manual for Stormwater Management and Related Stormwater Facilities

**INSPECTION AND MAINTENANCE MANUAL
FOR STORMWATER MANAGEMENT AND
RELATED STORMWATER FACILITIES**

**SUBURBAN PROPANE RELOCATION
PORTLAND, ME**

PREPARED FOR:

**THOMPSON'S POINT DEVELOPMENT CO., INC.
501 DANFORTH STREET
PORTLAND, MAINE 04102
(207) 784-0335**

PREPARED BY:

**STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
(207) 775-1121**

FEBRUARY 2016

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I. INTRODUCTION

Relatively complex stormwater management facilities are commonly installed in development projects including, commercial facilities, and many other developments. The complexity and goals of these systems vary with the nature of the receiving water, as well as the type of development. Runoff from developed areas of the project, including rooftops, paved or lawn areas, typically contain materials that can impact the receiving waters. Source control and the installation of wet ponds, infiltration galleries, and water quality units, often combined with pretreatment measures or followed by vegetated buffer strips and other best management practices, can significantly reduce the non-point pollution discharge from the developed area. These measures are particularly important to projects in the watersheds of sensitive water bodies, or projects with potential impacts to groundwater. With the increased cost of land and development, there is an increased tendency to construct portions of the stormwater management systems underground.

The effectiveness of water quality management provisions and other components of the stormwater management system are dependent on their design, upkeep, and maintenance to assure they meet their intended function over an extended period of years. It is critical that the stormwater management facilities are regularly inspected, and that maintenance is performed on an as-needed basis. It must also be recognized that the effectiveness of these facilities, and their maintenance requirements, are related to the stormwater drainage facilities that collect and transport the flow to the ponds, infiltration galleries, and other treatment measures. Thus, maintenance should be directed to the total system, not just the pond or primary stormwater management facility.

The purpose of this document is to define, in detail, the inspection and maintenance requirements deemed necessary to assure that the stormwater management facilities function as intended when they were designed. Subsequent sections identify individual maintenance items, give a brief commentary of the function and need for the item, a description of the work required, and a suggested frequency of accomplishment. While the



While the suggested programs and schedules must be adapted to specific projects, the material presented should provide guidance for a successful long-term program for operation and maintenance. A supplemental section provides guidance for construction monitoring of the facilities during their installation and more detailed checklists. Certain facilities, specifically the groundwater recharge and infiltration beds are not intended to be placed in service until the tributary catchment area has the permanent cover in place and any contributing turf areas have achieved a 90% catch of vegetation (i.e. established).

A. GUIDELINES OVERVIEW

A summary of the individual components of stormwater management facilities has been prepared. The format used in the summary is as follows:

Preface: A general description of what function/benefit the element is intended to provide. This is a short summary and not intended to provide the design basis which can be found in other sources.

Inspection: This section provides the inspection requirements for the individual component.

Maintenance: The section provides general information on the routine maintenance requirements of this element.

Frequency: This section outlines the best judgment of the designer on the system to the frequency of maintenance.

Comments: This section provides any particular comment on the site-specific features of this element. This is a summary only. The owner/operator should review the design drawings and documents carefully to understand the particular elements of the project. The end of this section should allow for the owner/operator to make notes on the specific program. This may include the selected maintenance procedure, cross-references to applicable design drawings, etc.

A list of the individual inspection/maintenance elements is provided in the table of contents. The guidelines are proposed for initial use with adjustments made as appropriate based upon specific project experience.

II. PROJECT OVERVIEW

Key permits issued (or applied for) on the project include:

- City of Portland Site Plan Review

The permit applications pending for the project include the design information for the stormwater system.

A copy of the permits for the project should be appended to this manual as Appendix B. The Owner/Operator of the stormwater management system should review these permits for a general description and background of the project, as well as any specific permit conditions or requirements of the project.

The applicant has retained Stantec for civil engineering for the Suburban Propane Relocation development in Portland, Maine. Stantec has prepared the design for the stormwater management facilities and may be contacted at:

Stantec
778 Main Street, Suite 8
South Portland, Maine 04106
(207) 775-1121

It is recommended the preparer of the plan be contacted with any particular questions on the design intent or similar issues.

The applicable plans/design documents which apply to the project are:

1. Civil Site Plans/Permit Applications Prepared by Stantec
2. The Erosion Control/Sedimentation Control Plan for the project.
3. The Stormwater Management Plan for the project.

A copy of these documents should be retained with the manual.

The site is tributary to the Presumpscot River Watershed.

The proposed design will include deep sump catch basins, oil absorbent sorbent booms, a grassed underdrained soil filter basin, and collection, conveyance, and discharge systems.

The project is subject to the requirements of the City of Portland Code of Ordinances, Chapter 32. Specifically the post construction stormwater management plan. The City requirements have been reiterated for ease of reference; however, the owner shall be responsible to meet the current City code.

“Any person owning, operating or otherwise having control over a BMP required by a post construction stormwater management plan shall maintain the BMP’s in accordance with the approved plan and shall demonstrate compliance with that plan as follows:

- (a) Inspections. The owner or operator of a BMP shall hire a qualified post-construction stormwater inspector to at least annually, inspect the BMP’s, including but not limited to any parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures, in accordance with all municipal and state inspection, cleaning and maintenance requirements of the approved post-construction stormwater management plan.*
- (b) Maintenance and repair. If the BMP requires maintenance, repair or replacement to function as intended by the approved post-construction stormwater management plan, the owner or operator of the BMP shall take corrective action (s) to address the deficiency or deficiencies as soon as possible after the deficiency is discovered and shall provide a record of the deficiency and corrective action (s) to the department of public services (“DPS”) in the annual report.*
- (c) Annual report. The owner or operator of a BMP or a qualified post-construction stormwater inspector hired by that person, shall, on or by June 30 of each year, provide a completed and signed certification to DPS in a form provided by DPS, certifying that the person has inspected the BMP (s) and that they are adequately maintained and functioning as intended by the approved post-construction stormwater management plan, or that they require maintenance or repair, including the record of the deficiency and corrective action (s) taken.*
- (d) Filing fee. Any persons required to file an annual certification under this section shall include with the annual certification a filing fee established by DPS to pay the administrative and technical costs of review of the annual certification.*
- (e) Right of entry. In order to determine compliance with this article and with the post-construction stormwater management plan, DPS may enter upon property at reasonable hours with the consent of the owner, occupant or agent to inspect the BMP’s.”*

III. STANDARD INSPECTION/MAINTENANCE DESCRIPTIONS

The following narratives describe the inspection/maintenance provisions for the Stormwater Management area. These O&M procedures will complement scheduled sweeping of the pavement areas anticipated to occur at least twice per year. The

MeDEP will require the stormwater system be certified to meet the basis of design at five year increments. Proper O&M is necessary to make sure the system can be certified.

A. POND OVERFLOW

Preface: The underdrained soil filter proposed for the project includes an open detention basin. The underdrained soil filter will discharge through 4" underdrain and a 15" overflow pipe with invert set at the water quality volume into the outlet control structure for storms up to the 25-year storm. Larger storms will discharge over an 8' wide reinforced turf spillway to the wetlands on the easterly side of the property and towards the Presumpscot River.

Inspection: The spillway overflow should be checked semiannually to make sure that blockage is not impeding the spillway flow capacity. The reinforced turf mesh should be void of bubbles and separated from the ground due to overgrown vegetation.

Maintenance: The vegetation should be cut annually or bi-annually depending on the observed growth rate. Large diameter trees and bushes should not be present. The spillway should be well vegetated and the reinforce turf mesh weaved with vegetation close to the ground. The ground should be cleared, mesh re-stapled and/or replaced, and reseeded if damage is observed.

B. CONTROL STRUCTURES

Preface: The water quality volume will be detained in the underdrained grass soil filter and bleed through the treatment measure (Soil Filter). A 4 ft. dia. Manhole will control to the release from the Underdrained Soil Filter with an orifice cap on the outlet underdrain pipe. Runoff for storm events larger than 1.6" will overflow through a 15" dia. Outlet pipe through the outlet control manhole. Therefore, flow is anticipated to be released during and after every major storm event. Minor events will filter through the underdrained filter. The control structure will be designed to be inspected by removing the manhole covers and inspection of the orifice, inlets, and channels. Debris should be removed whenever observed and reported to key maintenance personnel since any debris would indicate lack of proper system O&M in the collection and conveyance system. Entry may require CONFINED SPACE ENTRY procedures and appropriately trained personnel.

Inspection: The outlet control structures must be inspected to assure it maintains its intended hydraulic characteristics. The inspection would note any debris or sediment which may accumulate in the structure and in the inlet and outlet pipes. It is noted that it does not take much debris or silt to alter the hydraulic characteristics of the discharge. The inlet should be inspected to assure it is not blocked or restricted or there is sediment to the extent that its flow characteristics may be altered.

Maintenance: Maintenance of the control structure will consist primarily of removing debris which may accumulate and sealing the bulkhead if leakage occurs.

Frequency: The control structure should be inspected quarterly, and after a high intensity rainfall event (in excess of 3 inches in a 24-hour period).

Maintenance/Inspection Responsibility:

Inspection Personnel: The maintenance personnel will be an outside agent hired by Suburban Propane and will perform the scheduled maintenance/inspection.

Dates of inspections, maintenance performed, and any observed problems should be noted in the logs/records maintained by the outside agent.

Outside Contract Services: The outlet structure should be opened/inspected by the outside agent of Suburban Propane on a quarterly basis. The logs and records of inspections and maintenance of the control structures should be maintained during each 5-year re-certification interval.

Replacement Parts/Repairs: No normal replacement parts are required. Inspection personnel should have a bucket to remove debris from the structure. If leakage of the bulkhead occurs, it is recommended that repairs be made by a professional contractor familiar with hydraulic grouts.

C. STORMWATER INLETS

Preface: The success of any stormwater facility relies on the ability to intercept stormwater runoff at the design locations. Stormwater inlets may include catch basins, open culverts, culverts with bar screens, and field inlets. Inlets exist throughout the system at the points of collection as well as at the outlet of many ponds. Bar racks are common on many inlet locations which intercept an open channel. This section is directed at maintenance of the actual inlet point. A later section addresses more substantive maintenance of the structures and conveyance facilities. The inlets contain oil absorbent sorbent booms to retain oils and avoid discharge to downgradient areas. These will become saturated with oil over time and require replacement.

Inspection: The inspection of inlet points will need to be coordinated with other maintenance items, these include:

- Roadway/parking lot maintenance areas
- Building maintenance areas
- Grounds maintenance

The key elements of the inspection are to assure the inlet entry point is clear of debris and will allow the intended water entry.

Maintenance: The key maintenance is the removal of any blockage which restricts the entry of stormwater to the inlet. The removed material should be taken out of the area of the inlet and placed where it will not reenter the runoff collection system. Snow should be removed from inlets in parking lots/roadway areas. Grass clippings and leaves should be bagged and removed particularly near the yard inlets near the building.

Frequency: All inlets should be inspected on a quarterly basis, and after/during significant storm events. A windshield survey is suitable for most inlets but off road inlets and pond structures require more rigorous inspection.

Maintenance/Inspection Responsibility:

Maintenance Personnel: The outside agent will perform the normal maintenance/inspections of the inlets and culvert crossings.

D. TRIBUTARY DRAINAGE SYSTEM

Preface: Stormwater from most of the project will be directed through a conveyance system that transports the flow to the water quality basin. This conveyance system will be principally overland flow discharging to piped drain systems. Most of the sediment carried by the drainage system is intended to be trapped in the catch basins or sediment forebay. Maintenance of this system can play a major role in the long-term maintenance costs and the effectiveness of the treatment systems.

Inspection: The tributary drainage system should be periodically inspected to assure that it is operating as intended, and that its carrying capacity has not been diminished by accumulations of debris and sediment or other hydraulic impediments. On piped systems the inlets must be inspected to ensure the rims are set at the proper elevation to optimize flow entry and are not clogged with leaves or other debris. The inlet basins are normally equipped with sumps which will remove large sediment particles from the flow stream with hooded outlets. The inlet basins may be equipped with oil absorbent sorbent booms which should be inspected for saturation. Once the boom becomes saturated it will appear brown or black in color and will be ineffective at removing oils.

The level of sediment in the sumps should be checked to assure their effectiveness. Pipelines connecting the inlets should be checked to determine if siltation is occurring. This will be most critical on drain lines laid at minimal slopes. This can usually be accomplished by a light and mirror procedure.

In some projects most of the stormwater is carried in open swales, channels, or ditches. These conveyance channels may be rip rapped or vegetated, depending on the gradient and expected flow velocities. These facilities must be inspected to insure debris or sedimentation does not reduce their carrying capacity. Excess vegetative growth must also be noted. The surface protection for the channels, either stone or vegetation, must be inspected to insure its integrity. Any areas subject to erosion should be noted.

Maintenance: Maintenance of the storm drainage system must assure that it continues to serve its design function on a long term basis, and that its operation does not transport excessive sedimentation to any downstream detention pond, or the receiving waters. Elevations on the rim of catch basins should be adjusted as needed to assure optimal water entry. Depending on the frost susceptibility of the soil, the rims may become elevated over time causing flow to circumvent the inlet. When the sump in an inlet restricts capacity and is half full with silt or other deleterious materials, the catch basin cleaning would normally be accomplished with vacuum trucks contracted as a maintenance service for the development center. The removed material must be disposed of at an approved site for such materials. The removed and replaced sorbent boom shall be disposed of in accordance with local and state regulations.

If sediment in the pipeline exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by hydraulic flushing, or by mechanical means. If hydraulic flushing is used the downstream conditions should be analyzed. In general a sump or sediment trap should be used where it can be flushed into the underground detention pond, since it will reduce pond volume and hasten the time when it must be cleaned.

Frequency: The piped drainage system should be inspected on an annual basis. Adjustment of inlet rim elevations should be on an as needed basis. Cleaning catch basin sumps and pipelines will depend on the rate of accumulation.

Maintenance/Inspection Responsibility:

Maintenance Personnel: Outside agent hired by Suburban Propane

Special Services: The owner will elect to contract with an independent agent for cleaning catch basins, sumps, pipelines, and replacement of sorbent booms. Remedial source control measures may be performed by the owner or an outside service depending upon the nature of the particular situation.

Comments: Maintenance of inlets is critical on this project.



A WELL STABILIZED VEGETATED SWALE SHOWS LITTLE SIGNS OF EROSIVE VELOCITIES OR FLOWS. THIS SWALE ALSO FUNCTIONS AS A POND SPILLWAY

E. WATER QUALITY FILTERS (ABOVE GROUND)

Preface: The soil filter is an underdrain system with multi-media aggregates. A typical section is in the site drawings for the project. This section is applicable to the underdrained grass soil filter.

Inspection: The soil filter can be inspected visually. A good time for inspection is within one day of a substantial rain event. The soil filter should be inspected after every major storm in the first year to be sure it is functioning properly. Thereafter, the filter should be inspected at least once every six months to ensure that it is draining within 48 hours following a one inch storm or greater. If the system drains too fast, the outlet pipe orifice may need to be modified.

Maintenance:

Inlets

Inlets to the soil filter area should be kept open and in good working condition. This is particularly important around curb breaks and sidewalk culvert. These locations should be marked on the roadway at the completion of construction to allow for winter snow dam removal. All eroded areas should be repaired.

Initial Turf Maintenance (when applicable)

Grassed soil filters should be allowed to develop for one full growing season post-construction prior to their first mowing. This allows for natural reseeding of grass seed mixes and establishment of a healthy stand of grass.

Long-Term Turf Maintenance (when applicable)

It is preferable to only mow grassed soil filter two to three times per year. While grassed soil filters can be mown during routine lawn maintenance, excessive mowing reduces the viability of grasses and grass roots and can overcompact the surface layer of the soil filter media. Grasses should be mowed to a height no less than 6 inches.

Large Debris

Large debris within the ponding area should be removed.

Erosion in the Soil Filter Area

Any eroded areas should be repaired as soon as practicable.

Weeds in the Soil Filter Area

Periodic weeding of the soil filter area may be necessary, particularly in the landscaped soil filters. Hand weeding is required as the use of herbicides is not recommended.

Surface Mulch Layer (when applicable)

Areas devoid of mulch should be re-mulched by hand. Every year, in the spring, a fresh layer of mulch should be added to the soil filter area.

Sedimentation (or Clogging) of Soil Filter Area

If the soil filter area is holding water for a period longer than 48-72 hours, the soil mix has, more than likely, become clogged with sediment and/or the underdrains have clogged. To correct a standing water problem, the following remedial actions are recommended:

1. Evaluate the drainage area to the soil filter area to identify any potential sources of sediment, such as an erosive condition, that may be contributing to the clogging of the device. If a source is identified, it is recommended that that source be eliminated to the fullest extent practicable before proceeding with the remaining recommendations provided below.
2. Flush the underdrains. Use cleanouts to flush the underdrains. Sediment in the drains may be preventing the soil mix from draining. Make sure to provide a way to capture any flushed sediment before it enters the stream environment or storm drain system downstream of the device. If, after flushing the underdrains, the device continues to hold water, the soil mix may

be contaminated. As such, following the guidelines provided below is recommended.

3. Gage the extent of soil contamination. To do this, it is recommended that one or more test pits be dug with a shovel and that the soil layer be evaluated for contamination. Once the levels of contamination have been determined (for example, the top 4" of soil appears to be contaminated), it is recommended that you proceed with the remaining remedial actions.
4. Harvest the plants (when applicable). Care should be taken in the removal and temporary storage of the plants so that as many as possible can be harvested for replanting in the soil filter area once the functioning of the device has been restored sufficiently.
5. Remove the mulch layer.
6. Remove the top few inches of contaminated soil plus an additional 2-inch of soil, and replace the removed soil with a clean soil mix in accordance with the soil mix specification applicable to the particular soil filter area.
7. Monitor the functioning of the soil filter area during the next two to three rain events. If the device appears to be draining as intended (e.g., there is no standing water 48-72 following a rain event), proceed with the remaining remedial actions. If the area continues to hold standing water, then the entire soil filter area soil mix and the underdrains may need to be removed and replaced. Reuse of any undamaged underdrains may be possible once they have been cleaned thoroughly.
8. Replant the harvested plants, and replace any plants that were rendered unusable during or following their removal from the soil filter area.
9. Replace the removed mulch layer with fresh mulch.
10. Water the plants in the soil filter for the next two or more weeks unless there is sufficient rainfall. This will help the plants to reestablish themselves.

Frequency: The water quality filters should be inspected semi-annually and maintained as needed.

Applicability: The development has one filter. **Snow storage with-in the filter should be prohibited by Maintenance Personnel.**

F. SEDIMENT FOREBAY

Preface: The Underdrained Grassed Soil Filter will be constructed with a forebay sump constructed by installing a rip rap pool to separate the inlet from most of the pond. The purpose of this sump is to collect and detain sediment void before it is transported to the treatment filter.

Inspection: During dry periods it should be possible to inspect the forebay sump and to measure the sediment accumulation.

Maintenance: If a significant accumulation of sediment is recorded in the sump it should be removed. The material removed from the sump should be disposed of in accordance with local practice for disposing of catch basin cleanings.

Frequency: The forebay sump should be inspected four times a year if possible, preferably in the early summer after spring runoff, during late summer, and in the fall. The frequency of sump cleaning will depend on the rate of sediment buildup. Cleaning on a 1 to 2 year basis is likely. It is noted that cleaning of the forebay sump will lengthen the time between filter bed cleanings.

The rate of sediment buildup will depend on the tributary drainage facilities, i.e., faster buildup with open ditch transport systems and buildup from pipe systems with sumped catch basins. Maintenance practiced for the tributary drainage system will also impact sediment buildups.

Comments: None.



THIS SEDIMENT SUMP ALSO FUNCTIONS AS AN OUTLET PLUNGE POOL TO PROVIDE PROTECTION AND REDUCE VELOCITIES PRIOR TO DISCHARGE TO POND AREAS

G. SORBENT BOOMS

Preface: During construction, sorbent booms will be installed in the catch basins which have pavement areas. The intent of these is to absorb oil and runoff from new pavement surfaces. These will be removed and replaced when construction of the project is complete and should be inspected quarterly and replaced annually or as required.

Inspection: The sorbent boom should be raised out of the inlet, inspected, and replaced if necessary. Inspection should occur for the first year and annually thereafter concurrent with the catch basin cleaning.

Recommendation: It is recommended this project have additional sorbent booms or pillows onsite in the event of an unexpected spill or if oil sheen is observed frequently on any inlet.

Maintenance: The inspection and replacement should be conducted as part of a third party O&M contract and require disposal of used sorbent booms as “special wastes”.

H. PARKING LOT CLEANING

To protect the catch basin sediment sumps, sediment forebay, and underdrained grass soil water quality filter, it is recommended the parking lot be cleaned 2 times between April and November.

Maintenance: It is recommended this service be contract with the firm that maintains lawns and landscaping.

I. LITTER

Litter should be removed as a matter of course by workers and a part of the grounds maintenance contract.

J. SUMMARY CHECKLIST

The above described inspection and maintenance items have been summarized on a checklist appended hereto as Appendix C.

IV. PROGRAM ADMINISTRATION

A. GENERAL

A reliable administrative structure must be established to assure implementation of the maintenance programs described in the foregoing section. Key factors that must be considered in establishing a responsive administrative structure include:

1. Administrative body must be responsible for long-term operation and maintenance of the facilities.
2. Administrative body must have the financial resources to accomplish the inspection and maintenance program over the life of the facility.
3. The administrative body must have a responsible administrator to manage the inspection and maintenance programs.
4. The administrative body must have the staff to accomplish the inspection and maintenance programs, or must have authority to contract for the required services.
5. The administrative body must have a management information system sufficient to file, retain, and retrieve all inspection and maintenance records associated with the inspection and maintenance programs.

If any of the above criteria cannot be met by the entity assigned inspection and maintenance responsibilities, it is likely that the system will fail to meet its water quality objectives at some point during its life. While each of the above criteria may be met by a variety of formats, it is critical to clearly establish the assigned administrative body in a responsible and sustainable manner.

B. RECORD KEEPING

Records of all inspections and maintenance work accomplished must be kept and maintained to document facility operations. These records should be filed

and retained for a minimum 5-year time span. The filing system should be capable of ready retrieval of data for periodic reviews by appropriate regulatory bodies. Where possible, copies of such records should also be filed with the designated primary regulatory agency for their review for compliance with permit conditions. Typical inspection and maintenance record forms are attached hereto as Appendix A.

C. CONTRACT SERVICES

In some instances or at specific times, the Maintenance Personnel may not have the staff to conduct the required inspection and/or maintenance programs as outlined in this document. In such cases the work should be accomplished on a contractual basis with a firm or organization that has the staff and equipment to accomplish the required work.

The service contract for inspection and maintenance should be formal, well written legal document which clearly defines the services to be provided, the contractual conditions that will apply, and detailed payment schedules. Liability insurance should be required in all contracts.

APPENDIX A

Sample Inspection Logs

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
ANNUAL INSPECTION & MAINTENANCE LOG

FACILITY:		YEAR:	
LOCATION:		CONTRACTOR:	
FUNCTION:		INSPECTOR:	
DATE OF INSPECTION:			
ITEM IDENTIFICATION	DESCRIPTION OF CONDITIONS	MAINTENANCE ACCOMPLISHED	DATE OF MAINTENANCE
GENERAL COMMENTS: 			

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
MONTHLY INSPECTION & MAINTENANCE LOG

FACILITY:			YEAR:			
LOCATION:			CONTRACTOR:			
FUNCTION:						
MONTH	DAY	INSPECTOR	WATER DEPTH	OVERFLOW WEIR		WEIR CONDITION
				CLEAR	DEBRIS	
JANUARY						
FEBRUARY						
MARCH						
APRIL						
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
LIST SPECIAL MAINTENANCE UNDERTAKEN:						

SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE

STORMWATER MANAGEMENT
UNDERDRAINED GRASS SOIL FILTER
SEMI-ANNUAL INSPECTION & MAINTENANCE LOG

SEMI-ANNUAL INSPECT 1.2	FACILITY:
DATE:	LOCATION:
INSPECTOR:	FUNCTION:
WEIR CONDITION:	
OUTLET CONDITION	

FORE BAY SUMP	EST. DEPTH SED.	REMOVED? Y/N	EST. VOL. CY	WHERE DISPOSED OF	STRUCTURAL CONDITION

CONTROL STRUCTURE:
DESCRIBE CONDITIONS FOUND & MAINTENANCE ACCOMPLISHED:

APPENDIX B

Permits for Project

(To be Added at a Subsequent Time)

APPENDIX C

Summary Checklist Inspection and Maintenance

**Stormwater Management System
Maintenance Program
Summary Checklist**

Item	Commentary	Frequency				
		Monthly	Quarterly	Semi-Annual	Annual	Long Term
Control Structure	Inspect outlet control to assure it maintains its hydraulic characteristics. Inspect inlets for blockage.		X			
Stormwater Inlets in Series	Stormwater inlets allow flow entry from a surface swale to a piped system. Entry may or may not be equipped with a bar rack. Inspect entry for debris accumulation. Remove debris to allow unimpeded entry. Lawn clippings and leaves should be removed from yard areas.		X		X Clearing	
Tributary Drainage	Inspect to assure that the carrying capacity has not been diminished by debris, sediment or other hydraulic impediments.				X	
Sediment Monitoring/ Water Quality Filters	Inspect for standing water longer than 48 hours, sedimentation, outlet control, and healthy grass growth.			X		X
Sediment in Forebay				X		
Sorbent Booms	Sorbent boom should be raised out of the inlet, inspected, and replaced if necessary.		X		X	
Parking Lot Cleaning	Parking lot should be swept 2 times between April and November.			X		
Litter	Litter should be removed daily.					

APPENDIX J

**City of Portland
Form 2 – Non-Residential Stormwater Credits:
New Development/Re-Development**

FORM 2**Non-Residential Stormwater Credits: New Development/Re-Development
(Site Plan Review Required)**

Project Site Information		
Address:	TBD Riverside Street	04103
	Street Address	Zip Code
Parcel ID (Chart, Block, Lot # + 3-digit ID): 322/A003/1 and 323/A003 & A005		
Project ID (if assigned): Not yet assigned		
Contact Information		
Applicant (must be owner, lessee or buyer)		
Name:	Thompson Chris	
	Last	First M.I.
Business Name (if Applicable): Thompson's Point Development Co. Inc.		
Relation to Owner (lessee, buyer, etc, if Applicable):		
Mailing Address:	501 Danforth Street	
	Street Address	Apartment/Unit #
	Portland	ME 04102
	City	State Zip Code
Phone #: (207) 747- 5288 E-mail Address: parrallaxpartners@gmail.com		
Owner (if different from Applicant)		
Name:	City of Portland - Economic Development, c/o Greg Mitchell	
	Last	First M.I.
Mailing Address:	389 Congress Street	
	Street Address	Apartment/Unit #
	Portland	ME 04101
	City	State Zip Code
Phone #: (207) 874- 8721 E-mail Address: gmitchell@portlandmaine.com		
Agent/Representative		
Name:	Stantec c/o Bo Kennedy	
	Last	First M.I.
Mailing Address:	778 Main Street Suite 8	
	Street Address	Apartment/Unit #
	South Portland	ME 04106
	City	State Zip Code
Phone #: (207) 775- 1121 E-mail Address: bo.kennedy@stantec.com		

Credit Information			
Final Total Impervious Area:		<u>104,544</u> square feet	
The credit options and their corresponding credit values are listed in columns A and B, respectively. Indicate in column C the amount of impervious area that is eligible for each credit option, and note the product of columns B and C in column D. <i>The billable impervious area equal to the Total Impervious Area minus the sum of column D.</i>			
A	B	C	D
Minimum Water Quality Credit:	0.25	$\times$ _____ square feet	= _____ square feet
Minimum Water Quantity Credit:	0.05	$\times$ _____ square feet	= _____ square feet
Basic Water Quality Credit:	0.50	$\times$ _____ square feet	= _____ square feet
Basic Water Quantity Credit:	0.10	$\times$ _____ square feet	= _____ square feet
Extra Water Quality Credit:	0.75	$\times$ <u>33,176</u> square feet	= <u>25,482</u> square feet
Extra Water Quantity Credit:	0.25	$\times$ <u>101,044</u> square feet	= <u>25,261</u> square feet
Total			= <u>50,743</u> square feet
Billable Impervious Area (Total IA minus Sum of Column D):		<u>53,801</u> square feet	
Applicant Signature			
I hereby certify that I am the owner of record of the named property, or that the owner of record has authorized me to submit this application on his or her behalf. I agree to conform to all applicable laws of the City of Portland. In addition, I understand that the City of Portland Department of Public Services has the authority to enter and inspect all areas that pertain to this application at any reasonable hour to verify that the information contained in this form is accurate.			
Signature: 		Date: <u>02/26/2016</u>	

2. RIGHT, TITLE AND INTEREST

Att. C

2.1 OVERVIEW

The applicant has a Purchase and Sales Agreement on the property. A copy is on file with the City's Economic Development Department and available upon request.

**THIRD AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS THIRD AMENDMENT is made as of the 31st day of December, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014, as amended by Amendment to Purchase and Sale Agreement dated as of January 21, 2015 and by Second Amendment to Purchase and Sale Agreement dated June 25, 2015 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

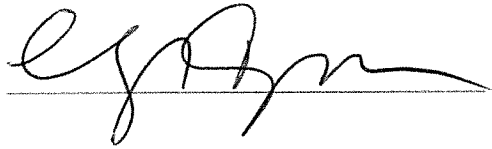
1. The Agreement is hereby amended by deleting the reference to the words "the 15th day following the latter of: A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility" in the first sentence of Section 4 of the Agreement, and replacing therefor a reference to "June 30, 2016"; meaning and intending hereby to fix the Closing Date under the Agreement to: on or before June 30, 2016.

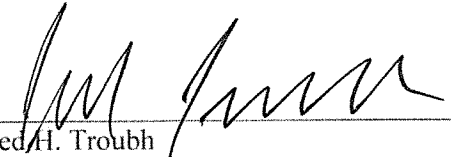
3. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



By: 
Jed H. Trough
Its President

"Buyer"

WITNESS:

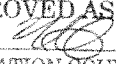
CITY OF PORTLAND



By: 
Anita LaChance
Its Deputy City Manager

"Seller"

APPROVED AS TO FORM:


CORPORATION COUNSEL'S OFFICE

**SECOND AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS SECOND AMENDMENT is made as of the 25th day of June, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014, as amended by Amendment to Purchase and Sale Agreement dated as of January 21, 2015 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

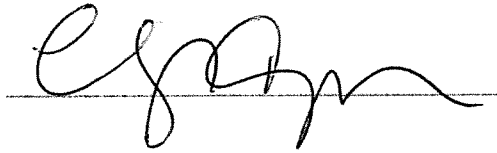
NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

1. The Agreement is hereby amended by deleting the reference to the words "the 15th day following the latter of: A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility" in the first sentence of Section 4 of the Agreement, and replacing therefor a reference to "December 31, 2015"; meaning and intending hereby to fix the Closing Date under the Agreement to: on or before December 31, 2015.
2. The Agreement is hereby amended by deleting the reference to "June 30, 2015" in the first sentence of Section 7 of the Agreement, and replacing therefor a reference to "September 30, 2015"; meaning and intending hereby to extend the deadline of the Due Diligence Period so that at 5pm Portland, Maine time on September 30, 2015 it will be the Due Diligence Completion Date under the terms of the Agreement.
3. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



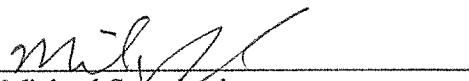
By: 
Jedd H. Trough
Its President

"Buyer"

WITNESS:

CITY OF PORTLAND



By: 
Michael Sausechuck
Its Acting City Manager

"Seller"

APPROVED AS TO FORM:

CORPORATION COUNSEL'S OFFICE

**AMENDMENT
TO
PURCHASE AND SALE AGREEMENT**

THIS AMENDMENT is made as of the 21st day of January, 2015, by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 501 Danforth Street, Portland, Maine 04102, or its assigns (the "Buyer").

WHEREAS, Seller and Buyer entered into a certain Purchase and Sale Agreement dated January 21, 2014 (the "Agreement") with respect to certain real property located at or near 626 Riverside Street in Portland, Maine; and

WHEREAS, Seller and Buyer wish to amend the Agreement as provided herein;

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Seller and Buyer hereby agree as follows:

1. The Agreement is hereby amended by deleting the reference to "365 days from the effective date" in the first sentence of Section 7 of the Agreement, and replacing therefor a reference to "until June 30, 2015 ("Due Diligence Period")"; meaning and intending to extend the deadline of the Due Diligence Period so that at 5pm Portland, Maine time on June 30, 2015 it will be the Due Diligence Completion Date under the terms of the Agreement.

2. Except as specifically amended hereby, the Agreement shall remain in full force and effect and the parties hereto ratify the terms and conditions of the Agreement.

IN WITNESS WHEREOF, this Amendment has been executed and delivered as of the day and year first above written.

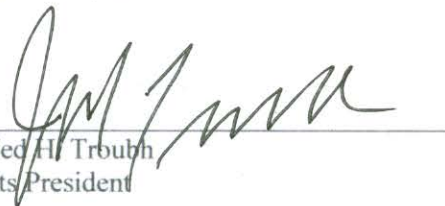
WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.



By:

Jed H. Trough
Its President



"Buyer"

WITNESS:

Sonia Bean

CITY OF PORTLAND

By: Sheila Hill-Christian
Sheila Hill-Christian
Its Acting City Manager

APPROVED AS TO FORM.
Mub
CORPORATION COUNSEL'S OFFICE

"Seller"

PURCHASE AND SALE AGREEMENT

THIS AGREEMENT made and entered into as of January 21, 2014 (the "effective date"), by and between the CITY OF PORTLAND, a Maine municipal corporation with a place of business in Portland, Maine and mailing address of 389 Congress Street, Portland, Maine 04101 ("Seller" or "City") and THOMPSON'S POINT DEVELOPMENT COMPANY, INC., a Maine business corporation with a place of business at, and mailing address of, 55 Lisbon Street, Lewiston, ME 04340, or its assigns (the "Buyer").

WITNESSETH:

WHEREAS, Buyer expressed to Seller an interest in acquiring a portion of the Seller's property at 636 Riverside Street in Portland, Maine to provide for the construction of a facility to be used to re-locate the operations of Suburban Propane, L.P., a Delaware limited partnership ("User") which are now located on Thompson's Point, in Portland, Maine;

WHEREAS, Seller and Buyer each have an interest in effectuating this relocation; and

WHEREAS, Seller is willing to contract for the sale of a portion of such property;

NOW THEREFORE, FOR VALUABLE CONSIDERATION, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. Property to be Sold. Seller agrees to sell and Buyer agrees to buy a certain lot or parcel of land with any improvements thereon, located at 636 Riverside Street in Portland, Maine, being a portion of the property shown as City of Portland Tax Map 322, Block A, Lot 003 and Lot 008 comprising approximately 3 acres of land, with sixty feet of frontage on Riverside Street, and being the area outlined in blue on the attached Sketch marked "Exhibit A" (the "Premises"). The determination of the precise area to be conveyed shall be by mutual agreement of Buyer and Seller.

2. Purchase Price; Deposit. Buyer shall pay to Seller \$95,000.00 per acre, for a total, presuming the Premises is determined to be 3 acres, of Two Hundred Eighty-Five Thousand Dollars (\$285,000.00) (the "Purchase Price") in the manner provided in this Section, and subject to the deductions as set forth in this Agreement.

a. Contemporaneously with the execution of this Agreement or, at the latest, within 5 days of execution, Buyer shall Deposit with Seller the sum of One Thousand Dollars (\$1,000.00) in immediately available funds (the "Deposit"). At the end of the Due Diligence Period, if Buyer does not terminate this Agreement, the Deposit becomes non-refundable.

b. At the closing, Buyer shall pay to Seller the balance of the Purchase Price by certified or bank cashier's check or wire transfer. The Deposit shall be credited against the Purchase Price.

c. To the degree that Buyer's performance under existing encumbrances, whether listed on Exhibit B attached hereto or of record title at Closing, including any existing or required rights of way, trail easements, or the like, add expense to the operations of the Premises to Buyer or to the User, the present value of said expenses shall be determined at Closing and a fair market value reduction in the Purchase Price shall be agreed to by the parties hereto; but only to this extent: the Seller shall not be responsible for any portion of the first Twenty-Five Thousand Dollars (\$25,000.00) of said expenses; the Seller shall only be responsible for one-half of the next Fifty Thousand Dollars (\$50,000.00) of such expense; and the Seller shall not be responsible for any portion of any additional said expense; hence, the limit of Seller's responsibility for said expense is Twenty-Five Thousand Dollars (\$25,000.00).

3. Title; Deed. Seller agrees to convey to Buyer good and marketable and insurable title to the Premises by Quitclaim Deed Without Covenant delivered at closing, free and clear of encumbrances, except: (i) as set forth in Exhibit B, (ii) easements for utilities servicing the Premises, (iii) as waived by Buyer hereunder, (iv) zoning and building laws or ordinances, and (v) real estate taxes assessed but not due and payable. In the event that Seller is unable to convey title as aforesaid, Seller shall be given a reasonable period of time (not to exceed 30 days), after notice in writing, in which to remedy any title defects. In the event that said defects cannot be corrected or remedied or in the event that Seller elects not to remedy same, then the Deposit shall be returned to Buyer and this Agreement, and Seller's and Buyer's obligations hereunder, will terminate. Buyer may, at Buyer's option, elect to close notwithstanding such defects as may exist. Seller agrees to convey the Premises using any new survey description resulting from Buyer's boundary survey.

4. Closing. Unless this Agreement is otherwise terminated, this transaction shall be closed on or before the 15th day following the latter of : A) the end of the Due Diligence Period, and B) the date when Buyer has received all requisite approvals for the Suburban Propane Operations facility (the "Closing Date") in Portland, Maine at the offices of Buyer's lender or, if the Seller and Buyer shall mutually agree in advance, at another time and place. At the closing, Seller shall execute and deliver to Buyer, against payment of the Purchase Price, the following documents:

- a. a Quitclaim Deed without Covenant to the Premises; and
- b. such other customary instruments, documents and affidavits as Buyer may reasonably request.

5. Risk of Loss, Damage, Destruction and Insurance. Before closing, Seller shall bear the risk of any loss to the Premises by fire or otherwise.

6. Representations and Warranties of Seller. Seller represents and warrants to Buyer that there is no litigation, administrative hearing, arbitration, or any other proceeding pending

against Seller or with respect to the Premises for any violation of law, rule, ordinance or regulation. Seller covenants that it has received no notices of violation from any Federal or State agency alleging a violation of any environmental law, rule or regulation with respect to the Premises.

7. Due Diligence Period. Buyer shall have 365 days from the effective date to conduct due diligence including title, engineering, environmental, general feasibility and lender consent. If the results of the due diligence are unsatisfactory to Buyer in its sole discretion, Buyer may terminate contract and receive back the Deposit. At all reasonable times during this period, Buyer and any prospective lender or investor of Buyer's shall have the right to enter the Premises and perform, at Buyer's expense, any and all inspections, tests, surveys or other due diligence inquiries with respect to the Premises as Buyer deems necessary or appropriate. Buyer agrees to return the Premises as nearly as reasonably possible to their original condition after all of such tests and inspections. Seller shall cooperate with Buyer in such inspections. Buyer's option to terminate this Agreement and receive back the Deposit as provided in this Section shall expire unless such written notice is delivered to Seller not later than 5pm Portland, Maine time of the last day of the Due Diligence Period (the "Due Diligence Completion Date"). If such written notice is not delivered to Seller prior to Due Diligence Completion Date, Buyer shall be deemed to have waived its right to terminate this Agreement as set forth in this Section.

8. Possession. Seller shall deliver the Premises to Buyer at closing free and clear of all leases, tenancies and occupancies by any person.

9. Deed Conditions. The sale of the Premises is predicated upon development of a facility for the operations of the User on the Premises. If the Premises are not conveyed to the User (or an entity corporately related to the User) within 36 months of the completion of the Closing, then the City can rescind the sale and repurchase the Property for the Purchase Price. This provision shall survive the closing.

10. Subdivision and City contribution to survey costs. Buyer will obtain subdivision approval for the "creation" of the parcel which constitutes the Premises. In connection therewith, the City will, at Closing, reimburse Buyer for up to Five Thousand Dollars (\$5,000.00) of documented costs for obtaining approval of such subdivision and having a survey prepared for the Premises for such subdivision. In the event that Buyer fails to close, the Permitting Plans shall be assigned to the City and become the property of the Seller.

11. Default and Remedies. In the event that Buyer fails to close hereunder for any reason other than (i) a default by Seller or (ii) termination of this Agreement by Buyer as provided herein, Seller shall retain the Deposit as full and complete liquidated damages in lieu of any other legal or equitable remedy, whereupon this Agreement will terminate and neither party will be under any further obligation hereunder. In the event of Seller's default hereunder, Buyer shall have available all remedies at law and in equity, including without limitation the right of specific performance.

12. Assignment. Buyer may assign this Agreement and all its rights and obligations hereunder to an affiliate of Buyer.

13. Brokers. The parties represent to each other that neither has had any dealings with any real estate broker in connection with this transaction. Each party agrees to indemnify the other from and against the claims of any brokers arising from this transaction, which indemnity shall survive the closing and shall include reasonable costs of collection, including reasonable attorney's fees.

14. User. The City hereby agrees that the Buyer is purchasing the Premises to build a replacement facility for the User to operate the User's propane storage and delivery business on the Premises. Buyer is entering into this Agreement with the understanding that User's plans to operate a propane storage, delivery, and related business activities facility on the Premises is permitted under the City's land use and zoning ordinances. To the best of City's knowledge such use by the User is not in conflict with any existing encumbrances, including those listed on Exhibit B attached hereto.

15. Miscellaneous. Time is of the essence of this Agreement. All notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the third business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, certified, return receipt requested, addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change its address for purposes of this paragraph by giving the other party notice of the new address in the manner described herein. Except as set forth in Section 12 above, the rights of Buyer under this Agreement may not be assigned in whole or in part without written consent of Seller, which shall not be unreasonably withheld. This Agreement constitutes the entire agreement between Seller and Buyer and there are no other agreements, understandings, warranties or representations between Seller and Buyer. Seller's representations and warranties, if any, shall survive the closing. This Agreement will inure to the benefit of and bind the respective successors and assigns of Seller and Buyer. This Agreement may be simultaneously executed in any number of counterparts, each of which when so executed and delivered shall be deemed an original, but all of which together shall constitute one and the same instrument. As used in this Agreement, the singular number shall include the plural and the plural the singular. This Agreement shall be governed by and construed in accordance with the laws of Maine. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

[Signature Page Follows]

IN WITNESS WHEREOF, Seller and Buyer have caused this Agreement to be executed by their duly authorized representatives or officers, as of the date first written above.

WITNESS:

CITY OF PORTLAND

Shona Bean

By: Shona Hill Christman
Mark H. Rees, ~~Shona Hill Christman~~
Its City Manager

"Seller"

WITNESS:

THOMPSON'S POINT DEVELOPMENT
COMPANY, INC.

Gregory A. Huff

By: Christopher M. Thompson
Christopher M. Thompson
Its President

"Buyer"

Ellen Sanborn
Approved: Ellen Sanborn
Finance Director

Lawrence Walden
Approved as to Form: Lawrence Walden
Assoc. Corporation Counsel

Sketch of Premises



EXHIBIT B

List of Known Encumbrances/Easements

1. Possible effects of Conservation Easement from The Trust for Public Land to Portland Trails, dated March 26, 2010, and recorded in the Cumberland County Registry of Deeds in Book 27677, Page 125.
2. Drainage Easement Deed from City of Portland to Ananta, LLC and Addison Capital LLC, dated November 1, 2010, and recorded in said Registry in Book 28269, Page 304.
3. Drainage Maintenance Agreement between Ananta LLC, Addison Capital LLC, and the City of Portland, dated November 15, 2010, and recorded in said Registry in Book 28269, Page 309.
4. Shared Access Driveway Easement from City of Portland to Ananta LLC and Addison Capital LLC, dated November 1, 2010, and recorded in said Registry in Book 28269, Page 312.
5. Shared Access Maintenance Agreement between Ananta LLC, Addison Capital LLC, and the City of Portland, dated November 15, 2010, and recorded in said Registry in Book 28269, Page 314.
6. Sidewalk Easement from Ananta LLC and Addison Capital LLC to the City of Portland to, dated November, 2010, and recorded in said Registry in Book 28269, Page 317.
7. Matters, conditions and restrictions depicted and shown and referenced on the Riverside Subdivision Recording Plat, recorded in Plan Book 210, Page 352, on October 14, 2010, and Approved by the City of Portland Planning Board with date below signatures of September 21, 2010, to the extent they bear on the subject premises.
8. Matters, conditions and restrictions depicted and shown and referenced on the Conservation Easement Plan for the Trust for Public Lands, dated March 3, 2010, and recorded in Plan Book 210, Page 129, on October 14, 2010, to the extent they bear on the subject premises.

SHARED ACCESS DRIVEWAY EASEMENT

CITY OF PORTLAND, a body politic and corporate located in Cumberland County, State of Maine, whose mailing address is 389 Congress Street, Portland, Maine, (the "Grantor"), for consideration paid, hereby grants to **ANANTA LLC**, a Maine limited liability company with a mailing address of 9 Brook Rd., Falmouth, Cumberland County, Maine, and **Addison Capital LLC**, a Maine limited liability company with a mailing address of 2 Shady Lane, Falmouth, Maine 0410 (the "Grantees"), the following Shared Access Driveway Easement over premises described in the attached Schedule A:

An easement for the purpose of and conveying the right to perpetually enter at any and all times upon property described in the Riverside Subdivision Recording Plat, recorded in the Cumberland County Registry of Deeds on October 14, 2010, Book 210, Page, 352, attached hereto and incorporated herein by reference, for the purpose of accessing Grantees' property from Riverside Street.

The Grantor, by its delivery of the aforementioned Easement, and the Grantees, by their acceptance hereof, acknowledge and agree that this Easement is being granted to the Grantees for purposes of vehicular and pedestrian access across the easement areas described above.

Reserving to the Grantor, its successors and assigns, the use and enjoyment of the property for all purposes as are not inconsistent with the easements granted herein.

IN WITNESS WHEREOF, the City of Portland has caused this Easement to be executed by its duly authorized representative as of the 1 day of November, 2010

WITNESS:

Margaret M. Akelsen

CITY OF PORTLAND

Ellen Sanborn
Ellen Sanborn
Its Finance Director

STATE OF MAINE

COUNTY OF CUMBERLAND, ss.

November 1, 2010

Then personally appeared the above-named Ellen Sanborn in her capacity as Finance Director for the City of Portland, and acknowledged the foregoing instrument to be her free act and deed in her said capacity and the free act and deed of said City of Portland.

Before me,

Barbara J. Brewer
Notary Public
~~Attorney at Law~~
BARBARA J. BREWER

Schedule A

October 7, 2010

DEED DESCRIPTION
FOR
CITY OF PORTLAND, MAINE

2010-029P Riverside Subdivision – Drainage and Shared Access Driveway Easement Across Lot 4

A certain easement situated on the westerly side of Riverside Street in the City of Portland, County of Cumberland and State of Maine, bounded and described as follows:

Beginning at a point on the westerly sideline of Riverside Street at the southeasterly corner of Lot 3 as shown on "Recording Plat Riverside Subdivision City of Portland, Maine Sept. 1, 2010 Owen Haskell, Inc. Job No. 2010-029P";

Thence, S 11° 10' 09" W along the westerly sideline of Riverside Street 60.00 feet to the northeasterly corner of Lot 2 as shown on said plan.

Thence, N 78° 49' 51" W along the northerly line of Lot 2 a distance of 388.53 feet;

Thence, N 11° 10' 09" E across Lot 4 a distance of 60.00 feet to the southerly line of Lot 3;

Thence, S 78° 49' 51" E along the southerly line of lot 3 a distance of 388.53 feet to the westerly sideline of said Riverside Street and the point of beginning.

Said easement contains 23,312 S.F. and is shown as drainage and shared access driveway easement across Lot 4 to benefit Lots 2 and 3.

Received
Recorded Register of Deeds
Nov 16, 2010 11:00:37A
Cumberland County
Pamela E. Lovley

SHARED ACCESS DRIVEWAY MAINTENANCE AGREEMENT
Riverside Subdivision

IN CONSIDERATION OF the Subdivision approval granted by the Planning Board of the City of Portland to a plan entitled Riverside Subdivision dated October 7, 2010 and recorded in the Cumberland County Registry of Deeds in Plan Book 210, Page 352 and the Shared Access Driveway Easement more particularly described in Shared Access Driveway Easement recorded in the Cumberland County Registry of Deeds on October 14, 2010 at Book 210 and Page 352, pursuant to a condition thereof, the City of Portland, a body politic and corporate in Cumberland County, State of Maine, the owner of the subject premises, does hereby agree, for itself, its successors and assigns (the "Owner") as follows:

1. Should Ananta, LLC or future owner of Lot #2 ("Lot # 2 Owner") redevelop its parcel before the development of Lot #4 occurs, it shall be responsible for building so much of the Shared Access Driveway as is required to provide access to Lot 2. The Lot #2 Owner shall also be responsible for the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse, from that portion of the Access Lane depicted on the Plat (the "Shared Access Driveway Easement") used to access Lot 2.

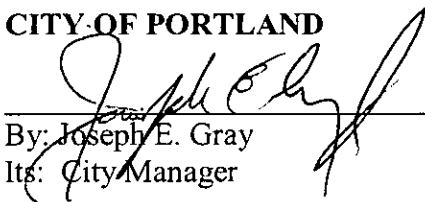
2. Addison Capital LLC, or future owner of Lot # 3 ("Lot # 3 Owner") shall be entitled to access its Lot from the Shared Access Driveway by providing written notice of such election to Lot # 2 Owner and/or Lot # 4 Owner (as defined below) as applicable. Following such election to access its Lot from the Shared Access Driveway, but not before, Lot # 3 Owner shall be responsible for its proportionate share of the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse. Lot # 2 and/or Lot # 4 and Lot # 3 Owners shall arrange and record a reasonable agreement for the maintenance of said Access Easement.

3. Should Lot # 4 be redeveloped before Lot # 2, the Owner of Lot #4 will be responsible for building its Shared Access Driveway. If Lot #2 has already developed a portion of the Shared Access Driveway for its benefit, Lot # 4 shall be responsible for continuing the driveway to its Lot. The Owner of Lot # 4 shall be responsible for the maintenance and repair of, snow removal from, preservation of, and removal of obstructions and encumbrances including but not limited to debris, junked vehicles and other refuse in the Shared Access Driveway which will be shared with Lot # 2 and/or Lot # 3 in a reasonable proportionate share reflecting the length of the Shared Access Driveway used by each Lot and the approximate number of trips made by vehicles to and from each Lot, provided that the owner of each respective Lot shall also be responsible for any damage to or the Shared Access Driveway caused by its use and that of its customers and vendors.

This Agreement shall bind the undersigned only so long as it retains any interest in said premises, and shall run with the land and be binding upon its successors and assigns as their interests may appear, including Lot # 2, Lot # 3 and Lot # 4 Owners.

Dated at Portland, Maine this 15th day of November, 2010.

CITY OF PORTLAND

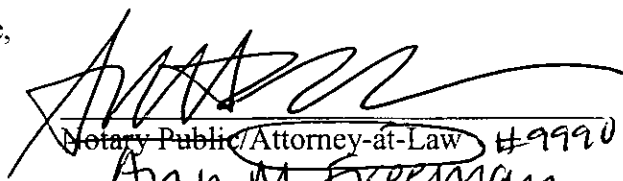

By: Joseph E. Gray
Its: City Manager

State of Maine
Cumberland, ss.

November 15, 2010

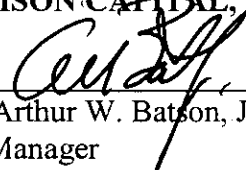
Then personally appeared the above named Joseph E. Gray, City Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of City of Portland.

Before me,


Notary Public/Attorney-at-Law #9990
Ann M. Freeman
(Print or Type Name)

Dated at Portland, Maine this 12th day of November, 2010.

ADDISON CAPITAL, LLC

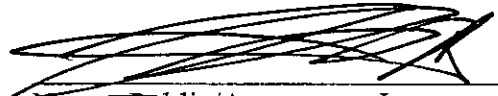

By: Arthur W. Batson, Jr.
Its Manager

State of Maine
Cumberland, ss.

November 12, 2010

Then personally appeared the above named Arthur W. Batson, Jr., Manager, and acknowledged the foregoing instrument to be his free act and deed in his said capacity, and the free act and deed of Addison Capital, LLC.

Before me,


Notary Public/Attorney-at-Law
Richard N. Boyant, Esq.
(Print or Type Name)

Dated at Portland, Maine this 15th day of November, 2010.

ANANTA, LLC

Suzan Elichaa

By: Suzan Elichaa

Its

State of Maine
Cumberland, ss.

November 15th, 2010

Then personally appeared the above named Suzan Elichaa, Manager, and acknowledged the foregoing instrument to be her free act and deed in her said capacity, and the free act and deed of Ananta, LLC.

Before me,

[Signature]

Notary Public/Attorney-at-Law

Jonathan T. Harris

(Print or Type Name)

O:\OFFICE\ANN\ECO DEVO\Riverside Subdivision\Access Maintenance Agreement Riverside 10 12 10.doc

Received
Recorded Register of Deeds
Nov 16, 2010 11:01:32A
Cumberland County
Pamela E. Lovley

3. TECHNICAL AND FINANCIAL CAPACITY

Att. D

3.1 TECHNICAL CAPACITY

The applicant has retained a highly qualified team of professionals to undertake planning, permitting and design tasks on this project. Services will be provided by the following companies and their respective team leaders:

3.2 CONSULTANT TEAM

<i>Civil Engineer</i>	Bo Kennedy, P.E. Stantec 778 Main Street, Suite 8 South Portland, ME 04106 (207) 775-1121 – Work (207) 879-0896 – Fax (207) 318-8364 – Cell bo.kennedy@stantec.com
<i>Surveyor</i>	Charlie Marchese Sebago Technics Inc. 75 John Roberts Road #1A South Portland, ME 04106 (207) 200.2100 – Work (207) 856-2206 – Fax cmarchese@sebagotechnics.com
<i>Architect</i>	Tom Anuszewski Sheridan Corporation 739 Warren Ave Portland, ME 04103 (207) 774-6138 – Work tanuszewski@sheridancorp.com
<i>Geotechnical Engineer</i>	William Peterlein P.E. Summit Geoengineering Services 145 Lisbon Street, Suite 601 Lewiston, ME 04240 (207) 576-3313 – Work bpeterlein@summitgeoeng.com

3.3 EXPERIENCE OF PROJECT TEAM

All members of the project team have significant expertise and experience in similar projects. Resumes for key personnel can be provided upon request.

3.4 FINANCIAL CAPACITY

The applicant has adequate financial resources to undertake this project, as evidenced by the letter of support from Androscoggin Savings Bank. This is included as Attachment E.

3.5 CONSTRUCTION COST ESTIMATE

A breakdown of the preliminary project construction cost estimate includes the following:

Site Work	\$ 500,000
Building	<u>\$1,520,000</u>
Total Construction Cost	\$2,020,000

3.6 ATTACHMENTS

Attachment E – Letter of Financial Capacity

ATTACHMENT E

Letter of Financial Capacity

AndroscogginBank

October 13, 2015

Christine Grimando, AICP
Senior Planner
Planning & Urban Development Department
389 Congress Street
Portland, Maine 04101

Ms. Grimando,

It is my pleasure to write to you on behalf of Forefront Partners I, LP.

The developers have been clients of the bank for many years.

They have a proven track record of successful real estate development and commercial real estate management.

They have the experience, skill, financial resources, and the wherewithal to bring Thompson's Point to fruition and make it an ongoing success.

Thank you and best regards,

Chris DeMerchant



Vice President
Androscoggin Bank
649 Turner Street, Suite 300
Auburn, ME 04210



4. UTILITIES

Att. E

The following information is made in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(7).

4.1 OVERVIEW

There are existing electrical, water, sewer, and gas mains located in Riverside Street; however, services do not exist for the proposed parcel. The adjacent properties are fed from existing services with-in the street. These services will need to be connected to the mains to serve the new proposed uses. The Development Team has contacted all governing utility agencies and companies and will continue to coordinate the provision of new or updated services as required throughout the design and construction phases of the project. The following sections outline current conditions and anticipated improvements associated with each system.

4.2 WATER SUPPLY

There are three proposed buildings which will require a domestic water service and one building which will require a fire service. A single 2" domestic service will be tapped off from a 6" fire service tapping sleeve and valve in Riverside Street. The 2" service will require a small meter pit at the ROW line due to the length of services. A domestic feed to each building will branch off from the 2" service. A new fire service will be required to support sprinkler systems in the propane storage dock only. The size and locations of the new services will be confirmed once the detailed plumbing needs of each building can be assessed.

4.2.1 Total Project Water Usage

A preliminary estimate of project water use has been undertaken using commonly accepted daily water demand criteria:

Office Building	Design Flow
Office Use 7,300 SF @ 1 employee/175 SF 72 Employees @ 12 gpd/Employee	504 gpd
Office Building	504 gpd

Garage Building	Design Flow
Office Use 1,044 SF @ 1 employee/175 SF 6 Employees @ 12 gpd/Employee	72 gpd
Garage Building	72 gpd

TOTAL ESTIMATED DEMAND	576 gpd
-------------------------------	----------------

4.3 WASTEWATER DISPOSAL

New sewer services will be provided to both office buildings. The storage building will not have a sanitary service because the water used is for makeup water with-in the heating system boiler and will not have plumbed fixtures. The services will be combined into a single 8" sanitary gravity line connected to the main in Riverside Street via drop manhole.

4.4 NATURAL GAS SUPPLY

There is believed to be a high pressure gas main located in Riverside Street. The applicant does not propose a new gas supply service at this time. On-site propane storage tanks will be used for heating and supplemented with electric heaters.

4.5 ELECTRICITY SUPPLY

Stantec has contacted Central Maine Power Company (CMP) regarding their ability to provide service to the site. CMP currently maintains overhead utilities in the area. The current proposal is to extend an overhead service parallel with the new access road to a new riser pole. A new underground service will extend from the riser pole to a pad mounted transformer and distributed to the buildings. The proposed locations of the underground services and building entrances are shown on the site plans. The applicant will continue to coordinate provision of power to the redeveloped site with CMP.

4.6 ATTACHMENTS

Attachment F– Correspondence with Utilities

ATTACHMENT F

Correspondence with Utilities



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Ms. Glissen Havu, Means Coordinator

Portland Water District
225 Douglass Street
PO Box 3553
Portland, Maine 04104-3553

**Subject: 636 Riverside Street
Suburban Propane Building
Water and Sanitary Sewer Capacity Application**

Dear Glissen:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on the Suburban Propane Commercial Building project at 636 Riverside Street in Portland. The project site is located on Map 322/Block A003/Lot 1 according to the City of Portland Tax Assessor's Maps. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the district's water system.

Based on mapping provided by the Portland Water District on July, 30 2014 the site will require tapping into the existing 12" Cast Iron main in Riverside Street. The mapping provided by PWD did show existing mains, services to abutting properties, and Hydrant locations; however, did not include any fire flow testing for applicable hydrants. Our office is requesting fire flow information and pressure data for the main in this area.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The projected water use using the typical City of Portland flows information is as follows:

Use	Design Flow
Small Office Spaces (8,402 SF) = 48 Employees (1 Employee/175 SF) @ 12 gpd/employee	576 GPD



Ms. Glissen Havu
January 22, 2016
Page 2

Based on this modest amount of flow, we trust that the existing water and wastewater collection system has adequate capacity to serve this project. We are in the process of completing a Final Level III Site Plan Application for a submission to the City Planning Staff and would appreciate your response to the Planning Department.

The property is currently undeveloped so there is no historic wastewater generation for this portion of the site.

As shown on the enclosed Utility Plan the applicant will install a 6" fire service line and a small water meter pit for a two inch domestic service. The domestic service will tap into the new 6" dia. fire service line at the property line.

Sanitary sewer will be collected and enter into the existing 12" dia. sanitary sewer main in Riverside Street via an 8" gravity sewer service. Stantec requests that the PWD provides the applicant with a preferred connection type (i.e. wye service or in-line sanitary sewer manhole). Currently, the applicant proposes to install a drop manhole in Riverside Street.

If you have any questions concerning this request, please contact me.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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ABS.docx



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. David Margolis-Pineo

City of Portland
Department of Public Services
55 Portland Street
Portland, Maine 04101-2991

**Subject: 636 Riverside Street
Suburban Propane Building
Wastewater Capacity Application**

Dear Mr. Margolis-Pineo:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on the Suburban Propane Commercial Building project at 636 Riverside Street in Portland. The project site is located on Map 322/Block A003/Lot 1 according to the City of Portland Tax Assessor's Maps. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the municipal wastewater treatment system.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The projected water use using the typical City of Portland flows information is as follows:

Use	Design Flow
Small Office Spaces (8,402 SF) = 48 Employees (1 Employee/175 SF) @ 12 gpd/employee	576 GPD

The property is currently undeveloped so there is no historic wastewater generation for the site.

Based on this modest amount of flow, we trust that the existing wastewater collection and treatment system has adequate capacity to serve this project. We are in the



Mr. David Margolis-Pineo
January 22, 2016
Page 2

process of completing a Final Level III Site Plan Application for a submission to the City Planning Staff and would appreciate your response to the Planning Department.

Sanitary sewer will be collected and enter into the existing 12" dia. sanitary sewer main in Riverside Street via an 8" gravity sewer service. Stantec requests that the City provides the applicant with a preferred connection type (i.e. wye service or in-line sanitary sewer manhole). Currently, the applicant proposes to install a drop manhole in Riverside Street.

If you have any questions concerning this request, please contact me.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

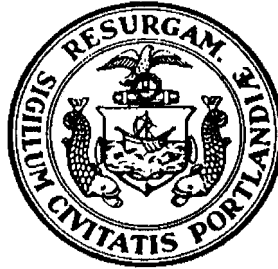
Attachments: Sheet 5.0 – Utility Plan
Sheet 9.0 – Sanitary Sewer Profiles
Wastewater Application

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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CITY OF PORTLAND WASTEWATER CAPACITY APPLICATION

Department of Public Services,
55 Portland Street,
Portland, Maine 04101-2991



Mr. Frank J. Brancely,
Senior Engineering Technician,
Phone #: (207) 874-8832,
Fax #: (207) 874-8852,
E-mail: fjb@portlandmaine.gov

Date: January 22, 2016

1. Please, Submit Utility, Site, and Locus Plans.

Site Address: 636 Riverside Street - Portland, Maine 04102

Chart Block Lot Number: 332/A003/1

Proposed Use: Suburban Propane Building

Previous Use: Vacant Lot

Existing Sanitary Flows: 0 GPD

Existing Process Flows: 0 GPD

Description and location of City sewer that is to receive
the proposed building sewer lateral.

Behind Lucas Tree building located at 636 Riverside Street

Site Category
Commercial (see part 4 below)
Industrial (complete part 5 below)
Governmental
Residential
Other (specify) - Office

X

(Clearly, indicate the proposed connections, on the submitted plans)

2. Please, Submit Contact Information.

City Planner's Name: _____ Phone: _____

Owner/Developer Name: Chris Thompson Parallax Partners (dba Thompson's Point Development Co. Inc.)

Owner/Developer Address: 501 Danforth Street - Portland, ME 04102

Phone: 207-747-5288 Fax: 207-747-5941 E-mail: parallaxpartners@gmail.com

Engineering Consultant Name: Bo E. Kennedy, P.E. - FST

Engineering Consultant Address: 778 Main Street, Suite 8 - So. Portland, ME 04106

Phone: 207-775-1121 Fax: 207-879-0896 E-mail: bkennedy@fstinc.com

***(Note: Consultants and Developers should allow +/- 15 days, for capacity status,
prior to Planning Board Review)***

3. Please, Submit Domestic Wastewater Design Flow Calculations.

Estimated Domestic Wastewater Flow Generated: 576 GPD

Peaking Factor/ Peak Times: 3.2 gallon/min. (office hours)

Specify the source of design guidelines: (i.e. "Handbook of Subsurface Wastewater Disposal in Maine,"
"Plumbers and Pipe Fitters Calculation Manual," Portland Water District Records, Other (specify)

***(Note: Please submit calculations showing the derivation of your design flows,
either on the following page, in the space provided, or attached, as a separate sheet)***

4. Please, Submit External Grease Interceptor Calculations.

Total Drainage Fixture Unit (DFU) Values:

N/A

Size of External Grease Interceptor:

Retention Time:

Peaking Factor/ Peak Times:

(Note: In determining your restaurant process water flows, and the size of your external grease interceptor, please use The Uniform Plumbing Code. Note: In determining the retention time, sixty (60) minutes is the minimum retention time. Note: Please submit detailed calculations showing the derivation of your restaurant process water design flows, and please submit detailed calculations showing the derivation of the size of your external grease interceptor, either in the space provided below, or attached, as a separate sheet)

5. Please, Submit Industrial Process Wastewater Flow Calculations

Estimated Industrial Process Wastewater Flows Generated:

GPD

Do you currently hold Federal or State discharge permits?

Yes No

Is the process wastewater termed categorical under CFR 40?

Yes No

OSHA Standard Industrial Code (SIC):

<http://www.osha.gov/oshstats/sicser.html>

Peaking Factor/Peak Process Times:

(Note: On the submitted plans, please show where the building's domestic sanitary sewer laterals, as well as the building's industrial-commercial process wastewater sewer laterals exits the facility. Also, show where these building sewer laterals enter the city's sewer. Finally, show the location of the wet wells, control manholes, or other access points; and, the locations of filters, strainers, or grease traps)

(Note: Please submit detailed calculations showing the derivation of your design flows, either in the space provided below, or attached, as a separate sheet)

Notes, Comments or Calculation

See attached letter and Utility Plan and Profile for additional information.



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. Jamie Cough

Central Maine Power
162 Canco Road
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Cough:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify CMP's ability to provide power for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

The buildings will include an above ground service extension which will terminate at a riser pole and underground service to a pad mounted transformer. Three Phase power is desired. On behalf of the developer, we are requesting a letter affirming that the proposed project can be served by the CMP supply system. The enclosed Utility Plan shows the proposed service extension.

We trust that the existing power supply system has adequate capacity to serve this project. We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. Jamie Cough
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby CMP infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- CMP engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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ABS.docx

From: [Cough, Jamie](#)
To: [Bo Kennedy](#)
Cc: [Sandi Keef](#)
Subject: CMP Ability To Serve Letter
Date: Monday, January 25, 2016 5:53:24 AM
Attachments: [EDET July 2014.xls](#)
[Easement Information Worksheet.doc](#)
[Standard Easement Sample.pdf](#)
[SP-M157 2016.01.22-Cough-CMP ABS.PDF](#)

6/4/2015

Bo Kennedy
Stantec Consulting Services Inc.
South Portland, Maine 04106
Sent via email to: bkennedy@fstinc.com

RE: Ability to Serve Letter Riverside Street Office/Propane Distribution Center project, Portland, ME.

Dear Mr. Kennedy:

CMP has the ability to serve the proposed project located on Riverside Street in Portland, Maine, in accordance with our CMP Handbook (web link below). We can provide you the desired pad or pole mounted transformers per your request and city approval, in accordance with our CMP Standards Handbook. If you have any questions on the process, or need help in completion of the documents, please feel free to contact me.

New Service Milestones

- Call 1-800-565-3181 to establish a new account and an SAP work order.
- Submit any electronic drawings (PDF (preferred) or DWG files) of the site layout and proposed electrical connections if you have them.
- Submit load information. Please complete this CMP spreadsheet using load information
- Submit the easement information worksheet. Please complete this CMP form and either email or fax back to us.
- Preliminary meetings with CMP to determine the details of job
- Field planner design appointment to cost out job and develop CMP Invoice.
- Submit invoice for payment.
- Easements signed and payment received.
- Job scheduled for completion after the electrical inspection has been received.

This process can take several months, depending upon several factors including transformer delivery, potential substation upgrades, return of completed paperwork, and other jobs in the system that may be ahead of yours. In addition, contact with the other utilities, including telephone and cable, should be commenced as soon as practical. They may have additional work or charges in addition to the CMP work required to bring your project on line.

For your convenience, here is a link to the CMP Website which contains our Handbook with details on most service requirements:

[CMP Handbook of Standard Requirements](http://www.cmpco.com/MediaLibrary/3/6/Content%20Management/YourAccount/PDFs%20and%20Docs/handbook.pdf)

(<http://www.cmpco.com/MediaLibrary/3/6/Content%20Management/YourAccount/PDFs%20and%20Docs/handbook.pdf>)

If you have any questions, please contact me.

Regards,

Jamie

Jamie Cough
Energy Services Advisor
Central Maine Power Company
162 Canco Road
Portland, ME 04103
207-842-2367 office
207-458-0382 cell
207-626-4082 fax



Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. John Caprio

Fairpoint Communications
Engineering Dept.
5 Davis Farm Road
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Caprio:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Fairpoint Communication's ability to provide telephone service for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. John Caprio
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby Fairpoint infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- Fairpoint engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Mr. Mark Pelletier

Time Warner Cable
118 Johnson Road
Portland, Maine 04102

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Pelletier:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Time Warner Cable's ability to provide cable service for the project and determine any impact fees. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of site conditions.

We look forward to your review of this request and a summary of your findings and any updated cost projections for the project you may be able to provide.



Mr. Mark Pelletier
January 22, 2016
Page 2

Please include in your assessment any costs that could be associated with the following:

- Upgrades to nearby Time Warner Cable infrastructure
- All onsite overhead and underground improvements
- Impact fees or connection fees
- Time Warner Cable engineering costs

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

Attachment: Sheet 5.0 – Utility Plan

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

P:\ME\SP-M157-Suburban Propane Relocation\Admin\Correspondence Out\Utilities\SP-M157 2016.01.22-Pelletier-Time Warner.docx

From: [Rogers, Jamie](#)
To: [Sandi Keef](#); [Bo Kennedy](#)
Cc: [Pelletier, Mark](#)
Subject: TWC
Date: Monday, January 25, 2016 9:45:04 AM

Hello, I'm sending this E-mail on Marks behalf. TWC can provide coax and or fiber to this establishment for services.

Please contact Mark for any Impact Fees.

Mark Pelletier's contact Info:

TWC Construction Coordinator

PHONE:207-253-2324

FAX:207-253-2280

Time Warner Cable

118 Johnson Road

Portland, Maine 04102

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Stantec Consulting Services Inc.

778 Main Street Suite 8, South Portland ME 04106-5447



February 26, 2016

Mr. Joe Renda

Unitil
1075 Forest Avenue
Portland, Maine 04103

**Subject: Office/Propane Distribution Center
Riverside Street, Portland, Maine
Request for Ability to Serve Letter**

Dear Mr. Renda:

Our office is working as a consultant to Thompson's Point Development Co. Inc. on a proposed office and propane distribution building for Suburban Propane on Riverside Street in Portland. We would like to verify Unitil's presence in the project vicinity. The project site is located on Map 322/Lot A-1 and Map 323/Lots A-3 & A-5; according to the City of Portland Tax Assessor's Maps. The proposed lot is part of an amended subdivision application for a City owned parcel adjacent to the existing Lucas Tree facility.

The project will consist of the development of a 7,300 SF Office Building; 1,102 SF Garage with supporting office space (1,044 SF) and a 4,000 SF storage dock with open air walls. The new facility is intended to replicate the existing Suburban Propane site currently located on Thompson's Point. Suburban Propane will consolidate offices from other areas into the new expanded office space.

We are in the process of completing the Final Site Plan Application for a submission to the City Planning Staff and we would appreciate your confirmation of gas main within Riverside Street.

We look forward to your review of this request and a summary of your findings. Please include any cost projections or special requirements for working in close proximity to the existing Unitil gas main.



Mr. Joe Renda
February 26, 2016
Page 2

If you have any questions regarding this letter, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bo.kennedy@stantec.com

Attachment: Sheet 5.0 – Utility Plan
Sheet 9.3 – Water Profile

c: Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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5. FIRE SAFETY

Att. F

5.1 OVERVIEW

Stantec has completed the Fire Department checklist and will continue to perform ongoing coordination with Fire Department representatives and City Planning officials. The accompanying memorandum outlines our findings with respect to compliance with the City's Public Safety Standards as set forth in the City's Technical Manual, Section 3 – Public Safety Standards.

Generally, the site provides access from the adjacent street (Riverside Street) and will allow access to two or more sides of each building. There is an existing fire hydrant on Riverside Street approximately 737 ft. from the closest building. A private hydrant is proposed on the site, approximately 30 ft. from the office building. The propane cylinder storage building will be sprinkled and all buildings will be code compliant to current applicable standards.

Additional fire safety review and evidence of building related fire code compliance will be provided as part of the Building Permit process.

5.2 ATTACHMENTS

Attachment G – Portland Fire Department Site Review Checklist & NFPA 1 Review

ATTACHMENT G

Portland Fire Department Site Review Checklist & NFPA 1 Review



Stantec Consulting Services Inc.
778 Main Street Suite 8, South Portland ME 04106-5447



January 22, 2016

Keith Gautreau, Assistant Chief
City of Portland Fire Department
380 Congress Street
Portland, Maine 04101

Subject: Suburban Propane Building
636 Riverside Street, Portland, Maine
Fire Department Site Review Checklist

Dear Assistant Chief Gautreau:

In accordance with instructions in the City's Level III Site Plan Review packet, please find enclosed the drawings necessary for your review of the proposed amended project. We have listed each item in your checklist below, followed by our response.

1. Name, address, telephone number of applicant.

Thompson's Point Development Co. Inc.
Attn: Chris Thompson
501 Danforth Street
Portland, Maine 04102
207-747-5288

2. Name, address, telephone number of architect.

Project Architect/Builder:
Sheridan Corporation
739 Warren Avenue
Portland, ME 04937

3. Proposed uses of any structures (NFPA and IBC classification).

Building	IBC Code	NFPA Code
Office Building	B – Business	Business
Garage and Office Building	S-1 – Storage & B – Business	Storage & Business
Cylinder Storage Dock	H-2 – High Hazard Group	High Hazard Storage

* Systems designed to meet NFPA



Keith Gautreau, Assistant Chief
January 22, 2016
Page 2

4. *Square footage of all structures (total and per story).*

Building	Footprint Area (SF)
Office Building	7,300
Garage and Office Building	2,146
Cylinder Storage Dock	4,000

5. *Elevation of all structures.*

The building finish floor elevations will be as follows:

Building	Finished Floor Elevation	Building Height (FT)
Office Building	67.2	15
Garage and Office Building	68.2	16
Cylinder Storage Dock	74.0	17

The conceptual Building Elevations are enclosed with this letter.

6. *Proposed fire protection of all structures.*

The proposed cylinder building storage will have a domestic water supply and will be sprinkled from a 6" fire service line. The office and garage building will have a 2" domestic water supply as well as multiple fire extinguishers provided in the building. The office and garage buildings will be in close proximity to a new hydrant. Please find the enclosed utility plan showing the fire water service for your review.

7. *Hydrant locations.*

A fire hydrant is currently located on Riverside Street 138 ft. to the north of the intersection of Riverside Street and Waldron Drive. The distance to the hydrant from the proposed buildings is approximately 737 ft. The applicant proposes a new private hydrant approximately 30 ft. from the office building and 70 ft. from the garage.

8. *Water main(s) size and location.*

According to the Portland Water District records, they maintain a 12" cast iron water main in Riverside Street. The proposed Development proposes a 6" fire sprinkler line is connected and extended to the site.

9. *Access to all structures (min. 2 sides).*

All structures will be accessible from all four sides.



Keith Gautreau, Assistant Chief
January 22, 2016
Page 3

10. A code summary shall be included referencing NFPA 1 and all fire department technical standards.

NFPA 1 – Chapter 18 Fire Department Access and Water Supply

18.2 Fire Department Access:

The project site is accessed via a 24 ft. wide shared access road approximately 409 ft. long. The buildings are located within a fenced and motorized gate area. The site plan provides for two 22 ft. wide gates and access to a gravel yard area (approximately 203' X 240') with ample room for fire trucks to maneuver and turn around.

Additionally, Fire Truck and Public safety vehicles have access to the non-gated paved parking area with 24' access drives.

Per NFPA 1 – Chapter 18.2.3.2.2.1, all first story floors shall be located not more than 450 ft. from a Fire Department access road.

City of Portland Technical Manual – Section 3 Public Safety

3.4.1 Every dead-end roadway more than one hundred fifty (150') feet in length shall provide a turnaround at the closed end. Turnarounds shall be designed to facilitate future street connectivity and shall always be designed to the right (refer to Figure I-5).

Supporting Evidence: Shared access drive is 409' in length. Turn-around access is provided in the proposed gravel yard or the public accessed parking area. The enclosed Figure AT-1 shows fire vehicle apparatus maneuvering around the site using AutoTurn CAD software.

3.4.2 Where possible, developments shall provide access for Fire Department vehicles to at least two sides of all structures. Access may be from streets, access roads, emergency access lanes, or parking areas.

Supporting Evidence: The Site Plan includes an access drive that circles the building and will provide four sided access to the building.

3.4.3 Building setbacks, where required by zoning, shall be adequate to allow for emergency vehicle access and related emergency response activities and shall be evaluated based on the following factors:

- *Building Height.*
- *Building Occupancy.*



Keith Gautreau, Assistant Chief
January 22, 2016
Page 4

- *Construction Type.*
- *Impediments to the Structures.*
- *Safety Features Provided.*

Supporting Evidence: The proposed building addition and existing building will be fully accessible to emergency equipment.

3.4.4. Fire Dept. access roads shall extend to within 50' of an exterior door providing access to the interior of the structure.

Supporting Evidence: The access drive will allow an emergency vehicle to pull within 0' of the structure.

3.4.5. Site access shall provide a minimum of nine (9) feet clearance height to accommodate ambulance access.

Supporting Evidence: There are no vertical obstructions for the proposed building addition.

3.4.6. Elevators shall be sized to accommodate an 80 x 24 inch stretcher.

Supporting Evidence: Not Applicable.

3.4.7. All structures are required to display the assigned street number. Numbers shall be clearly visible from the public right of way.

Supporting Evidence: The street number will be displayed on the building and/or street signage (submitted under separate application).

If you need any further information regarding this review, please contact our office.

Regards,

STANTEC CONSULTING SERVICES INC.

Bo E. Kennedy, P.E.
Senior Civil Engineer
Phone: 207-775-1121
Fax: 207-879-0896
bkennedy@fstinc.com

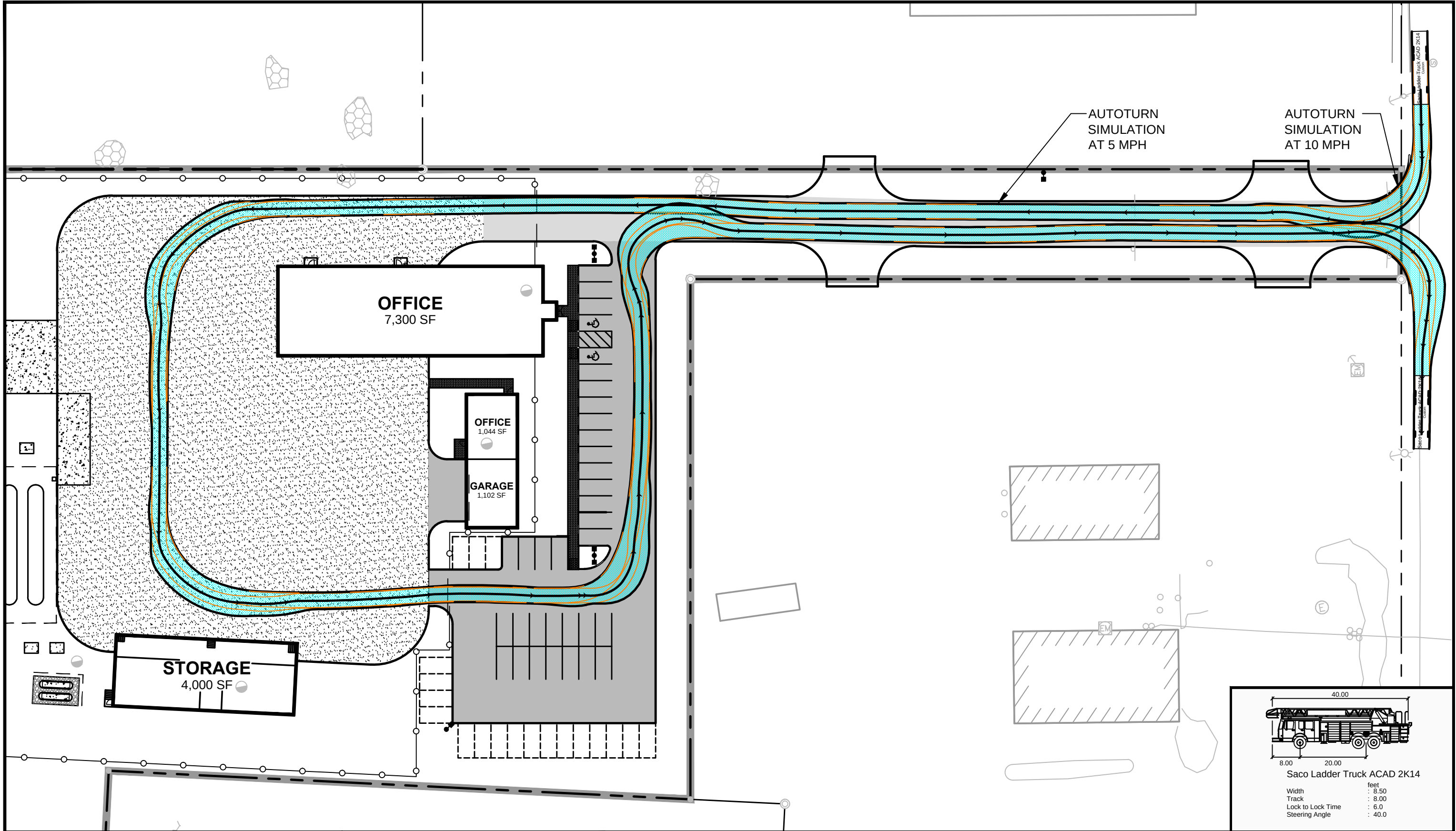


Keith Gautreau, Assistant Chief
January 22, 2016
Page 5

Attachments: Figure AT-1
Sheet 5.0 – Utility Plan

c: Captain David Petruccelli, Fire Department (via email)
Chris Thompson, Thompson's Point Development Co. Inc.
Tom Anuszewski, Sheridan Corp.

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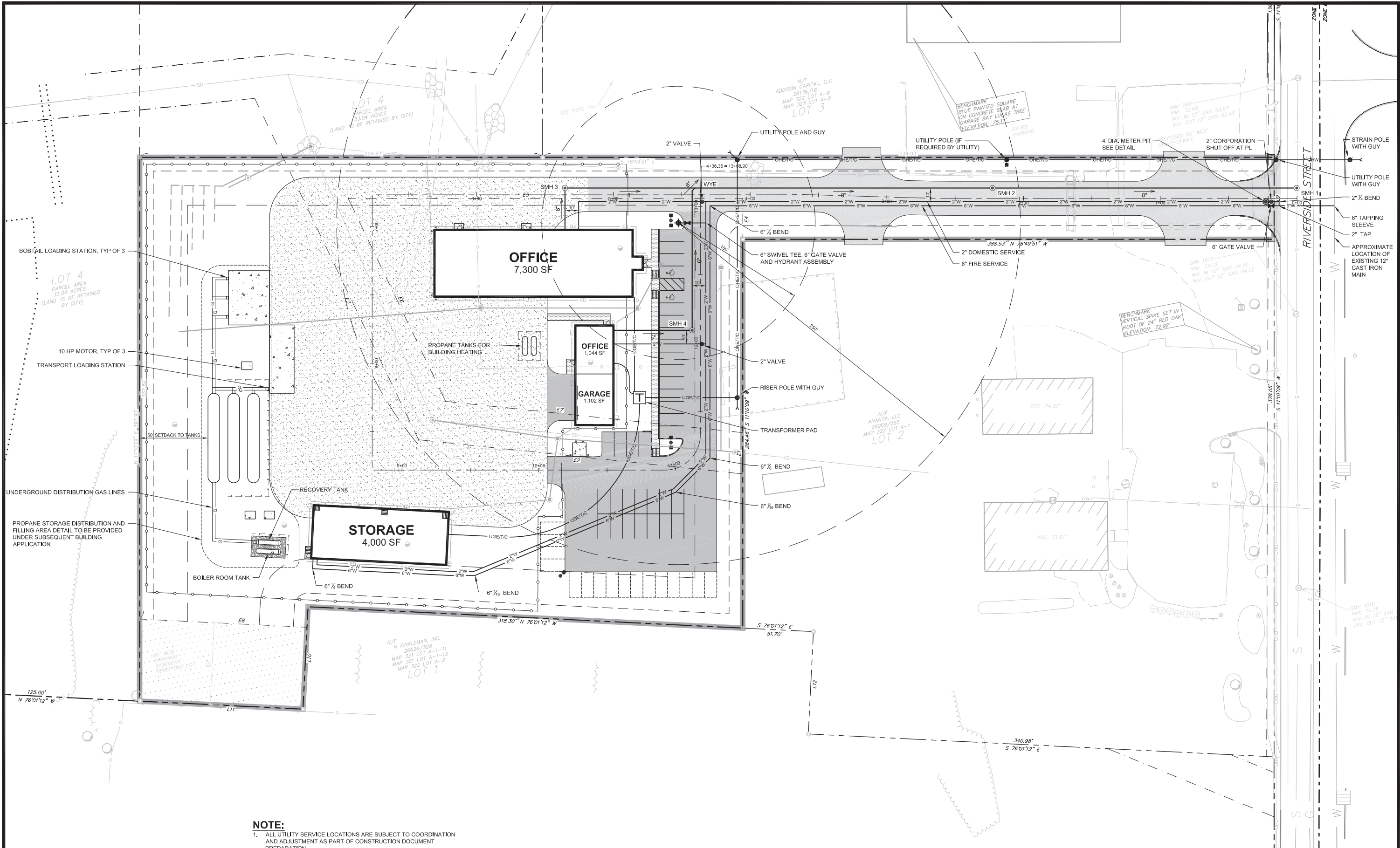
FAY, SPOFFORD & THORNDIKE
ENGINEERS • PLANNERS • SCIENTISTS
778 MAIN ST, SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN:	ARF	DATE:	2016.01.11
DESIGNED:	BEK	SCALE:	1"=50'
CHECKED:	BEK	JOB NO.	SP-M157
FILE NAME:	SP-M157.DWG		

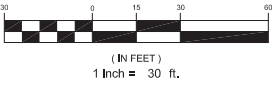
SUBURBAN PROPANE
RELOCATION PROJECT

AT-SIMULATION
LADDER TRUCK

FIGURE
AT-1



NOTE:
1. ALL UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION AND ADJUSTMENT AS PART OF CONSTRUCTION DOCUMENT PREPARATION.



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT SUBURBAN PROPANE RELOCATION			STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
SHEET TITLE UTILITY PLAN				
CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.			DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 UTILITY	DATE: JAN 2016 SCALE: 1" = 30' JOB NO. 195350142
REV 1 01.22.16 SUBMITTED TO OWNER FOR REVIEW			P.E. BO KENNEDY LIC. # 11994	SHEET C-5.0

6. CONSTRUCTION MANAGEMENT PLAN

The following information is provided in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(1).

6.1 CONSTRUCTION MANAGEMENT PLAN

Thompson's Point Development Company is seeking to commence construction during the fall of 2016 and complete work by the fall of 2017. The construction will involve site preparation, site work, and building construction. The attached Construction Management Plan outlines the anticipated timeline and sequence of activities.

6.2 ATTACHMENTS

Attachment H – Construction Management Plan

ATTACHMENT H

Construction Management Plan



The Sheridan Corporation

739 Warren Ave. Portland, ME 04103

Phone (207)774-6138

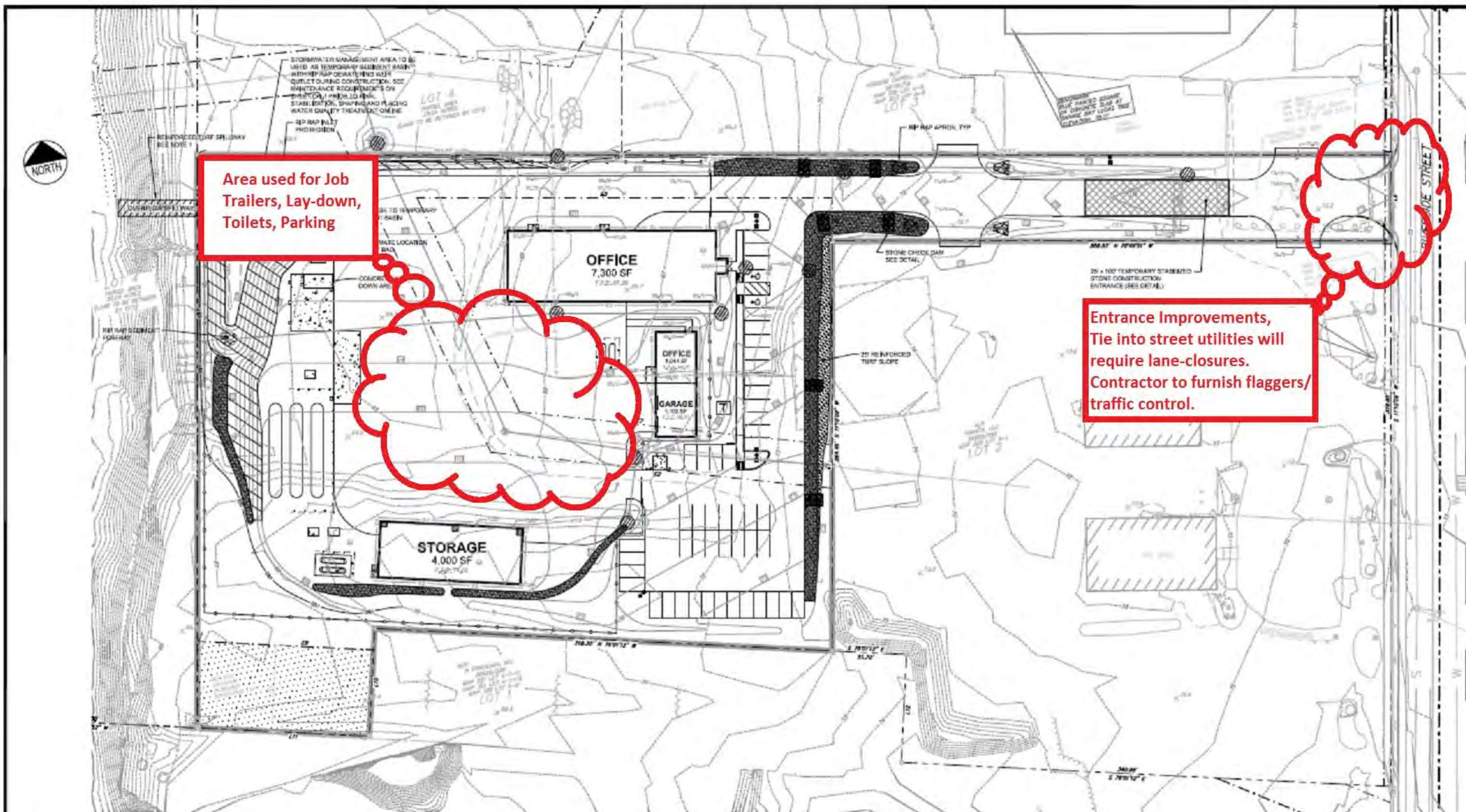
Fax (207)774-2885

www.sheridancorp.com

CONSTRUCTION MANAGEMENT PLAN
For
SUBURBAN PROPANE RELOCATION

February 1, 2016

- Construction to be managed on site by full time superintendent
- Construction time estimated at 8 months duration
- Temporary project sign to be installed at new entrance
- All materials to be delivered via new access drive
- Temporary power to utilize new power poles required for permanent power to site, located along new access drive
- See attached Site plan with annotated areas:
 - Interior yard area to be utilized for:
 1. temporary job office and storage trailers
 2. parking
 3. dumpsters
 4. temporary toilets
 5. material lay-down
 6. crane use during steel erection
 - Entrance improvements at Riverside Street and in-street utility tie-ins will require temporary lane closures
 1. Contractor to furnish flaggers / traffic control
 2. Contractor to coordinate activities with City of Portland and Portland Water District



7. SOLID WASTE

Att. H

The following information is made in accordance with the City of Portland Code of Ordinances Chapter 14 Land Use, Section 14-527(g)(8).

7.1 OVERVIEW

This section provides estimates of solid waste generation during construction and operation of the finished project. Procedures for the transport and disposal of generated wastes are described, as are measures to reduce waste loads through reuse and recycling.

The project will generate the following estimated volumes of solid waste during construction and operation:

- 147 cubic yards of waste asphalt material associated with existing pavement areas.
- 1,170 cubic yards of grubblings from existing vegetated areas.
- 500 cubic yards of construction and demolition debris (CDD) associated with new construction work (excluding recycled materials).
- 1 cubic yard of municipal solid waste (MSW) per week during operation of the office uses and an additional 1 cubic yard of recyclable materials.

7.2 SOLID WASTE GENERATED DURING THE CONSTRUCTION OF THE SITE

Demolition debris is not anticipated to be generated during the project. Waste generated during ongoing construction activities is estimated to be in the range of 20 cubic yards of mixed debris per week. The project is expected to take approximately 10 months to complete.

7.3 SOLID WASTE GENERATED FROM THE OPERATION OF THE SITE

Waste generated after occupancy is projected to consist of a single dumpster enclosure housing two (2) 4 cubic yard containers (1 to handle regular waste and 1 to handle recycling) which would be shared by all buildings on site. The two of these containers would be picked up one time per week. A small amount of oil waste and other auto repair waste elements will be properly managed, stored and disposed inside of the garage.

7.4 FLUORESCENT LIGHTS AND FIXTURES

The developer may use fluorescent light bulbs that do not have PCB ballasts. The electrical switches for the project will be specified to not contain mercury. Fluorescent bulbs and other universal wastes will be taken to Riverside Recycling Facility in Portland.

7.5 HAZARDOUS AND SPECIAL WASTES

None of the uses proposed at the site are expected to generate hazardous, or special wastes.

7.6 GRIT/SEDIMENT REMOVAL

The applicant will be responsible for the maintenance of the minor storm drain systems on the site. They, or the subsequent owner of the site, will be responsible for the long-term maintenance of the stormwater collection system, the associated structures, and the grassed underdrained soil filter including removal of sediment from catch basin sumps. Potential disposal facilities for these items include Commercial Paving and Recycling (CPRC) in Scarborough, Maine and Dragon Cement in Thomaston, Maine. Materials removed from catch basins will be delivered to CPRC where it will be kiln dried and used as suitable mixing material for asphalt based paving products. Given the limited nature of the on-site storm drainage system the quantities associated with this task are considered insignificant.

8. CONFORMITY WITH APPLICABLE DESIGN STANDARDS

Att. I

The following statement is made in accordance with the City of Portland Code of Ordinances, Chapter 14 Land Use, Article V Section 14-526.

8.1 OVERVIEW

This project conforms with all the applicable design standards of Section 14-526 as demonstrated in the following narrative.

(a) Transportation Standards

1. Impact on Surrounding Street Systems:

The proposed project will be new development with-in an existing industrial park with other relatively low traffic generators. Based on the projected traffic volumes from the proposed uses at the site, the project is not expected to have any significant impact on traffic in the neighborhood.

2. Access and Circulation:

a. Site Access and Circulation.

(i) Access to the site is provided via an existing curb cut onto Riverside Street. A new access drive would be constructed to access the main portion of the site located 400 feet from the main road (Riverside Street). The existing subdivision approval requires that a portion of the access drive, including the costs and maintenance responsibilities associated with same, is shared amongst the two abutters on Lots 2 and 3. The driveway radius would be modified from the current 18 foot radius to 30 feet to accommodate large tractor trailer vehicles. The new access drive would be constructed with two driveway locations for each lot.

(ii) There are no new vehicular access and egress points being constructed as part of this project.

(iii) The site does not feature drive up services as mentioned in this requirement.

(iv) Site access has been designed so as not to impede potential future connection to adjacent streets.

b. Loading and Servicing.

(i) Adequate provisions are made at the site for loading from fuel trucks to service the propane distribution operation. The site provides clear area in front of the solid waste enclosures for servicing and loading vehicles.

c. Sidewalks.

- (i) The project will provide new ADA ramps on Riverside Street to accommodate the new driveway radii. Due to the industrial nature of the site, a pedestrian sidewalk connection from the site to Riverside Street is not required and so one is not proposed. On-site sidewalks are provided for safe access from the parking facility to the access door.

3. Public Transit Access:

- a. The project does not comprise a residential development or a commercial development with greater than 20,000 SF of GFA and therefore is not required to meet this standard.

4. Parking:

a. Location and Required Number of Vehicle Parking Spaces:

- (i) Off-street parking is provided on the site to accommodate the proposed uses. A parking analysis has been performed for the site and indicates that a minimum of twenty-one spaces will be required to serve the proposed uses. The City ordinance has been used as a basis for the parking requirement for the office uses at the site. The applicant proposes 34 parking spaces with provisions for as many as fifty spaces to be constructed in the future if the number of employees grows to a maximum of forty-eight.
- (ii) Traffic Demand Management (TDM) strategies have not been incorporated into the design of the site and adjacent improvements.
- (iii) See above.
- (iv) The parking spaces and aisles meet the applicable dimensions detailed in the Technical Manual.
- (v) All parking lots will be paved. A portion of the site is proposed to be a gravel-aggregate surface.

b. Location and Required Number of Bicycle Parking Spaces:

- (i) Bicycle parking is not provided at this time.

c. Motorcycles and Scooter Parking:

- (i) Specific parking for motorcycle or scooter is not provided. It is expected that motorcycles or scooters would use a typical sized parking stall.

d. Snow Storage:

(i) Snow storage management will employ an onsite storage strategy:

- a. Snow storage along the perimeter of the parking areas and gravel yard area is sufficient for on-site snow storage. Snow storage is sufficient as not to inhibit emergency access or loose parking spaces.

5. Transportation Demand Management (TDM):

- a. A Transportation Demand Management (TDM) Study is not required for the project.

(b) Environmental Quality Standards

1. Preservation of Significant Natural Features:

- a. The site is previously filled, with existing impervious gravel haul roads, and contains no significant natural features.

2. Landscaping and Landscaping Preservation:

a. Landscape Preservation.

- (i) There are no existing landscape features or elements at the site.

b. Site Landscaping.

(i) Landscaped Buffers:

- (a) The solid waste storage and loading area is screened from public view naturally by being located well below the street grade and behind existing development. Per Section 4 of the Technical Manual, the project is not required to provide landscaping in an industrial zone.

- (b) The parking lot is broken up so that pavement is not continuous for 40 spaces.

- (c) Not applicable.

- (d) Not applicable.

(ii) Parking Lot Landscaping:

- a) Formal landscaping is neither required nor proposed. The proposed parking lot will be visually screened from the public ROW due to a significant drop in grade from the main street.

- b) Landscaped islands are provided such that there is no interrupted pavement exceeding forty parking spaces.

- c) The central landscaped island is curbed and twelve feet wide.
- d) Not applicable.

(iii) Street Trees:

- (a) Not Applicable

3. Water Quality, Stormwater Management and Erosion Control:

- a. The project proposes the development of the existing filled industrial site. The property is currently a mix of impervious and overgrown pervious developed area (meadow). Redevelopment of the site will increase the total impervious cover from 1.73 to 2.40, and provide a grassed underdrained soil filter designed to mitigate a portion of the peak rate of runoff, the volume of runoff, and improve water quality from the site under all storm conditions. The stormwater management strategies are detailed in the Stormwater Management Plan included in Attachment D of this application.
 - (i) The site is graded to impede drainage from adjacent lots. The access drive is designed with a shallow drainage swale to intercept flows and drain them away from the development.
 - (ii) There is currently existing storm drainage piping bisecting the proposed site. The existing piping is proposed to be maintained and/or replaced. The development will have a positive impact to abutting lots with runoff draining across the proposed site.
 - (iii) The runoff from the proposed site will be directed to new or existing storm drainage catch basins and piping with the capacity to handle flows. It will not create flooding on adjacent lots.
 - (iv) See above.
- b. The project is a development of an existing partially impervious site, and as such does not cross the threshold required to meet the General Standards under Chapter 500, Stormwater Law (City of Portland Technical Manual, Section 5 – Portland Stormwater Management and Maine DEP Ch. 500, 3 (e)). However, The City of Portland Stormwater rules state that any site eligible for a Level III Site Plan Application is required to meet the General Standards of MeDEP Chapter 500. Therefore, the General Standards have been met for the net increase in impervious cover as described in the attached Stormwater Management Report. The Basic Standards will apply to this project and a detailed Soil Erosion and Sediment Control Plan has been developed to address this and is included as an appendix to the Stormwater Management Plan in Attachment D. The applicant is requesting a waiver from the Flooding Standard because the site is tributary to the Presumpscot River.
- c. Not applicable.
- d. Not applicable.

- e. Post-construction activities at the site do not pose a high risk of groundwater contamination.
- f. The project will be connected to the public sanitary sewer system which is adequately sized for the minimal anticipated project flows.

(c) Public Infrastructure and Community Safety Standards.

1. Consistency with City Master Plans:

- a. The project has been designed to be consistent with the City's Zoning Ordinance and off-site infrastructure plans.
- b. Not applicable.

2. Public Safety and Fire Prevention:

- a. The site has been designed to promote a safe environment. The propane gas storage facility is completely protected with fencing. The parking lot is accessible to the public and has site lighting to create a safe and welcoming parking lot.
- b. The site provides access from the main street for emergency vehicles. Knox boxes will be provided at both motorized gates for access by emergency personnel.
- c. Fire hydrants are located adjacent to the property on Riverside Street and approximately 30 feet from the building. The storage dock/building will be sprinklered.

3. Availability and Adequate Capacity of Public Utilities:

- a. The applicant will secure letters from all applicable utilities stating their ability to serve the site. The project will require new or updated electrical, sewer and water services to the site.
- b. A new electrical service to the site will be aboveground. This is located in an industrial zone and considered to be acceptable.
- c. All new utility infrastructures will meet the provisions of the Technical Manual.
- d. The project will construct a new service connection to the public sewer system in Riverside Street.
- e. All new sewer and stormwater infrastructure will meet City Standards.
- f. Not applicable.

(d) Site Design Standards.

1. Massing, Ventilation and Wind Impact:

- a. The project proposes buildings consistent with others in the area. The project will not result in any significant changes to the wind environment proximate to the site.

- b. The project will not result in any significant impacts to abutting properties.
- c. HVAC venting, if necessary, will be directed through rooftop units and will not impact any adjacent public spaces.
- 2. Shadows:
 - a. Shadows casting from the proposed buildings will not have an adverse impact on the adjacent parcels.
- 3. Snow and Ice Loading:
 - a. The building renovations will be designed in such a way that accumulated snow does not impact adjacent properties or public ways.
- 4. View Corridors:
 - a. Not Applicable
- 5. Historic Resources:
 - a. The project is not located in a historic district, historic landscape district, or City designated landmark.
 - b. The project is not located adjacent to, or within 100 ft. of, an historic district, historic landscape district, or City designated landmark.
 - c. There are no historical or archaeological resources on the project site.
- 6. Exterior Lighting:
 - a. Site Lighting
 - (i) All new exterior lighting at the site will be full cutoff with no light emitted above the horizontal plane, and in accordance with Section 12 of the Technical Manual. A photometric lighting plan has been developed demonstrating illumination levels throughout the site. Proposed lighting cut sheets are shown on Sheet P-1.0 – Photometrics Plan.
- 7. Noise and Vibration:
 - a. Project noise levels will be designed to meet the permitted standards within the zone. HVAC units may be located on the roofs of the buildings. Equipment cut sheets can be provided upon request.
- 8. Signage and Wayfinding:
 - a. All street and wayfinding signage shall meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.

- (i) The project is not located in a historic district or subject to Article IX.
 - (ii) Proposed commercial signage has not yet been designed for the site and will be subject to a condition of approval.
 - (iii) All street and wayfinding signage is designed to meet the requirements of the Manual on Uniform Traffic Devices (MUTCD) and Division 22 of the City Code.
9. Zoning Related Design Standards:
- a. The project is located in an Industrial Zone and these standards do not apply.

9. ELEVATIONS AND FLOOR PLAN

Att. J

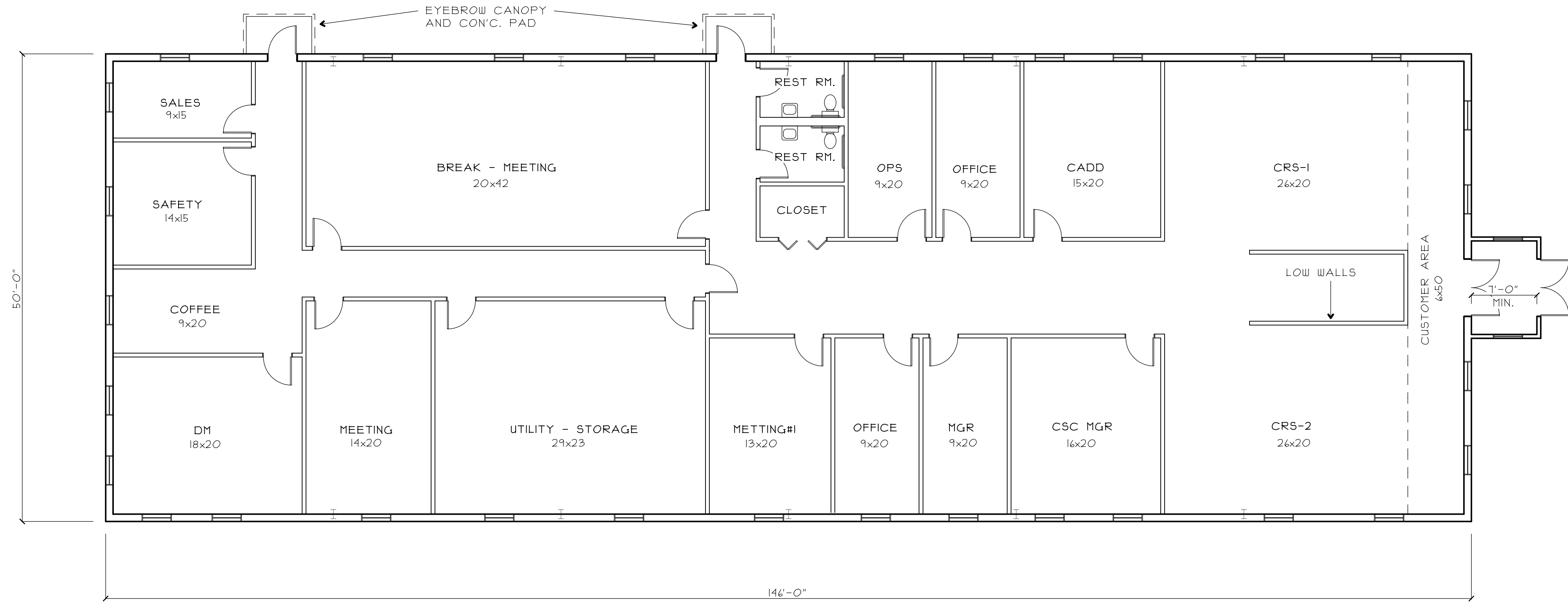
The attached elevations and floor plans have been prepared by Sheridan Corp. for this project.

9.1 ATTACHMENTS

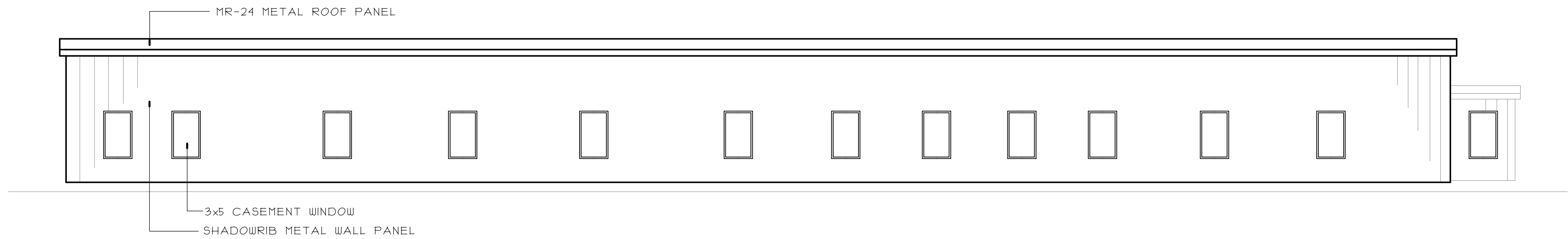
Attachment I – Architectural Elevations and Floor Plan

ATTACHMENT I

Architectural Elevations and Floor Plans



FLOOR PLAN



SIDE ELEVATION

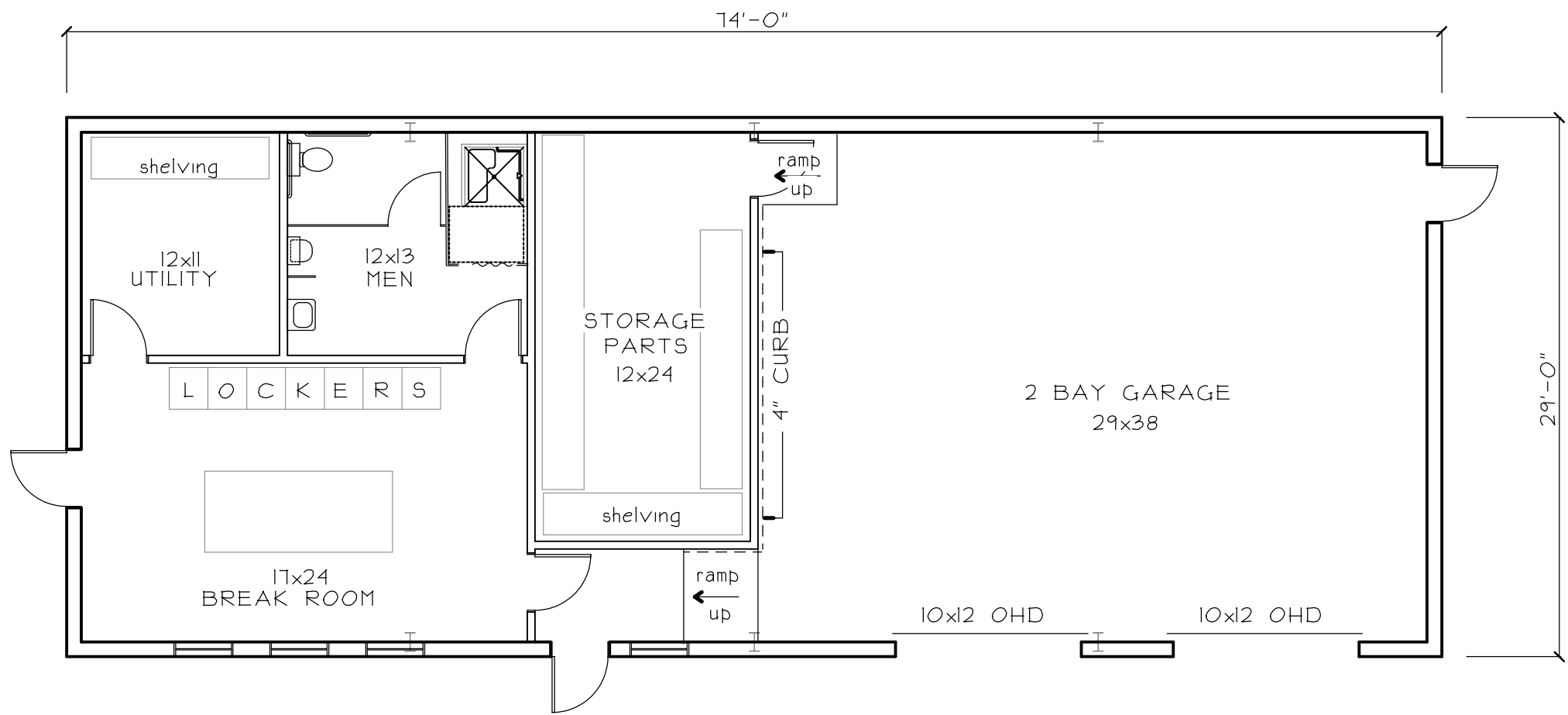


FRONT ELEVATION

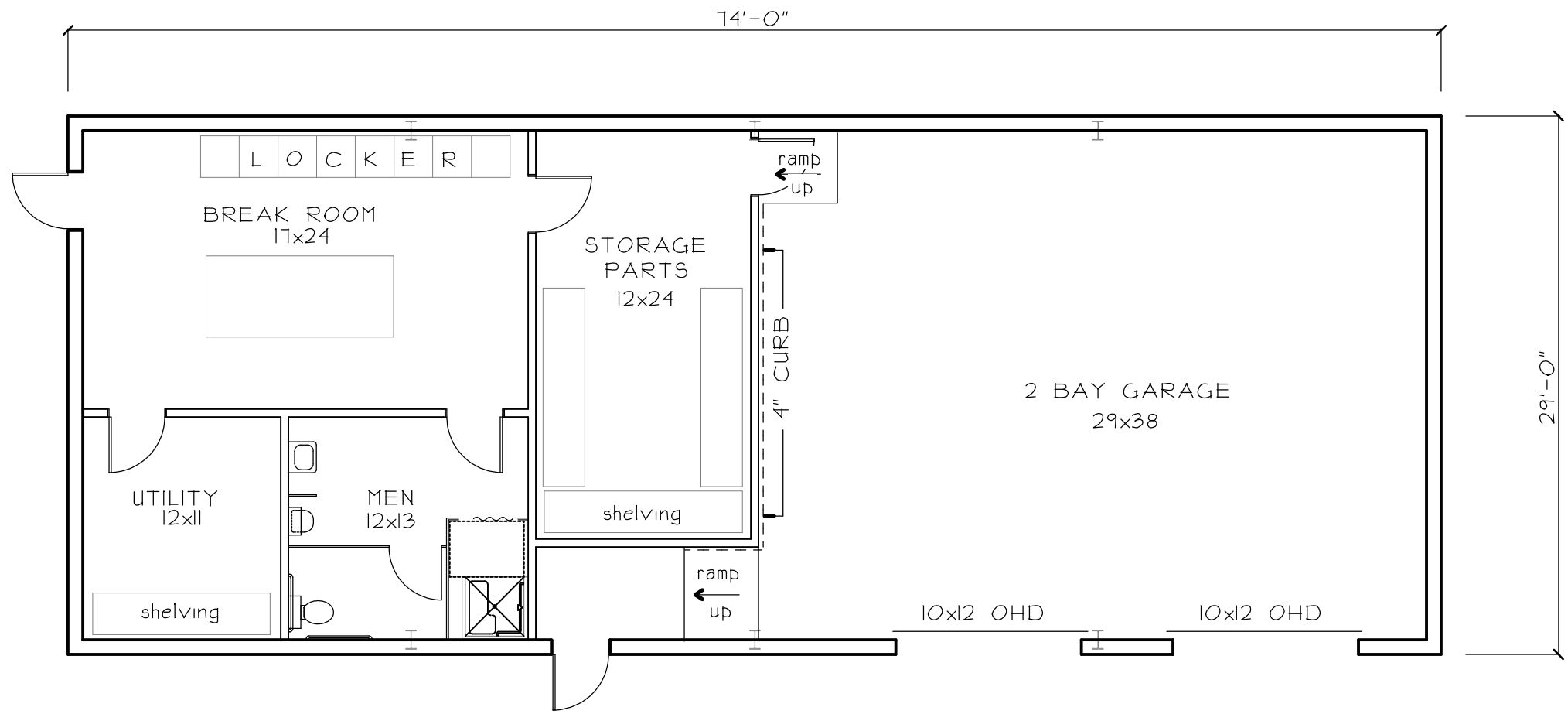
PROGRESS - FOR REVIEW ONLY

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DATE	REVISION	EST. NO	Engineering Designs For SUBURBAN PROPANE PORTLAND, MAINE		JOB NO.
		85103			
		SIZE	Title CONCEPTUAL OFFICE PLAN		ENGINEERING DWG. NO.
		TYPE			
		DRAWN BY			DI OF
		REVIEWED BY			
		SCALE	DESIGN BUILDER		
		DATE			
FILE NAME:		G.T.V. NAME:			

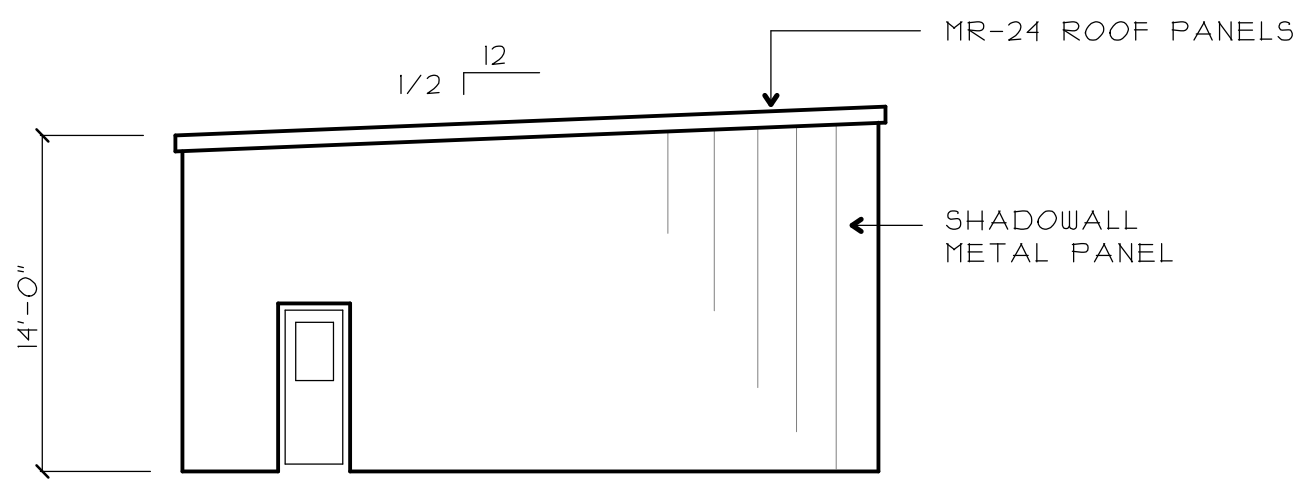




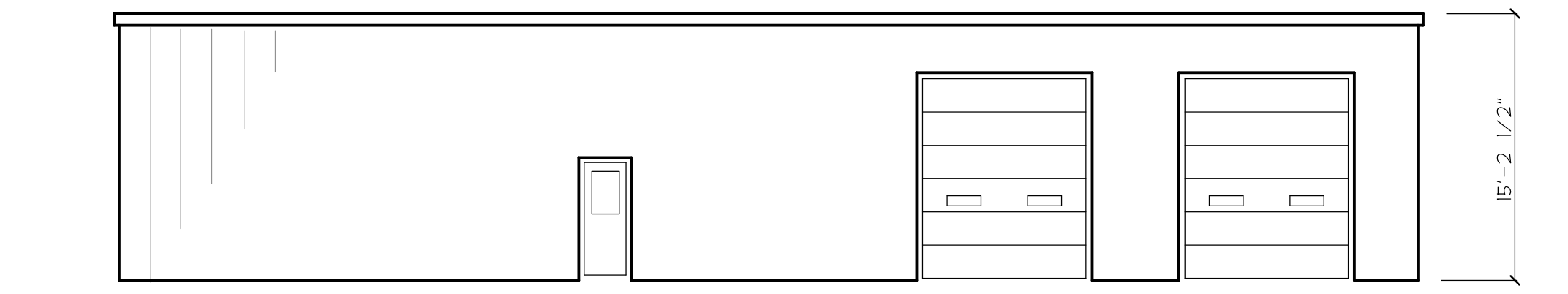
ALTERNATE FLOOR PLAN



FLOOR PLAN



SIDE ELEVATION



FRONT ELEVATION

PROGRESS - FOR REVIEW ONLY

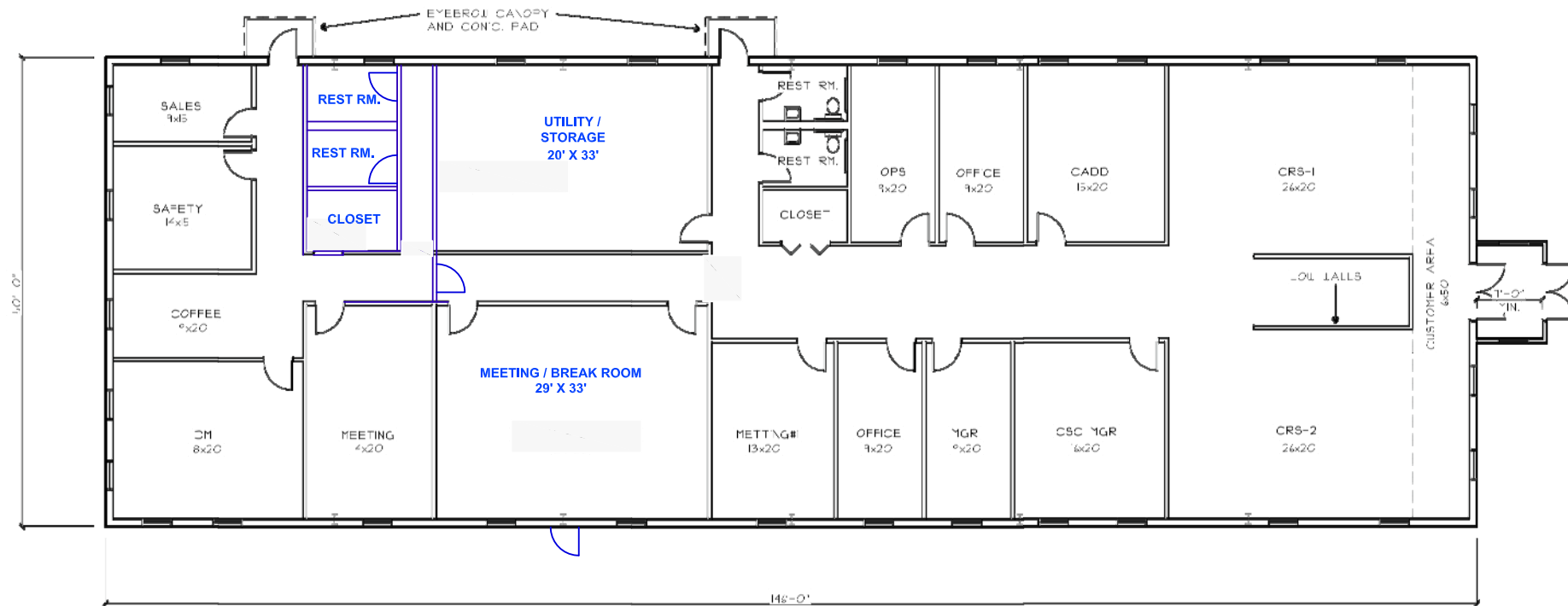
WARNING: THIS DRAWING IS THE PROPERTY AND INSTRUMENT OF SHERIDAN CORPORATION FOR USE WITH THE PROJECT IDENTIFIED BELOW. NO MODIFICATIONS OR CHANGES MAY BE MADE TO THIS DRAWING AND NO USE MAY BE MADE OF THIS DRAWING WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHERIDAN CORPORATION. ANY MODIFICATION, CHANGE OR USE OF THIS DRAWING WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHERIDAN CORPORATION IS WRONGFUL AND IS AT THE USER'S RISK. SHERIDAN DISCLAIMS ANY AND ALL LIABILITY FOR SUCH USE.					
DATE	REVISION	EST. NO	Engineering Designs For SUBURBAN PROPANE PORTLAND, MAINE		JOB NO.
		85103			
		SIZE	Title CONCEPTUAL GARAGE PLAN		ENGINEERING DWG. NO.
		TYPE			D2
		DRAWN BY RSP			OF
		REVIEWED BY			
		SCALE 1/8"	DESIGN BUILDER		
		DATE 10-21-15			
FILE NAME:		G.T.V. NAME:			





Sheridan
www.sheridancorp.com

**FAIRFIELD
PORTLAND
MAINE**



FLOOR PLAN

PORTLAND MAINE
OFFICE BUILDING REVISION SKETCH
 NOT TO SCALE

NO.	DATE	DESCRIPTION	BY

SAFETY, ENGINEERING & ENVIRONMENTAL
 5793 WIDEWATERS PARKWAY
 SYRACUSE NY

SITE PLAN
 SUBURBAN PROPANE
 RIVERSIDE INDUSTRIAL PARK
 PORTLAND, MAINE
 MARCH 2010

OWN BY:
 JJC

DATE:
 12/16/15

OFFICE SKETCH
 REVISED.PDF

FILE:

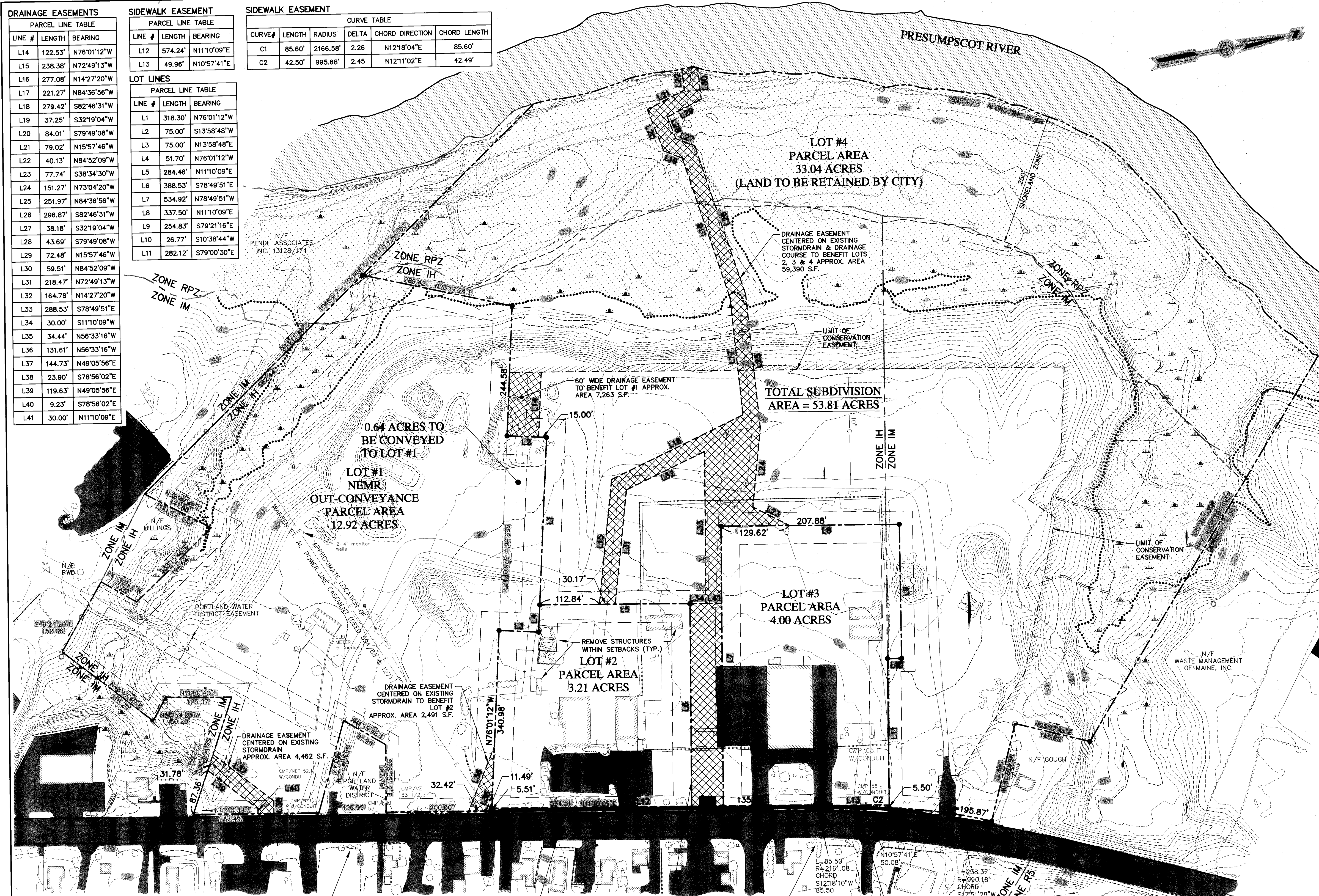
OSE-1

DRAINAGE EASEMENTS		
LINE #	LENGTH	BEARING
L14	122.53'	N76°01'12"W
L15	238.38'	N72°49'13"W
L16	277.08'	N14°27'20"W
L17	221.27'	N84°36'56"W
L18	279.42'	S82°46'31"W
L19	37.25'	S32°19'04"W
L20	84.01'	S79°49'08"W
L21	79.02'	N15°57'46"W
L22	40.13'	N84°32'09"W
L23	77.74'	S38°34'30"W
L24	151.27'	N73°04'20"W
L25	251.97'	N84°36'56"W
L26	296.87'	S82°46'31"W
L27	38.18'	S32°19'04"W
L28	43.69'	S79°49'08"W
L29	72.48'	N15°57'46"W
L30	59.51'	N84°32'09"W
L31	218.47'	N72°49'13"W
L32	164.78'	N14°27'20"W
L33	288.53'	S78°49'51"E
L34	30.00'	S11°10'09"W
L35	34.44'	N56°33'16"W
L36	131.61'	N56°33'16"W
L37	144.73'	N49°05'56"E
L38	23.90'	S78°56'02"E
L39	119.63'	N49°05'56"E
L40	9.23'	S78°56'02"E
L41	30.00'	N11°10'09"E

SIDEWALK EASEMENT		
LINE #	LENGTH	BEARING
L12	574.24'	N11°10'09"E
L13	49.96'	N10°57'41"E

LOT LINES		
LINE #	LENGTH	BEARING
L1	318.30'	N76°01'12"W
L2	75.00'	S13°58'48"W
L3	75.00'	N13°58'48"E
L4	51.70'	N76°01'12"W
L5	284.46'	N11°10'09"E
L6	388.53'	S78°49'51"E
L7	534.92'	N78°49'51"W
L8	337.50'	N11°10'09"E
L9	254.83'	S79°21'16"E
L10	26.77'	S10°38'44"W
L11	282.12'	S79°00'30"E

CURVE TABLE					
CURVE#	LENGTH	RADIUS	DELTA	CHORD DIRECTION	CHORD LENGTH
C1	85.60'	2166.58'	2.26	N12°18'04"E	85.60'
C2	42.50'	995.68'	2.45	N12°11'02"E	42.49'



NOTE: ALL TOPOGRAPHY, EXISTING IMPROVEMENTS, AND PERIMETER PROPERTY LINES TAKEN FROM PLAN REFERENCES 1 AND 2. NO FIELD SURVEYING OR DEED RESEARCH COMPLETED BY OWEN HASKELL, INC. INTERIOR LOT COMPUTATIONS ONLY BY OWEN HASKELL, INC.

LOT	IMPERVIOUS AREAS (ACRES)
1	0.63
2	2.81
3	3.51
4	2.61

APPROVED BY CITY OF PORTLAND PLANNING BOARD:

DATE: 9-21-10

LEGEND

- EXISTING CONTOUR (INDEX)
- EXISTING CONTOUR (INTERVAL)
- 100' YEAR FLOOD BOUNDARY
- ZONE LINE
- 250' SHORELAND ZONE LINE
- CONSERVATION EASEMENT
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- SETBACK LINE
- FORMER LOT LINE
- CAPPED IRON ROD TO BE SET

State of Maine, Cumberland SS.
Registry of Deeds
Received OCTOBER 14, 2010
at 4:02 PM and recorded in
Plan Book 210 Page 352
Attest: [Signature] Registrar

BOUNDARY SURVEY PROVIDED BY CITY OF PORTLAND, MAINE, PUBLIC WORKS DEPARTMENT, ENGINEERING SECTION, DATED DECEMBER 16, 2005 AND REVISED APRIL 11, 2006, NUMBERED 1 OF 2, TITLED "STANDARD BOUNDARY SURVEY OF LUCAS TREE COMPANY SITE, RIVERSIDE STREET, PORTLAND, MAINE".

CONSERVATION EASEMENT PROVIDED BY THE CUMBERLAND COUNTY REGISTRY OF DEEDS, RECEIVED MARCH 31, 2010 AT 9:51 AM AND RECORDED IN PLAN BOOK 210, PAGE 129, PLAN TITLED "CONSERVATION EASEMENT PLAN FOR THE TRUST FOR PUBLIC LAND, 116 NEW MONTGOMERY STREET, SAN FRANCISCO, CA 94106, EASEMENT LOCATED RIVERSIDE, STREET PORTLAND MAINE", DATED MARCH 3, 2010.

DRAINAGE INFRASTRUCTURE LOCATED VIA GPS BY THE CITY OF PORTLAND DEPARTMENT OF PUBLIC SERVICES DURING A SITE VISIT ON SEPTEMBER 7, 2010; SUPPLEMENTED WITH CATCH BASIN LOCATIONS SHOWN ON THE FIELD SURVEY PLAN FROM OWEN HASKELL DATED AUGUST 31, 2010.

WAVEFORMS:

- THE APPLICANT REQUESTS A WAIVER OF SECTION 14-496 (A) 15 RELATIVE TO SHOWING PROPOSED FINISH SPOT ELEVATIONS AROUND THE PERIMETER OF THE SUBDIVISION.

OWNER OF RECORD:
CITY OF PORTLAND
389 CONGRESS STREET,
PORTLAND, MAINE 04101
C.C.R.D. BOOK 27825 PAGE 68

RIVERSIDE SUBDIVISION PLANNING BOARD CONDITIONS OF APPROVAL
DATED SEPTEMBER 21, 2010

- THE APPLICANT SHALL SUBMIT A LETTER FROM PORTLAND TRAILS CONFIRMING PERMISSION TO ESTABLISH DRAINAGE EASEMENT(S) WITHIN THE CONSERVATION EASEMENT OF LOT 4 FOR CORPORATION COUNSEL REVIEW AND APPROVAL.
- THE APPLICANT SHALL SUBMIT FINAL AND EXECUTED COPIES OF VARIOUS PROPERTY AGREEMENTS AND EASEMENTS ASSOCIATED WITH THE SUBDIVISION FOR CORPORATION COUNSEL REVIEW AND APPROVAL PRIOR TO THE RELEASE OF THE SUBDIVISION PLAT.
- THE SUBDIVISION RECORDING PLAT SHALL INCLUDE A NOTATION THAT A TRAFFIC MOVEMENT PERMIT WILL BE NECESSARY IF AND WHEN THE TRIP LEVELS FOR THE SUBDIVISION REACHES PERMIT THRESHOLDS.
- UNLESS OTHERWISE APPROVED BY THE PLANNING BOARD UNDER SITE PLAN REVIEW, UNDERGROUND UTILITIES SHALL BE REQUIRED.

ZONE IM DIMENSIONAL REQUIREMENTS

- MINIMUM LOT SIZE:
 - CORRECTIONAL PRERELEASE FACILITIES: TEN THOUSAND (10,000) SQUARE FEET
 - OTHER USES NONE.
- MAXIMUM IMPERVIOUS SURFACE RATIO: I-M ZONE: SEVENTY-FIVE (75) PERCENT.
- MAXIMUM BUILDING HEIGHT: I-M ZONE: SEVENTY-FIVE (75) FEET.
- MINIMUM SIDE YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM EACH SIDE PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT, UP TO TWENTY-FIVE (25) FEET, EXCEPT THAT THE MINIMUM SIDE YARD SHALL BE THIRTY-FIVE (35) FEET WHEN THE SIDE PROPERTY LINE ABUTS A RESIDENTIAL ZONE.
- MINIMUM REAR YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM THE REAR PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT, UP TO TWENTY-FIVE (25) FEET, EXCEPT THAT THE MINIMUM REAR YARD SHALL BE THIRTY-FIVE (35) FEET WHEN THE REAR PROPERTY LINE ABUTS A RESIDENTIAL ZONE.
- MINIMUM FRONT YARD: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-M ZONE: EACH STRUCTURE SHALL BE SET BACK ONE (1) FOOT FROM THE FRONT PROPERTY LINE FOR EACH ONE (1) FOOT OF BUILDING HEIGHT.
- MINIMUM STREET FRONTAGE: SIXTY (60) FEET.
- PAVEMENT SETBACK FROM LOT BOUNDARIES: TEN (10) FEET.

ZONE IH DIMENSIONAL REQUIREMENTS

- MINIMUM LOT SIZE:
 - CORRECTIONAL PRERELEASE FACILITIES: TEN THOUSAND (10,000) SQUARE FEET
 - OTHER USES NONE.
- MAXIMUM IMPERVIOUS SURFACE RATIO: I-H ZONE: EIGHTY-FIVE (85) PERCENT.
- MAXIMUM BUILDING HEIGHT: SEVENTY-FIVE (75) FEET.
- MINIMUM SIDE YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: THIRTY-FIVE (35) FEET.
- MINIMUM REAR YARDS: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: THIRTY-FIVE (35) FEET.
- MINIMUM FRONT YARD: PRINCIPAL AND ACCESSORY STRUCTURES IN THE I-H ZONE: TWENTY-FIVE (25) FEET.
- MINIMUM STREET FRONTAGE: SIXTY (60) FEET.
- PAVEMENT SETBACK FROM LOT BOUNDARIES: TEN (10) FEET.

ZONE RPZ DIMENSIONAL REQUIREMENTS

NO BUILDING OR STRUCTURE SHALL BE ERRECTED, ALTERED, ENLARGED, REBUILT, OR USED IN A RESOURCE PROTECTION ZONE WHICH DOES NOT COMPLY WITH THE FOLLOWING REQUIREMENTS:

- MINIMUM REAR YARDS: PRINCIPAL BUILDING OR STRUCTURE, OTHER THAN A BOATHOUSE OR STOREHOUSE FOR FISHERMAN'S GEAR: SEVENTY-FIVE (75) FEET.
- MINIMUM SIDE YARDS:
 - PRINCIPAL BUILDING OR STRUCTURE: FIFTEEN (15) FEET.
 - ACCESSORY BUILDING OR STRUCTURE: FIVE (5) FEET.
- MINIMUM SIDE YARD ON SIDE STREETS:
 - PRINCIPAL BUILDING OR STRUCTURE: TWENTY (20) FEET.
 - ACCESSORY BUILDING OR STRUCTURE: TWENTY (20) FEET.
- MINIMUM FRONT YARDS:
 - PRINCIPAL BUILDING OR STRUCTURE: TWENTY-FIVE (25) FEET.
 - ACCESSORY BUILDING OR STRUCTURE: TWENTY-FIVE (25) FEET.
- MAXIMUM HEIGHT:
 - PRINCIPAL BUILDING OR STRUCTURE: TWO (2) STORIES OR TWENTY-FIVE (25) FEET.
 - ACCESSORY BUILDING OR STRUCTURE: ONE (1) STORY OR FIFTEEN (15) FEET.
- MAXIMUM BUILDING AREA: PRINCIPAL BUILDING OR GROUP OF BUILDINGS: TEN (10) PERCENT OF LOT AREA.
- MINIMUM LOT AREA: TWENTY THOUSAND (20,000) SQUARE FEET.
- MINIMUM WIDTH OF LOT: ONE HUNDRED (100) FEET.
- MINIMUM LOT FRONTAGE ON STREET OR SHORELINE: ONE HUNDRED (100) FEET.
- MINIMUM SHORELINE SETBACK: ALL PRINCIPAL STRUCTURES OTHER THAN PERMITTED PIERS, DOCKS, WHARVES, BREAKWATERS, CAUSEWAYS, BRIDGES, BOATHOUSES AND STOREHOUSES FOR FISHERMAN'S GEAR: SEVENTY-FIVE (75) FEET.

CONFORMANCE OF LOTS:

UPON APPROVAL OF THE PROPOSED SUBDIVISION, THE FOLLOWING SITE MODIFICATIONS SHALL BE PERFORMED TO BRING THE PROPOSED SUBDIVISION LOTS INTO CONFORMANCE WITH ZONING REGULATIONS. ITEMS OF WORK SHALL BE PERFORMED AS SOON AS POSSIBLE, BUT NO LATER THAN JUNE 2011.

- ALL PAVEMENT WITHIN 10 FEET OF THE LOT BOUNDARIES WILL BE REMOVED.
- ALL BUILDING OR STORAGE STRUCTURES WITHIN THE SETBACKS WILL BE REMOVED.
- REMOVAL OF IMPERVIOUS SURFACES AS NECESSARY TO MEET THE MAXIMUM IMPERVIOUS SURFACE RATIO.
- LANDSCAPING SHALL BE CONSERVED OR PLANTED TO ADDRESS SEC. 14-267(a) "REQUIRED LANDSCAPING FOR PARKING AREAS" FOR DEVELOPED LOTS.

STREET TREES:

- A MINIMUM OF TWO TREES PER LOT SHALL BE CONSERVED OR PLANTED MEETING THE CITY OF PORTLAND LANDSCAPING AND LANDSCAPE PRESERVATION STANDARDS OF THE CITY OF PORTLAND TECHNICAL MANUAL.

REFERENCES:

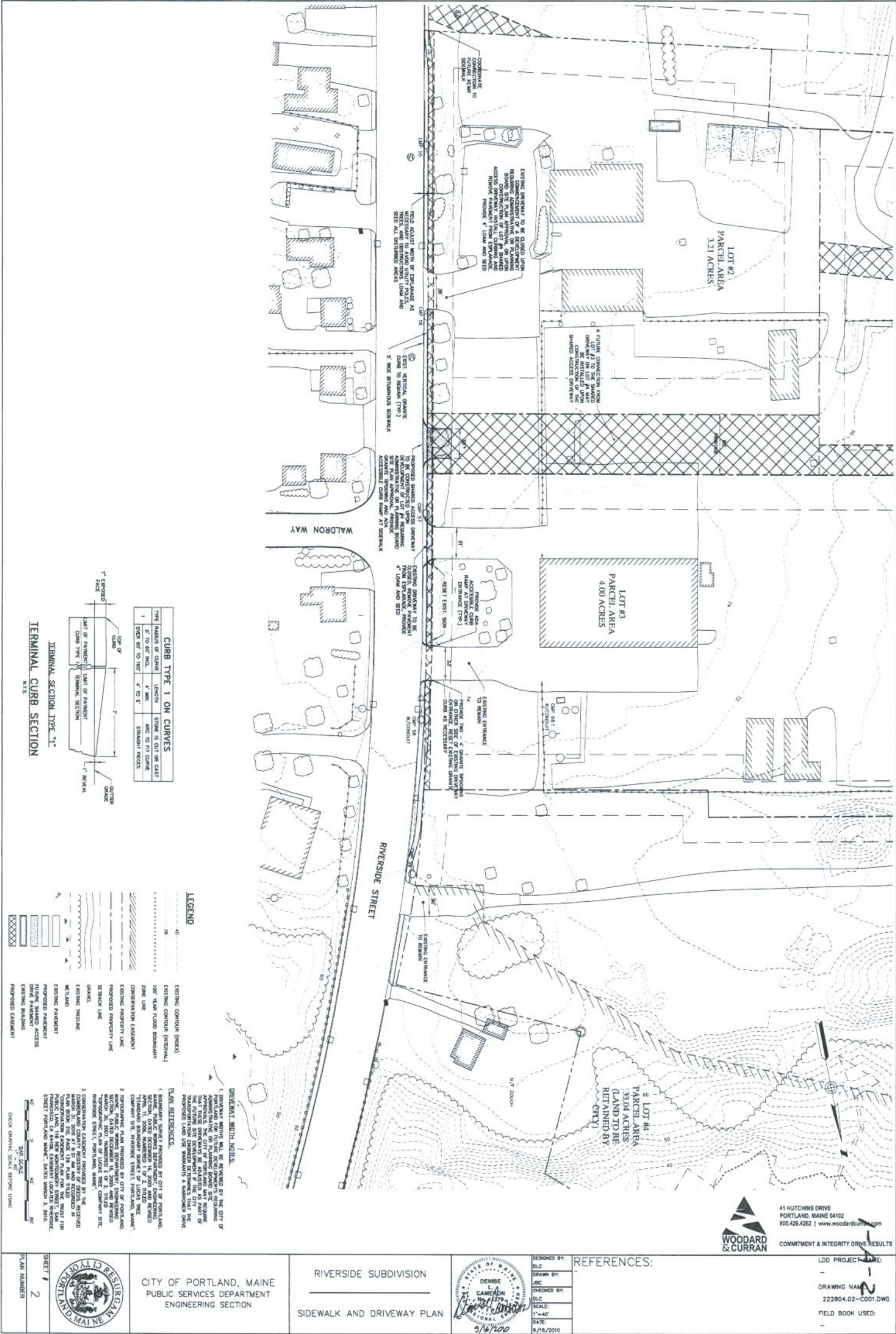
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:	DATE:
DLC	JBC	DLC	1"=100'	10/07/2010

RIVERSIDE SUBDIVISION

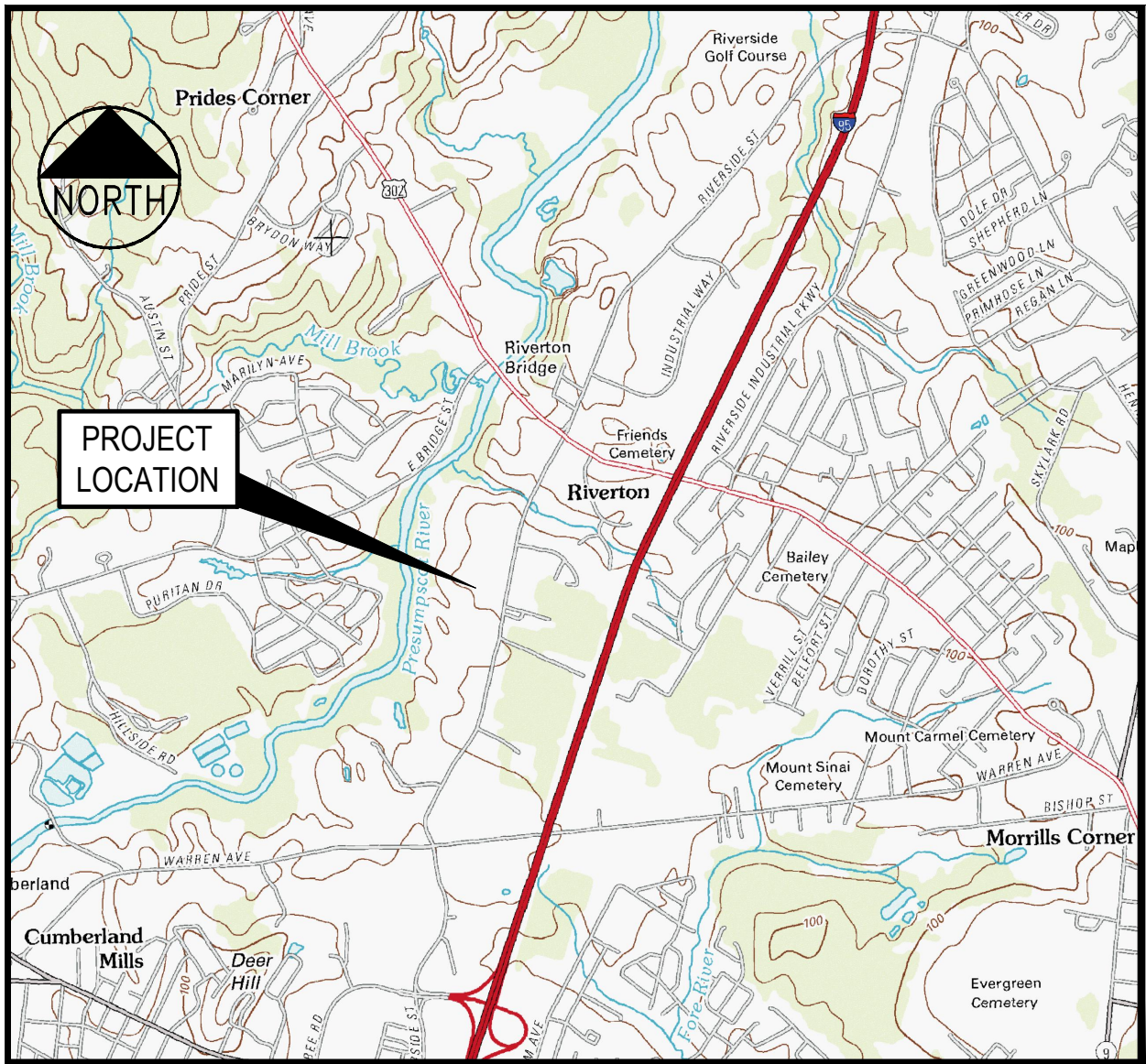
SUBDIVISION RECORDING PLAT

OWNER OF RECORD:
CITY OF PORTLAND, MAINE
PUBLIC SERVICES DEPARTMENT
ENGINEERING SECTION
389 CONGRESS STREET
PORTLAND, MAINE 04101

PLAN NUMBER
1



SITE DEVELOPMENT PLANS
FOR
SUBURBAN PROPANE RELOCATION
PORTLAND, MAINE
FINAL LEVEL III SITE PLAN SUBMISSION
AND AMENDED SUBDIVISION PLAN
FEBRUARY 2016



Plan 3

PROJECT PARCEL SITE CITY OF PORTLAND TAX ASSESSOR'S MAP & LOT NUMBERS		
MAP	LOT	
322	A-1	
323	A-3 & A-5	

OWNER	
CITY OF PORTLAND, MAINE	
c/o PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION	
389 CONGRESS STREET	
PORTLAND, MAINE 04101	
APPLICANT (ON BEHALF OF SUBURBAN PROPANE)	
THOMPSON'S POINT DEVELOPMENT CO. INC.	
501 DANFORTH STREET	
PORTLAND, MAINE 04102	
207.3471647	
ATTN: CHRIS THOMPSON	
FUTURE OWNER	
SUBURBAN PROPANE	
3 THOMPSON POINT	
PORTLAND, MAINE 04102	
518.459.3727	
ATTN: JOSEPH CAREY	

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C-1.1	GENERAL NOTES AND LEGEND
C-2.0	EXISTING CONDITIONS PLAN OF LAND
C-2.1	2ND AMENDED RIVERSIDE SUBDIVISION
* C-2.2	DEMOLITION AND REMOVALS PLAN
C-3.0	SITE LAYOUT PLAN
C-4.0	GRADING AND DRAINAGE PLAN
C-5.0	UTILITY PLAN
C-6.0	EROSION CONTROL PLAN
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P-1.0	PHOTOMETRICS PLAN

* NOT INCLUDED WITH THIS SUBMISSION

UTILITIES

SEWER
CITY OF PORTLAND
PUBLIC SERVICES ENGINEERING DEPARTMENT
55 PORTLAND STREET
PORTLAND, MAINE 04102
207.874.8840
ATTN: DAVID MARGOLIS-PINEO. P.E.

WATER
PORTLAND WATER DISTRICT
225 DOUGLAS STREET
P.O. BOX 3533
PORTLAND, MAINE 04104
207.761.8310
ATTN: JAY ARNOLD

POWER
CENTRAL MAINE POWER
162 CANCO ROAD
PORTLAND, MAINE 04103
207.791.1023
ATTN: JAMIE COUGH

TELEPHONE
FAIRPOINT COMMUNICATIONS
FIVE DAVIS FARM ROAD
PORTLAND, MAINE 04103
207.797.1842
ATTN: JOHN CAPRIO

CABLE
TIME WARNER CABLE
118 JOHNSON ROAD
PORTLAND, MAINE 04102
877.546.0962
ATTN: MARK PELLETIER

NATURAL GAS
UNITIL
1075 FOREST AVENUE
PORTLAND, MAINE 04103
207.797.8002 EXT 6620
ATTN: JOE RENDA

CALL BEFORE YOU DIG
1.888.DIGSAFE
1.888.344.7233
DIG SAFE MAINE

PERMITS / APPROVALS

LOCAL	GOVERNING BODY	STATUS
LEVEL III SITE PLAN APPROVAL	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8722	FINAL SUBMISSION
AMENDED SUBDIVISION PLAN	CITY OF PORTLAND PLANNING AUTHORITY CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8722	
BUILDING PERMIT	CITY OF PORTLAND CODE ENFORCEMENT OFFICE CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	
STREET OPENING PERMIT	CITY OF PORTLAND PUBLIC SERVICES DIVISION CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	
WASTEWATER DISCHARGE	CITY OF PORTLAND PUBLIC SERVICES DIVISION CITY HALL 389 CONGRESS STREET PORTLAND, MAINE 04101 207.874.8703	

PREPARED BY

CIVIL ENGINEER
STANTEC
778 MAIN STREET, SUITE 8
SOUTH PORTLAND, MAINE 04106
207.775.1121
ATTN: BO KENNEDY, P.E.

DESIGN / BUILD CONTRACTOR
SHERIDAN CORPORATION
739 WARREN AVE
PORTLAND, MAINE 04103
207.774.6138
ATTN: TOM ANUSZEWSKI

SURVEYOR
SEBAGO TECHNICS INC.
75 JOHN ROBERTS RD #1A
SOUTH PORTLAND, MAINE 04106
207.200.2100
ATTN: CHARLIE MARCHESE

GEOTECHNICAL ENGINEER
SUMMIT GEOTECHNICAL ENGINEERING SERVICES
145 LISBON STREET
LEWISTON, MAINE
207.576.3313
ATTN: BILL PETERLEIN, P.E.

PRELIMINARY NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
				SHEET TITLE COVER SHEET	
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	P.E. BO KENNEDY 11994	CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DRAWN: DED DATE: JAN 2016
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW			DESIGNED: BEK SCALE: AS NOTED
REV	DATE	DESCRIPTION	LIC. # 11994		CHECKED: BEK JOB NO. 195350142
REVISIONS					FILE NAME: SP-M157 COVER
					SHEET C-1.0

I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MAINE AND THAT I AM COMPETENT TO PREPARE THIS DOCUMENT.

- TOPOGRAPHIC AND BOUNDARY DATA AND EXISTING CONDITIONS ARE BASED ON A GROUND SURVEY CONDUCTED BY SEBAGO TECHNICS.
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 IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AND DIG SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE TO THE OWNER AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTIONS OF THE OWNER OR THEIR REPRESENTATIVES AT NO ADDITIONAL COST TO THE OWNER.
4. ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK. ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND/OR CITY OF PORTLAND TECHNICAL STANDARDS, WHICH EVER IS MORE STRINGENT.
5. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF THE ENTRANCES, PAVING, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE POINTS
6. ALL REQUIRED AND NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL SERVICE CONNECTIONS.
7. PROJECT IS LOCATED IN ZONE "X" FLOOD ZONE, PER FEMA FLOOD INSURANCE RATE MAP, COMMUNITY #230051, PANEL #0006C DATED DEC. 8, 1998.
8. THE CONTRACTOR SHALL READ AND FOLLOW ALL RECOMMENDATIONS MADE IN THE SITE GEOTECHNICAL REPORT PREPARED BY SUMMIT ENGINEERING SERVICES, INC.
9. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER, ARCHITECT OR OWNER, IN ORDER TO OBTAIN AND/OR PAY ALL THE NECESSARY LOCAL PERMITS, FEES AND BONDS.
10. ALL PROPOSED SIGNS WILL CONFORM TO THE CITY OF PORTLAND ZONING REGULATIONS, UNLESS A VARIANCE IS OTHERWISE REQUESTED.
11. ALL SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MAINE EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) AND MDOT SPECIFICATIONS (NON-REFLECTORIZED PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED).
12. ALL PARKING STALLS SHALL BE SEPARATED USING 4" WIDE SOLID STRIPES. STRIPING SHALL HAVE 2 COATS OF PAINT, ALKYD BASIN SYNTHETIC RESIN, FEDERAL SPECIFICATION TTP-115 TYPE 1, IN A COLOR OF WHITE. ALL STRIPING ON CONCRETE IS TO BE YELLOW.
13. ALL STOP BARS SHALL BE 18" IN WIDTH IN A COLOR OF WHITE; ALL TRAFFIC ARROWS TO BE A COLOR OF WHITE. ALL PAVEMENT MARKINGS TO BE PLASTIC INLAY MATERIAL OR EQUIVALENT.
14. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE ARCHITECTURAL AND STRUCTURAL PLANS PROVIDED BY THE OWNER. ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO THE START OF CONSTRUCTION. BUILDING DIMENSIONS AND AREAS TO BE OUTSIDE OF MASONRY, UNLESS OTHERWISE NOTED.
15. THE ENTIRE SITE AND PLAN SHALL BE DEVELOPED AND/OR MAINTAINED AS DEPICTED ON THE SITE AND PLAN AND IN ACCORDANCE WITH ALL ACCOMPANYING WRITTEN SUBMITTALS AND IN ACCORDANCE WITH ANY CONDITIONS ATTACHED BY THE PLANNING BOARD. APPROVAL BY THE PLANNING AUTHORITY SHALL BE REQUIRED FOR ANY MINOR ALTERATIONS TO OR DEVIATIONS FROM THE APPROVED SITE PLAN, INCLUDING, WITHOUT LIMITATION: TOPOGRAPHY; DRAINAGE; LANDSCAPING; RETENTION OF WOODED OR LAWN AREAS; ACCESS; UTILITIES; SIZE, LOCATION AND SURFACING OF PARKING AREAS; AND LOCATION AND SIZE OF BUILDINGS. MAJOR ALTERATIONS OR DEVIATIONS MUST BE APPROVED BY THE PLANNING BOARD AS REVISIONS OR AMENDMENTS. THE INITIAL DETERMINATION OF WHETHER A CHANGE IS MINOR OR MAJOR WILL BE MADE BY THE PORTLAND PLANNING AUTHORITY..
16. ALL BUILDINGS AND SITE CONSTRUCTION SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AS PUBLISHED IN THE FEDERAL REGISTER, VOL. 56, NO. 144, DATED JULY 26, 1991, REVISED JULY 23, 2004.
17. WRITTEN DIMENSIONS ON THIS PLAN TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN THE EVENT OF A CONFLICT BETWEEN THE PLAN SET AND ANY OTHER DRAWINGS AND/OR SPECIFICATIONS, THE ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR.
18. A SIGN PERMIT SHALL BE OBTAINED PRIOR TO INSTALLATION.
19. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR CONDITIONS AT THE SITE. THESE PLANS, PREPARED BY FST, DO NOT EXTEND TO OR INCLUDE SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR THEIR EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE SURVEYOR AND/OR ENGINEER AS INCLUDED IN THIS PLAN SET DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE AND/OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS WHICH MAY BE REQUIRED BY THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND/OR LOCAL REGULATIONS.

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE SITE PLAN REVIEW PERMIT FROM THE CITY OF PORTLAND WHICH WILL BE MADE A PART OF THE CONTRACT BID DOCUMENTS. THE CONSTRUCTION WILL BE GOVERNED BY THE ZONING ORDINANCES WHICH ARE AVAILABLE FOR VIEWING AT THE OFFICE OF THE ENGINEER OR THE MUNICIPAL OFFICE.

9. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS FOR SDR-35 FOR GRAVITY PIPE AND SDR-18 FOR PRESSURE PIPE.
10. PROPOSED RIM ELEVATIONS OF DRAINAGE AND SANITARY MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES AND OTHER UTILITIES TO FINISH GRADE AS SHOWN ON THE GRADING AND DRAINAGE PLAN.
11. SEWER AND WATER LINES AND ALL APPURTENANCES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE RESPECTIVE UTILITY COMPANY STANDARDS AND SPECIFICATIONS.
12. ALL SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
13. SANITARY SEWER LINES SHALL BE LOCATED AT LEAST 10 FEET HORIZONTALLY FROM AN EXISTING OR PROPOSED WATER LINE. WHEN A SEWER LINE CROSSES A WATER MAIN, THE WATER LINE SHALL BE CLASS 52 DUCTILE IRON, EXTENDED A MINIMUM OF 10 FEET TO EACH SIDE OF THE WATER LINE. THE

1. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE MOST PRACTICAL LEAST DISTURBANCE OF THE SITE.
2. PRIOR TO BEGINNING ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE(S) OR EROSION CONTROL MIX BERM(S) AND THE CONSTRUCTION ENTRANCE(S).
3. ALL GROUND AREAS GRADED FOR CONSTRUCTION BUT NOT WITHIN PAVEMENT OR BUILDING AREA WILL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION CONTROL REPORT PREPARED FOR THIS PROJECT.
4. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES AND REMOVE ACCUMULATED SEDIMENT FROM ALL SUMPS AND MANHOLE INVERTS. SILT SHALL NOT BE FLUSHED OR DISPOSED INTO THE NEARBY STORMWATER MANAGEMENT BASIN OR WATER COURSES.
5. SILT FENCES AND/OR SEDIMENT BARRIERS SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL REPORT.
6. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCE AS IT BECOMES SATURATED WITH SEDIMENT TO ENSURE THAT IT WORKS AS PLANNED DURING CONSTRUCTION.
7. THE MAINTENANCE SCHEDULE FOR THE CATCH BASIN SEDIMENT SUMPS AFTER THE COMPLETION OF CONSTRUCTION IS AS FOLLOWS:

THESE DEVICES SHALL BE INSPECTED IN APRIL AND OCTOBER OF EACH YEAR. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE CATCH BASIN WHEN THE DEPTH OF THE SEDIMENT IS GREATER THAN ONE FOOT. THE SEDIMENT WILL BE REMOVED FROM THE SITE BY THE OWNER OR THE CATCH BASIN CLEANING CONTRACTOR AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER OR PERMITTEE.
9. ALL NON-PAVED AREAS DISTURBED DURING CONSTRUCTION SHALL BE LOAMED WITH AT LEAST 6" SCREENED TOPSOIL AND SEEDED, UNLESS OTHERWISE DIRECTED BY THE OWNER.
10. ALL CATCH BASINS WITH AN 18" OUTLET PIPE OR LESS SHALL BE FITTED WITH A CASCO TRAP OR "SNOUT" SEDIMENTATION HOOD PER THE DETAILS.
11. WINTER CONSTRUCTION REQUIRES ADDITIONAL INTERIM STABILIZATION AND PREPARATIONS. REFER TO SHEET C-8.7 FOR A LIST OF WINTER CONSTRUCTION PROCEDURES.

SUMMIT GEOTECHNICAL ENGINEERING SERVICES INC. HAS COMPLETED A SUBSURFACE GEOTECHNICAL CONDITIONS INVESTIGATION AND REPORT. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH THE RECOMMENDATIONS SET FORTH IN THIS REPORT AND PER ANY OTHER CONTRACT REQUIREMENTS SET FORTH BY THE OWNER / DEVELOPER. THE OWNER SHALL NOT BE RESPONSIBLE FOR UNFORESEEN SUBSURFACE CONDITIONS NOR SHALL ANY EXTRA COSTS BE PAID FOR THESE CONDITIONS.

EXISTING	DESCRIPTION	PROPOSED
	BUILDING	
	PROPERTY LINE	
	SETBACK	
	RETAINING WALL	
	CURBING (SEE DRAWING FOR TYPES)	
	EDGE OF PAVEMENT	
	EDGE OF GRAVEL DRIVE	
	GRADING CONTOUR LINE	
	SPOT ELEVATION	
	GUARD POST/BOLLARD	
	POLE WITH LIGHT FIXTURE(S)	
	UTILITY POLE	
	FREESTANDING SIGN	
	BARRIER FREE PARKING SYMBOL	
	PEDESTRIAN CROSSWALK	
	PAINTED DIRECTIONAL TRAFFIC ARROW	
	OVERHEAD ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/TELEPHONE	
	UNDERGROUND ELECTRIC/COMMUNICATION	
	WATER LINE	
	SEWER LINE	
	GAS LINE	
	STORM DRAIN LINE	
	CULVERT	
	HYDRANT	
	WATER GATE VALVE	
	WATER SHUT OFF VALVE	
	MANHOLE	
	CATCH BASIN	
	STONE WALL	
	TREELINE	
	TREES/LANDSCAPING	
	RIPRAP	
	SILT FENCE	
	CHAIN LINK FENCE	
	WOOD FENCE	
	GUIDE RAIL	
	STONE SEDIMENT BARRIER	
	TRANSFORMER PAD	
	CENTER LINE	
	TEST PIT	
	IRON ROD (SET)	
	IRON ROD (FOUND)	
	P.K. SPIKE	

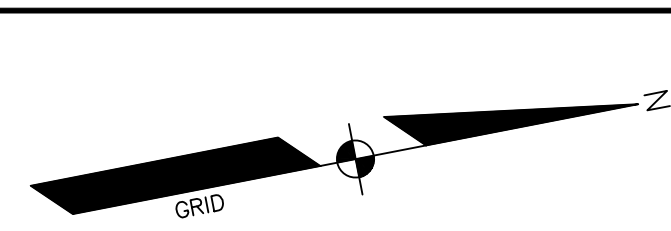
				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 	
				SHEET TITLE GENERAL NOTES AND LEGEND		
				CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		
3	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 GEN NOTES		DATE: JAN 2016 SCALE: AS NOTED JOB NO. 195350142
2	01.22.16	SUBMITTED TO OWNER FOR REVIEW				
1	02.11.15	SUBMITTED TO CONTRACTOR FOR PRICING				
REV	DATE	DESCRIPTION	P.E. <i>Edward J. Kennedy</i> LIC. # 11994		SHEET C-1.1	

5254EC-SITE - to FST.dwg, TAB:15254EC-SITE

LOCATION MAP N.T.S.

PROPERTY CURVE TABLE				
CURVE	LENGTH	RADIUS	CRD. BEARING	CRD. DIST.
C1	196.44'	995.68'	S 19°03'50" W	196.12'
C2	41.92'	995.68'	S 12°12'21" W	41.92'

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L12	S 13°58'48" W	75.00'
L13	S 76°01'12" E	51.70'
L14	N 10°38'44" E	26.77'



SURVEYOR'S STATEMENT

THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, IT WAS DONE IN ACCORDANCE WITH CHAPTER 90, PART 1 (PROFESSIONAL STANDARDS OF PRACTICE) AND PART 2 (TECHNICAL STANDARDS OF PRACTICE) OF THE MAINE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS.

CHARLES D. MARCHESE, PLS 2009 OCTOBER 29, 2015

PROPERTY LINE TABLE		
LINE	DIRECTION	DISTANCE
L9	S 11°10'09" W	60.00'
L10	S 13°58'48" W	75.00'
L11	N 76°01'12" W	119.58'

N/F
CYNTHIA A. PELLERIN
&
STEVEN G. PELLERIN
MAP 13 LOT 13

N/F
PORTLAND TRAILS
MAP 13 LOT 11

LINE	DIRECTION	DISTANCE
E1	S 11°10'24" W	30.17'
E2	N 72°49'13" W	238.38'
E3	N 14°27'20" W	277.08'
E4	N 11°10'09" E	30.00'
E5	N 78°49'51" W	288.53'
E6	S 14°27'20" E	164.78'
E7	S 72°49'13" E	218.47'
E8	N 76°01'12" W	122.53'

LEGEND

- | <u>EXISTING</u> | |
|---|----------------------------|
| — — — — — | PROPERTY LINE/R.O.W. |
| — — — — — | ABUTTER LINE/R.O.W. |
| — — — — — | THE LINE |
| — — — — — | SETBACK |
| - . - . - . - . | EASEMENT |
| □ | MONUMENT |
| ○ | IRON PIPE/ROD |
| C1/L1 | DEED CALL |
| BENCHMARK
DESCRIPTION
WITH ELEVATION | BENCHMARK |
| /// | BUILDING |
| ===== | EDGE PAVEMENT |
| ===== | EDGE CONCRETE |
| ===== | EDGE GRAVEL |
| ===== | EDGE OF WATER |
| ===== | TREELINE |
| --+20-- --+18-- | CONTOURS |
| X120.00 | SPOT GRADE |
| — — — — — | CHAIN LINK FENCE |
| — ○ — | GAS |
| — W — | WATER |
| ⋈ | WATER GATE VALVE |
| ⊕ | WATER SHUT OFF |
| ◇ | HYDRANT |
| — S — | SANITARY SEWER |
| ⊙ | SANITARY MANHOLE |
| — SD — | STORM DRAIN |
| ◉ | DECIDUOUS TREE |
| ⊗ □ | CATCH BASIN |
| — OHU — | OVERHEAD UTILITY |
| ☆ | LIGHT POLE |
| ◇ | UTILITY POLE |
| (—) | GUY WIRE |
| — — — — — | FLOODPLAIN |
| — — — — — | ZONE LINE |
| — — — — — | ZONE LINE ON PL |
| ● B-1 | BORING |
| - - - - - | EDGE WETLAND |
| | WETLANDS |
| ===== | CURB LINE |
| — ■ — ■ — ■ — | STEEL METAL FENCE |
| ===== | GUARD RAIL |
| ===== | CONCRETE BLOCK ENCLOSURE |
| — T — | SIGN |
| — G — | GAS |
| ⋈ | GAS GATE VALVE |
| ⊕ | GAS METER |
| ⊞ | TRANSFORMER PAD |
| ⓪ | ELECTRICAL MANHOLE |
| ⬢ | RIPRAP |
| ● | 5/8" REBAR W/C/P TO BE SET |
| ⬡ | STRUCTURE NUMBER |
| ⬠ | GRADE STAKE SET |

Plan 6

FOR CITY OF PORTLAND USE

GENERAL NOTES:

1. THE RECORD OWNER OF THE PARCEL IS THE CITY OF PORTLAND BY DEED DATED MAY 18, 2010 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 27825, PAGE 68.
2. THE PROPERTY IS SHOWN AS MAP 322 LOT A-1 AND MAP 323 LOTS A-3 & A-5 ON THE CITY OF PORTLAND ZIP MAPS AND IS LOCATED IN THE IH ZONING DISTRICT A-1.
3. SPACE AND BULK CRITERIA FOR THE IH ZONING DISTRICT ARE AS FOLLOWS:

MINIMUM LOT SIZE:	NONE	(CORRECTIONAL 10,000 SF)
MINIMUM STREET FRONTAGE:	60 FEET	
MINIMUM FRONT YARD:	25 FEET	
MINIMUM SIDE YARD:	35 FEET	
MINIMUM REAR YARD:	35 FEET	
MAXIMUM BUILDING HEIGHT:	75 FEET	
MAXIMUM IMPERVIOUS SURFACE RATIO:	85%	

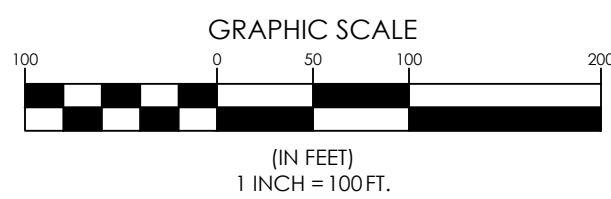
 - * SEE ORDINANCE FOR MORE PARTICULAR INFORMATION.
4. TOTAL AREA OF THE PROPOSED LOT IS APPROXIMATELY 4.12 ACRES.
5. BOUNDARY INFORMATION AS DEPICTED HEREON IS BASED ON PLAN REFERENCE 6A, 6B AND 6C HEREON. SEBAGO TECHINCS, INC. HAS DONE A RETRACEMENT SURVEY OF LOT 2 AND A FLOOD RETRACEMENT OF LOT 1 AND LOT 3 AS DEPICTED THEREON. THE PROPOSED LOT TO BE CONVEYED TO SUBURBAN PROPANE BEING A PORTION OF LOT 4 AS DEPICTED ON THE HEREIN REFERENCED PLANS. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A REFERENCE SURVEY AND FIELD WORK PERFORMED BY SEBAGO TECHINCS, INC. ON THE PROPOSED SUBURBAN PROPANE LOT AND 60-FOOT WIDE RIGHT-OF-WAY IN OCTOBER 2015.
6. PLAN REFERENCES:
 - A. "RIVERSIDE SUBDIVISION - SUBDIVISION RECORDING PLAT - OWNER OF RECORD: CITY OF PORTLAND, MAINE, PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION, 389 CONGRESS STREET, PORTLAND, MAINE 04101" DATED OCTOBER 7, 2010 BY WOODARD & CURRAN, STAMPED BY JOHN W. SWAN, PLS 1038. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 352.
 - B. "CONSERVATION EASEMENT PLAN FOR THE TRUST FOR PUBLIC LAND, 116 NEW MONGOMERY STREET, SAN FRANCISCO, CA 94105 EASEMENT LOCATED RIVERSIDE STREET, PORTLAND, MAINE" DATED MARCH 3, 2010 BY BOUNDARY POINTS, PROFESSIONAL LAND SURVEYING, LLC. THIS PLAN IS RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN PLAN BOOK 210, PAGE 129.
 - C. "AMENDMENT TO RIVERSIDE SUBDIVISION LOT #3, (EXISTING CONDITIONS)/PROPOSED LEASE AREA & ACCESS/UTILITY EASEMENT PLAN, MAP 323 LOT A008, LUCAS TREE, 1802-NADEN3, ELEVATIONS DEPICTED HEREON ARE NGVD29, BASED ON DUAL FREQUENCY GPS OBSERVATIONS. ELEVATIONS WERE CONVERTED TO NGVD29 UTILIZING THE U.S. ARMY CORPS OF ENGINEERS' 0.1 SOFTWARE, THE CHANGE FROM NAVD83 TO NGVD29 IS +0.688 FEET IN THIS VICINITY.
 - D. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL EVIDENCE LOCATED IN THE FIELD. UTILITIES DEPICTED HEREON MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES; CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-800-486-7SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
 - E. PORTIONS OF THE 2ND AMENDED SUBDIVISION AS DEPICTED HEREON DOES FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR THE CITY OF PORTLAND, MAINE, CUMBERLAND COUNTY, COMMUNITY-PANEL NUMBER 230051 0001. PORTIONS OF THE SUBDIVISION PROPERTY IN PROXIMITY TO THE PRESUMPSCOT RIVER, ITS TRIBUTARIES AND ADJACENT AREAS FALL WITHIN A ZONE AE, AREAS OF 100-YEAR FLOOD, HAVING A BASE FLOOD ELEVATION OF 35 IN THE SUBJECT AREA. THE PROPOSED PORTION OF LOT 4 AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA. THE PROPOSED LOT FALLS IN AN UNSHADED ZONE X, AREAS DETERMINED TO BE OUTSIDE OF THE 500-YEAR FLOODPLAIN.
7. THE WETLAND DELINEATION AS DEPICTED HEREON IS AS DEPICTED ON PLAN REFERENCE 6A, SEBAGO TECHINCS, INC. HAS NOT PERFORMED AN INDEPENDENT WETLAND SURVEY.
8. THIS LINE REPRESENTS THE LIMIT OF THE TOPOGRAPHIC SURVEY PERFORMED BY SEBAGO TECHINCS, INC. FOR THIS PROJECT. THE REMAINING TOPOGRAPHIC INFORMATION WAS TAKEN DIRECTLY FROM PLAN REFERENCE 6A.
9. THERE ARE NO BUILDINGS LOCATED ON THE PROPOSED PARCEL.
10. THE PROPOSED LOT IS SUBJECT TO DRAINAGE EASEMENTS AS DEPICTED HEREON.

STATE OF MAINE

CUMBERLAND COUNTY SS REGISTRY OF DEEDS
RECEIVED _____
20 _____
AT _____ h _____ m _____
M. _____ AND RECORDED IN _____
PLAN BOOK _____ PAGE _____

ATTEST

REGISTRAR



10

	DESIGNED	CHECKED
	CDM	CLB
A.	QDM	ISSUED TO CLIENT FOR REVIEW
REV:	BY:	DATE:
STATUS:		
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM SEBAGO TECHNICS, INC. ANY ALTERATIONS AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO SEBAGO TECHNICS, INC.		

SEBAGO
T E C H N I C S

WWW.SEBAGOTECHNICS.COM

75 John Roberts Rd.
Suite 1A
South Portland, ME 04106
Tel. 207-200-2100

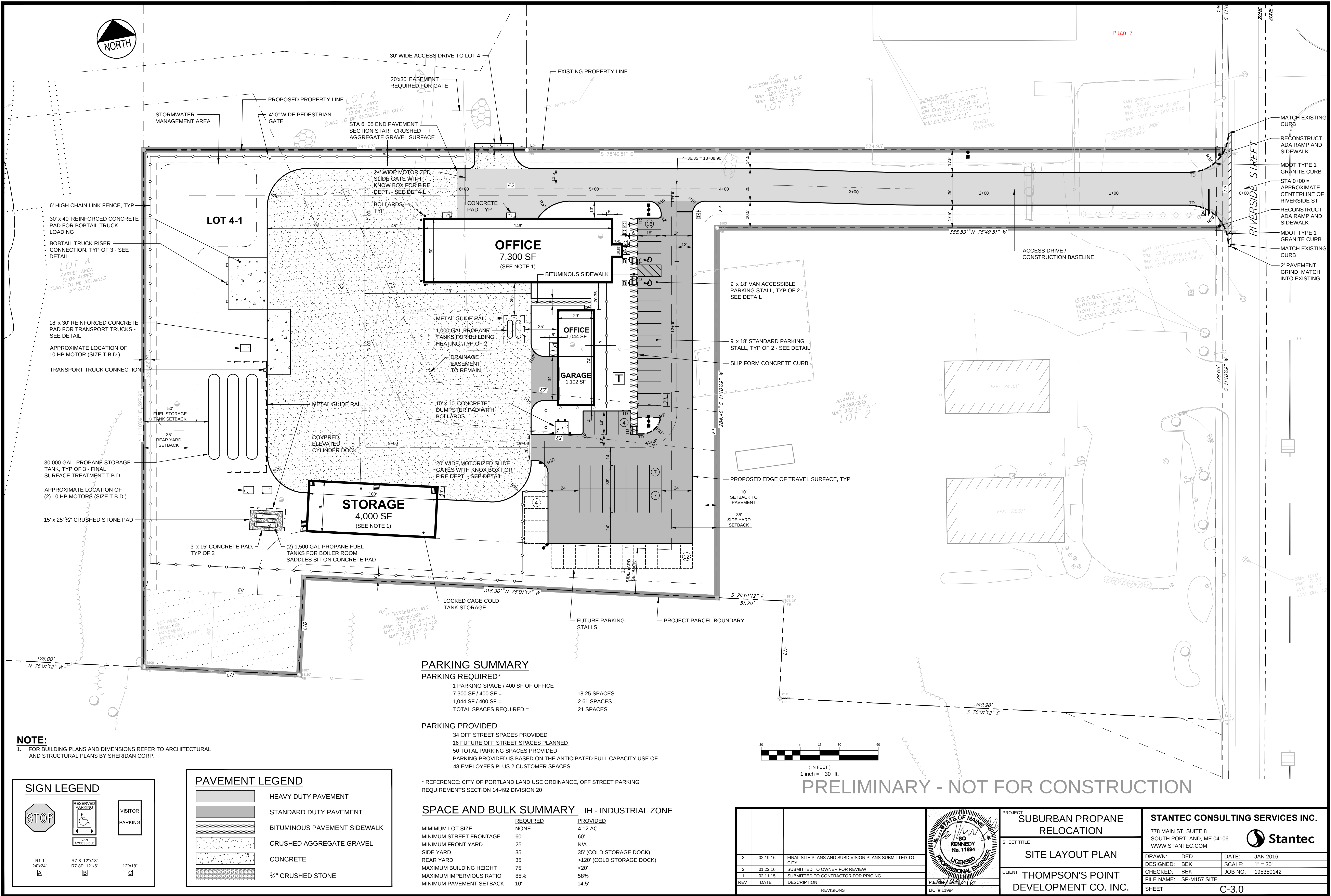
250 Goddard Rd.
Suite B
Lewiston, ME 04240
Tel. 207-783-5656

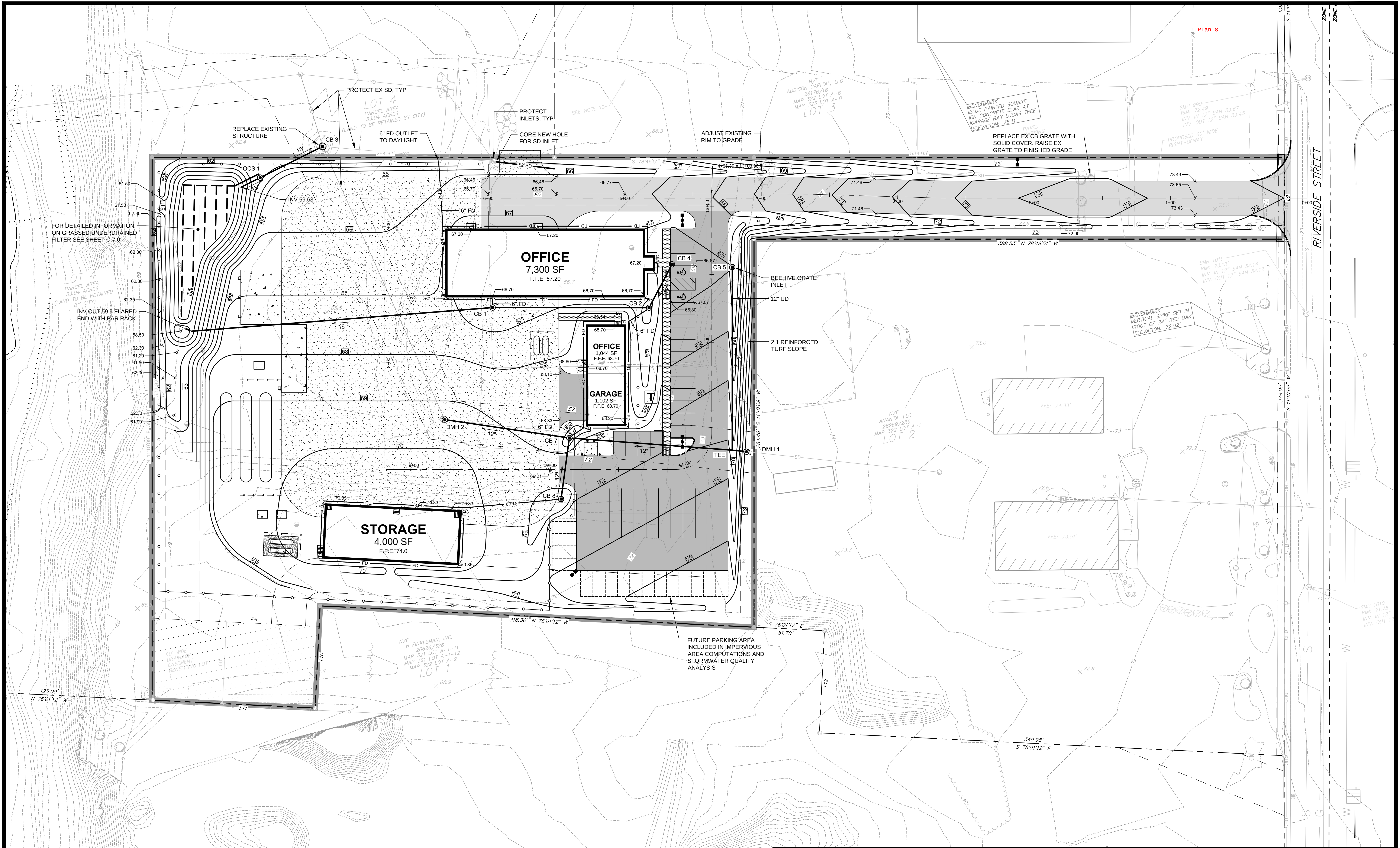
2ND AMENDED RIVERSIDE SUBDIVISION
 FOR RECORD OWNER:
 THE CITY OF PORTLAND, MAINE
 C/O PUBLIC SERVICES DEPARTMENT, ENGINEERING SECTION
 389 CONGRESS STREET, PORTLAND, MAINE 04101
 PREPARED FOR:
 FOREFRONT PARTNERS I, LP
 501 DANFORTH STREET
 PORTLAND, MAINE 04102

PROJECT NO.	SCALE
15254	1" = 100'

SHEET C-2.1

15254SB - to FST.dwg. TAB:15254SB

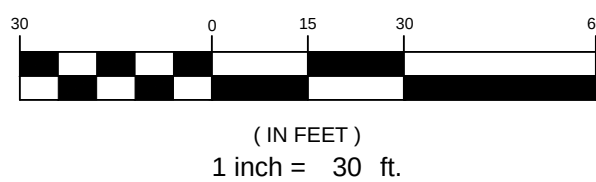




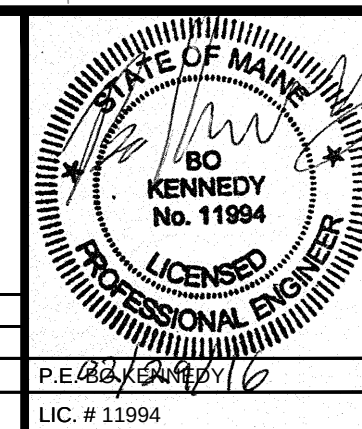
NOTES:

1. REFER TO SHEET C-9.1 AND C-9.2 STORM DRAIN PROFILES FOR PIPE SIZES, SLOPES AND APPURTENANCE INFORMATION
2. REFER TO SHEET C-7.0 STORMWATER MANAGEMENT: GRASSED UNDERDRAIN FILTER DETAILS FOR DETAILED INFORMATION

PRELIMINARY - NOT FOR CONSTRUCTION



REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW



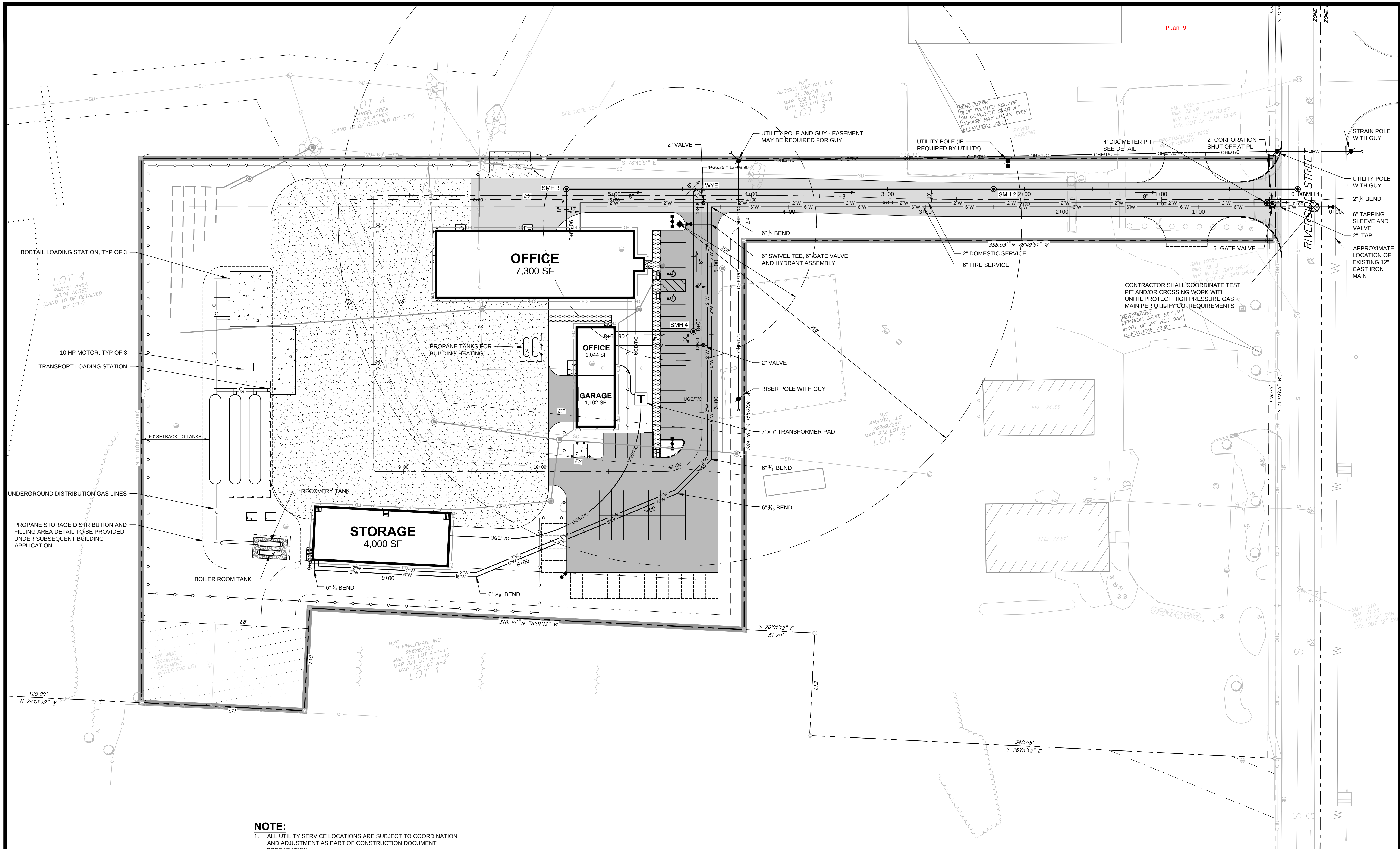
PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	GRADING AND DRAINAGE PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.

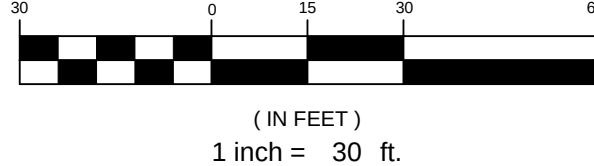
778 MAIN ST, SUITE 8
SOUTH PORTLAND, ME 04106
WWW.STANTEC.COM



DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: 1" = 30'
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 GRADING	
SHEET	C-4.0

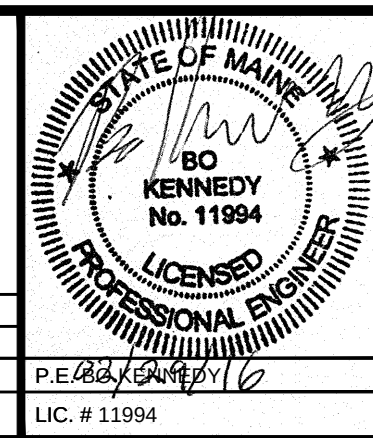


NOTE:
1. ALL UTILITY SERVICE LOCATIONS ARE SUBJECT TO COORDINATION AND ADJUSTMENT AS PART OF CONSTRUCTION DOCUMENT PREPARATION.



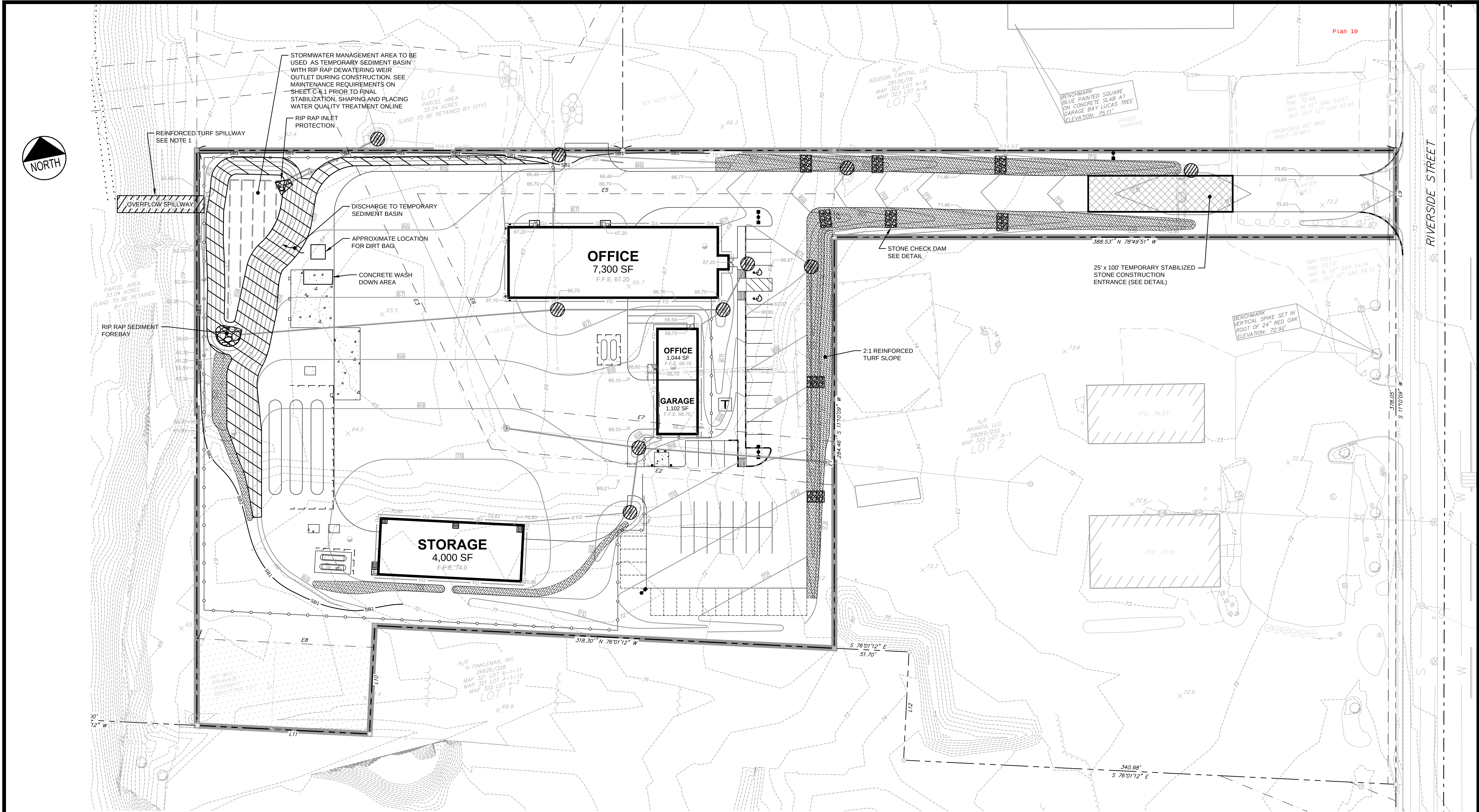
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW
1		



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	UTILITY PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: 1" = 30'
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 UTILITY	
SHEET	C-5.0



SCHEDULE OF SILT BARRIER REQUIREMENTS

SILT BARRIER*	TYPE PURPOSE	TIME OF INSTALLATION
CONDITION 1 SILT BARRIER —SB1—	TO TRAP SEDIMENT ALONG THE GRADING EDGE WHERE THE NEW CONTOURS NEARLY PARALLEL THE EXISTING CONTOURS	AT INITIAL SITE PREPARATION; PRIOR TO OTHER WORK
CONDITION 2 SILT BARRIER —SB2—	TO TRAP SEDIMENT FROM THE WORK AREA; INSTALL IN SHORT SECTIONS PARALLEL TO EXISTING CONTOUR; TYPICALLY OCCURS WHERE PROPOSED AND EXISTING CONTOURS FORM A 'V' SHAPE.	AT INITIAL SITE PREPARATION; PRIOR TO OTHER WORK

* PRODUCT SUBMITTAL APPROVAL REQUIRED PRIOR TO INSTALLATION. SILT BARRIER MAY CONSIST OF AN APPROVED PRODUCT INTENDED TO RETAIN SEDIMENT IN THE CONTAINMENT AREA INCLUDING BUT NOT LIMITED TO SILT FENCE, FILTREXX SOXX, WOOD MULCH COMPOST BERM, STRAW WATTLES, ETC. ALL MEASURES SHALL BE SIZED, INSTALLED AND MAINTAINED PER THE MANUFACTURERS RECOMMENDATIONS.

NOTES:

- CUT VEGETATION DOWN TO SURFACE GRADE, PLACE REINFORCEMENT MAT (C350 OR EQUAL) AND STAPLE PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL TAKE PRECAUTION NOT TO GRUB OR DAMAGE EXISTING ROOT STRUCTURE. HYDRO SEED WITH EROSION CONTROL MIX AND SOIL TACK.
- TO THE EXTENT PRACTICABLE THE CONTRACTOR SHALL INSTALL TEMPORARY DIVERSION SWALES TO CONVEY RUNOFF FROM DISTURBED AREAS TO TEMPORARY SEDIMENT SUMPS AND/OR OTHER BMP'S TO REDUCE TURBIDITY IN DISCHARGE TO EXISTING SD. BMP'S MAY INCLUDE BUT ARE NOT LIMITED TO SAND FILTERS, EROSION CONTROL MIX, STRAW WAFFLES, FLOCCULATION CHEMICALS, DIRT GLUE AND SILT BARRIERS.
- STOCKPILES TO BE TEMPORARILY SEEDED AND MULCHED AS REQUIRED BY PROJECT SPECIFICATIONS.
- REFER TO SHEET C-6.1 FOR A FULL LIST OF EROSION CONTROL NOTES.

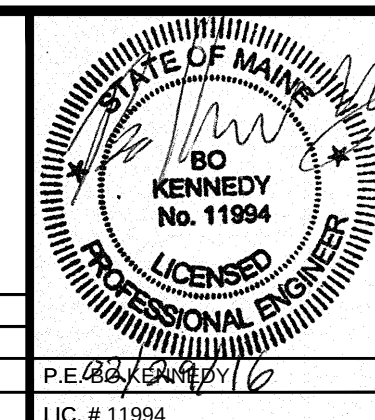
LEGEND

	INLET PROTECTION (SILT SACKS AND SURFACE SEDIMENT BARRIER)
	CURLEX BLANKET IN V-NOTCH CHANNELS
	SLOPES >3:1 WITH REINFORCED TURF
	EROSION CONTROL MESH



PRELIMINARY - NOT
FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW
1		



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	EROSION CONTROL PLAN
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 EROSION	
SHEET	C-6.0

II.4 EROSION CONTROL MEASURES AND SITE STABILIZATION

THE PROPOSED EROSION AND SEDIMENTATION CONTROL PLAN MEETS OR EXCEEDS THE SOIL CONSERVATION SERVICE ENVIRONMENTAL QUALITY HANDBOOK.

THE PRIMARY EMPHASES OF THE EROSION/SEDIMENTATION CONTROL PLAN TO BE IMPLEMENTED FOR THE INFRASTRUCTURE CONSTRUCTION ARE AS FOLLOWS:

- DEVELOPMENT OF A CAREFUL CONSTRUCTION SEQUENCE.
- RAPID REVEGETATION OF DENUDED AREAS TO MINIMIZE THE PERIOD OF SOIL EXPOSURE.
- RAPID STABILIZATION OF DRAINAGE PATHS TO AVOID RILL AND GULLY EROSION.
- THE USE OF ON-SITE MEASURES TO CAPTURE SEDIMENT (STONE CHECK DAMS/HAY BALES/SILT FENCE, ETC.)

THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL DEVICES WILL BE IMPLEMENTED AS PART OF THE SITE DEVELOPMENT. THESE DEVICES SHALL BE INSTALLED ON THE PLANS OR AS DESCRIBED WITHIN THIS REPORT. FOR FURTHER REFERENCE, SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES.

A. TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING MEASURES ARE PLANNED AS TEMPORARY EROSION/SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION:

1. A TEMPORARY CRUSHED STONE-STABILIZED CONSTRUCTION ENTRANCE SHALL BE PLACED AT ANY ACCESS ROUTES OUT OF THE CONSTRUCTION ZONE.
2. SILTATION FENCE OR WOOD WASTE COMPOST BERMS SHALL BE INSTALLED DOWNGRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL THE SITE IS FULLY STABILIZED. THE SILT FENCE AND/OR THE WOOD WASTE COMPOST BERMS SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THIS PACKAGE AND INSPECTED AT LEAST ONCE A WEEK AND BEFORE AND AFTER A STORM EVENT. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE OR BERM LINE. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.
3. STRAW OR HAY MULCH INCLUDING HYDROSEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED AND SHOULD BE APPLIED AT A RATE A 115 LBS / 1000 S.F. MULCH PLACED BETWEEN APRIL 15TH AND OCTOBER 15TH ON SLOPES OF LESS THEN 15 PERCENT SHALL BE ANCHORED BY APPLYING WATER; MULCH PLACED ON SLOPES OF EQUAL TO OR STEEPER THAN 15 PERCENT SHALL BE COVERED BY A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN OCTOBER 15TH AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT SHALL BE COVERED WITH A FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. SLOPES STEEPER THAN 3:1, WHICH ARE TO BE REVEGETATED, SHALL RECEIVE CURLEX BLANKETS BY AMERICAN EXCELSIOR OR EQUAL. MULCH APPLICATION RATES ARE PROVIDED IN ATTACHMENT A OF THIS SECTION. MULCH SHALL NOT BE PLACED OVER SNOW.
4. TEMPORARY STOCKPILES OF STUMPS, GRUBBINGS, OR COMMON EXCAVATION WILL BE PROTECTED AS FOLLOWS:
 - a. TEMPORARY STOCKPILES SHALL NOT BE LOCATED WITHIN 50 FEET OF ANY WETLANDS, WHICH WILL NOT BE DISTURBED AND ANY SLOPES WHICH EXCEED 15%.
 - b. STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS BY EITHER TEMPORARILY SEEDING THE STOCKPILE BY A HYDROSEED METHOD CONTAINING AN EMULSIFIED MULCH TACKIFIER OR BY COVERING THE STOCKPILE WITH MULCH.
 - c. STOCKPILES SHALL BE SURROUNDED BY SILT FENCE OR OTHER SEDIMENT BARRIER AT THE TIME OF FORMATION.
5. FOR WORK, WHICH IS CONDUCTED BETWEEN OCTOBER 15 AND APRIL 15 OF ANY CALENDAR YEAR, ALL DENUDED AREAS WILL BE COVERED WITH HAY MULCH, APPLIED AT TWICE THE NORMAL APPLICATION RATE AND ANCHORED WITH FABRIC NETTING. THE TIME PERIOD FOR APPLYING MULCH AS NOTED IN PARAGRAPH II.4.A.3, SHALL BE LIMITED TO 7 DAYS FOR ALL AREAS.
6. RIVERSIDE STREET SHALL BE SWEEPED TO CONTROL MUD AND DUST AS NECESSARY.
7. DURING GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
8. SILT FENCING WITH A MINIMUM STAKE SPACING OF 6 FEET SHOULD BE USED, UNLESS THE FENCE IS SUPPORTED BY WIRE FENCE REINFORCEMENT OF MINIMUM 14 GAUGE AND WITH A MAXIMUM MESH SPACING OF 6 INCHES, IN WHICH CASE STAKES MAY BE SPACED A MAXIMUM OF 10 FEET APART. THE BOTTOM OF THE FENCE SHALL BE ANCHORED.
9. WOOD WASTE COMPOST/BARK BERMS MAY BE USED IN LIEU OF SILTATION FENCING. BERMS SHALL BE REMOVED AND SPREAD IN A LAYER NOT TO EXCEED 3" THICK ONCE UPGRADIENT AREAS ARE COMPLETED AND A 90% CATCH OF VEGETATION IS ATTAINED.
10. WATER AND/OR CALCIUM CHLORIDE SHALL BE FURNISHED AND APPLIED IN ACCORDANCE WITH MDOT SPECIFICATIONS - SECTION 637 - DUST CONTROL.
11. TEMPORARY CATCH BASIN INLET BARRIERS SHALL BE INSTALLED THROUGHOUT THE COURSE OF CONSTRUCTION. ACCEPTABLE BARRIERS INCLUDE SILKSACKS, STONE SEDIMENT BARRIERS OR OTHER EQUIVALENT DEVICES.
12. CONSTRUCT TEMPORARY SEDIMENT BASIN IN THE STORMWATER MANAGEMENT BASIN AREA. REFER TO RESTRICTIONS FOR CONSTRUCTION OF FINAL BASIN ON DETAIL SHEET C-7.0.

B. PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES HAVE BEEN DESIGNED AS PART OF THE EROSION/SEDIMENTATION CONTROL PLAN:

1. ALL STORM DRAIN PIPE OUTLETS SHALL HAVE RIPRAP APRONS AT THEIR OUTLET TO PROTECT THE OUTLET AND RECEIVING CHANNEL OF THE CULVERTS FROM SCOUR AND DETERIORATION. INSTALLATION DETAILS ARE INCLUDED WITHIN THE PLAN SET WITH THIS PACKAGE. THE APRONS SHALL BE INSTALLED AND STABILIZED TO THE EXTENT PRACTICABLE PRIOR TO DIRECTING RUNOFF TO THE TRIBUTARY PIPE OR CULVERT.
2. ALL AREAS DISTURBED DURING CONSTRUCTION, BUT NOT SUBJECT TO OTHER RESTORATION (PAVING, RIPRAP, ETC.) WILL BE LOAMED, LIMED, FERTILIZED, MULCHED, AND SEEDED. FABRIC NETTING, ANCHORED WITH STAPLES, SHALL BE PLACED OVER THE MULCH IN AREAS AS NOTED IN PARAGRAPH II.4.A.3. ALL AREAS WITHIN 50 FEET OF AN UNDISTURBED WETLAND SHALL BE MULCHED PRIOR TO ANY PREDICTED RAIN EVENT REGARDLESS OF THE 7-DAY WINDOW. NATIVE TOPSOIL SHALL BE STOCKPILED AND REUSED FOR FINAL RESTORATION WHEN IT IS OF SUFFICIENT QUALITY.

C. IMPLEMENTATION SCHEDULE

THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED FOR THE SITE DEVELOPMENT TO INSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES ARE OPTIMIZED:

NOTE: FOR ALL GRADING ACTIVITIES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO OVEREXPOSE THE SITE BY LIMITING THE DISTURBED AREA.

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE(S) SITE ENTRY/EXIST LOCATIONS.
2. CLEAR AREA NECESSARY FOR THE PARKING AREA/BUILDING CONSTRUCTION.
3. INSTALL PERIMETER SILTATION FENCE AND/OR WOOD WASTE BERMS PRIOR TO GRUBBING RESPECTIVE AREAS.
4. GRUB WORK AREA FOR PARKING LOTS AND BUILDINGS.
5. DURING GRUBBING OPERATIONS, INSTALL STONE CHECK DAMS AT ANY EVIDENT CONCENTRATED FLOW DISCHARGE POINTS.
6. COMMENCE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR THE PARKING LOTS AND WALKWAYS.
7. COMMENCE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR THE BUILDING FOUNDATION.
8. COMMENCE INSTALLATION OF DRAINAGE APPURTENANCES, INCLUDING CATCH BASINS, MANHOLES, ETC.
9. COMMENCE INSTALLATION OF UNDERGROUND UTILITIES.

10. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
11. COMPLETE REMAINING EARTHWORK OPERATIONS.
12. COMMENCE BUILDING FOUNDATIONS.
13. INSTALL SUBBASE AND BASE COURSE GRAVELS WITHIN PARKING LOTS AND WALKWAYS.
14. COMPLETE INSTALLATION OF DRAINAGE APPURTENANCES AND UTILITY APPURTENANCES.
15. COMPLETE UNDERGROUND TANK INSTALLATION AND REINFORCED CONCRETE PADS FOR TRUCK FILLING.
16. INSTALL BASE COURSE PAVING FOR THE PARKING LOTS.
17. CONTINUE BUILDING CONSTRUCTION.
18. INSTALL SURFACE COURSE PAVING FOR THE PARKING, AND WALKWAY AREAS.
19. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS.
20. REMOVE ACCUMULATED SEDIMENT FROM AHEAD OF ANY SEDIMENT BARRIERS AS NECESSARY.
21. ONCE THE SITE IS STABILIZED AND A 90% CATCH OF VEGETATION HAS BEEN OBTAINED, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
22. TOUCH UP LOAM AND SEED.
23. COMPLETE PAVEMENT MARKINGS AND SIGNAGE

PRIOR TO CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE FOR THE COMPLETION OF THE WORK, WHICH WILL SATISFY THE FOLLOWING CRITERIA:

1. THE ABOVE CONSTRUCTION SEQUENCE SHOULD GENERALLY BE COMPLETED IN THE SPECIFIED ORDER; HOWEVER, SEVERAL SEPARATE ITEMS MAY BE CONSTRUCTED SIMULTANEOUSLY. WORK MUST ALSO BE SCHEDULED OR PHASED TO LIMIT 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 SILT FENCE AND CONSTRUCTION ENTRANCES IN PLACE BEFORE LARGE AREAS OF LAND ARE DENUDED.
2. THE WORK SHALL BE CONDUCTED IN SECTIONS WHICH WILL:
 - 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. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT.
 - c. INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEM AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

A. EROSION, SEDIMENTATION AND STABILIZATION CONTROL PLAN

THE EROSION, SEDIMENTATION AND STABILIZATION CONTROL DETAILS ARE INCLUDED IN THE PLAN SET.

B. WINTER STABILIZATION PLAN

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A PARKING LOT.

WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE PROCEEDING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN PARKING AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED.

THE CONTRACTOR SHALL INSTALL ANY ADDED MEASURES, WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DEPENDENT UPON THE ACTUAL SITE AND WEATHER CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. SOIL STOCKPILES
STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS./1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOODWASTE EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE-ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. ANY SOIL STOCKPILE SHALL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 50 FEET FROM ANY NATURAL RESOURCES.

2. NATURAL RESOURCE PROTECTION
ANY AREAS WITHIN 50 FEET FROM ANY NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75% MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.

3. SEDIMENT BARRIERS
DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOODWASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.

4. MULCHING
AN AREA SHALL BE CONSIDERED DENUDED UNTIL AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOAMED, SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75-LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR HAY AT A RATE OF 150 LB. PER 1,000 SQUARE FEET (3 TONS/ACRE) AND ADEQUATELY ANCHORED THAT GROUND SURFACE IS NOT VISIBLE THOUGH THE MULCH.

BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING, ASPHALT EMULSION CHEMICAL, TRACK OR WOOD CELLULOSE FIBER. WHEN GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH THEN COVER IS SUFFICIENT. AFTER NOVEMBER 1ST, MULCH AND ANCHORING OF ALL BARE SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

5. MULCHING ON SLOPES AND DITCHES
SLOPES SHALL NOT BE LEFT EXPOSED FOR ANY EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY MULCHED AND ANCHORED WITH PEG AND NETTING OR WITH EROSION CONTROL BLANKETS. MULCHING SHALL BE APPLIED AT A RATE OF 230 LBS./1,000 S.F. ON ALL SLOPES GREATER THAN 8% OR GREATER.

MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE WAYS WITH A SLOPE GREATER THAT 3% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAT 8%. EROSION CONTROL BLANKETS SHALL BE USED IN LIEU OF MULCH IN ALL DRAINAGE WAYS WITH SLOPES 8% OR GREATER. EROSION CONTROL MIX CAN BE USED TO SUBSTITUTE EROSION CONTROL BLANKETS ON ALL SLOPES EXCEPT DITCHES.

6. SEEDING
BETWEEN THE DATES OF OCTOBER 15 AND APRIL 1ST, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS 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 1ST 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. DORMANT SEEDING MAY BE SELECTED TO BE PLACED PRIOR TO THE PLACEMENT OF MULCH AND

FABRIC NETTING ANCHORED WITH STAPLES. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

7. DEWATERING
WATER FROM CONSTRUCTION TRENCH DEWATERING SHALL PASS FIRST THROUGH A FILTER BAG OR SECONDARY CONTAINMENT STRUCTURE (E.G. HAY BALE LINED POOL) PRIOR TO DISCHARGE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 50 FEET OF A PROTECTED NATURAL RESOURCE.

8. INSPECTION AND MONITORING
MAINTENANCE MEASURES SHALL BE APPLIED AS NEEDED DURING THE ENTIRE CONSTRUCTION SEASON. AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF ALL INSTALLED EROSION CONTROL MEASURES AND PERFORM REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL IN THE SPRING INSPECT AND REPAIR ANY DAMAGES AND/OR UNESTABLISHED SPOTS. ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 85% TO 90% OF AREAS VEGETATED WITH VIGOROUS GROWTH.

F. STANDARDS FOR TIMELY STABILIZATION OF CONSTRUCTION SITES DURING WINTER

1. STANDARD FOR THE TIMELY STABILIZATION OF DITCHES AND CHANNELS -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS ON THE SITE BY NOVEMBER 15. THE APPLICANT SHALL CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS ON THE SITE BY SEPTEMBER 15. IF THE APPLICANT FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED BY SEPTEMBER 15, THEN THE APPLICANT WILL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.

- a. INSTALL A SOD LINING IN THE DITCH -- THE APPLICANT SHALL LINE THE DITCH WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD WITH JUTE OR PLASTIC MESH TO PREVENT THE SOD STRIPS FROM SLOUGHING DURING FLOW CONDITIONS.
- b. INSTALL A STONE LINING IN THE DITCH --THE APPLICANT SHALL LINE THE DITCH WITH STONE RIPRAP BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE APPLICANT SHALL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SLOPES -- THE APPLICANT SHALL CONSTRUCT AND STABILIZE STONE-COVERED SLOPES BY NOVEMBER 15. THE APPLICANT SHALL SEED AND MULCH ALL SLOPES TO BE VEGETATED BY SEPTEMBER 15. THE DEPARTMENT SHALL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% (15H:1V) TO BE A SLOPE. IF THE APPLICANT FAILS TO STABILIZE ANY SLOPE TO BE VEGETATED BY SEPTEMBER 15, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER.

- a. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. -- BY OCTOBER 1 THE APPLICANT SHALL SEED THE DISTURBED SLOPE WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1,000 SQUARE FEET AND APPLY EROSION CONTROL MATS OVER THE MULCHED SLOPE. THE APPLICANT SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SLOPE BY NOVEMBER 1, THEN THE APPLICANT SHALL COVER THE SLOPE WITH A LAYER OF WOODWASTE COMPOST AS DESCRIBED IN ITEM III OF THIS STANDARD OR WITH STONE RIPRAP AS DESCRIBED IN ITEM IV OF THIS STANDARD.
- b. STABILIZE THE SLOPE WITH SOD -- THE APPLICANT SHALL STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE APPLICANT SHALL NOT USE LATE-SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (3H:1V).
- c. STABILIZE THE SLOPE WITH WOODWASTE COMPOST -- THE APPLICANT SHALL PLACE A SIX-INCH LAYER OF WOODWASTE COMPOST ON THE SLOPE BY NOVEMBER 15. PRIOR TO PLACING THE WOODWASTE COMPOST, THE APPLICANT WILL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED SLOPE. THE APPLICANT SHALL NOT USE WOODWASTE COMPOST TO STABILIZE SLOPES HAVING GRADES GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- d. STABILIZE THE SLOPE WITH STONE RIPRAP -- THE APPLICANT SHALL PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE APPLICANT SHALL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

3. STANDARD FOR THE TIMELY STABILIZATION OF DISTURBED SOILS -- BY SEPTEMBER 15 THE APPLICANT SHALL SEED AND MULCH ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15%. IF THE APPLICANT FAILS TO STABILIZE THESE SOILS BY THIS DATE, THEN THE APPLICANT SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.

- a. STABILIZE THE SOIL WITH TEMPORARY VEGETATION -- BY OCTOBER 1 THE APPLICANT SHALL SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. THE APPLICANT SHALL MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS GROW AT LEAST THREE INCHES OR COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 15, THEN THE APPLICANT SHALL MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED IN ITEM III OF THIS STANDARD.
- b. STABILIZE THE SOIL WITH SOD -- THE APPLICANT SHALL STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE APPLICANT PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
- c. STABILIZE THE SOIL WITH MULCH -- BY NOVEMBER 15 THE APPLICANT SHALL MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. PRIOR TO APPLYING THE MULCH, THE APPLICANT SHALL REMOVE ANY SNOW ACCUMULATION ON THE DISTURBED AREA. IMMEDIATELY AFTER APPLYING THE MULCH, THE APPLICANT WILL ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

G. MAINTENANCE OF FACILITIES

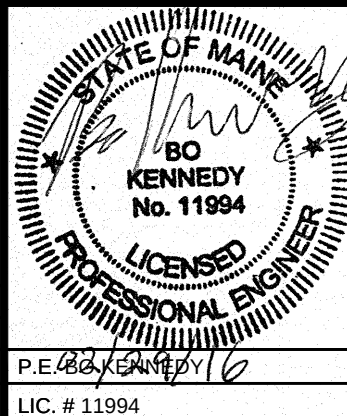
THE STORMWATER FACILITIES WILL BE MAINTAINED BY THE APPLICANT, OR THEIR ASSIGNED HEIRS. THE CONTRACT DOCUMENTS WILL REQUIRE THE CONTRACTOR TO DESIGNATE A PERSON, WHO HAS KNOWLEDGE OF EROSION AND STORMWATER CONTROL INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, TO BE RESPONSIBLE FOR MAINTENANCE OF THE SEDIMENTATION CONTROL FEATURES DURING CONSTRUCTION AS REQUIRED BY THE EROSION CONTROL REPORT. DOCUMENTATION OF ANY INSPECTIONS, MAINTENANCE, AND ANY CORRECTIVE ACTIONS TAKEN SHALL BE SUMMARIZED IN A LOG (REPORT). THE LOG SHALL COMPLY WITH CHAPTER 500 APPENDIX B.1.C AND APPENDIX B.2.D. OF THE STATE OF MAINE DEP, STORMWATER MANAGEMENT RULES.

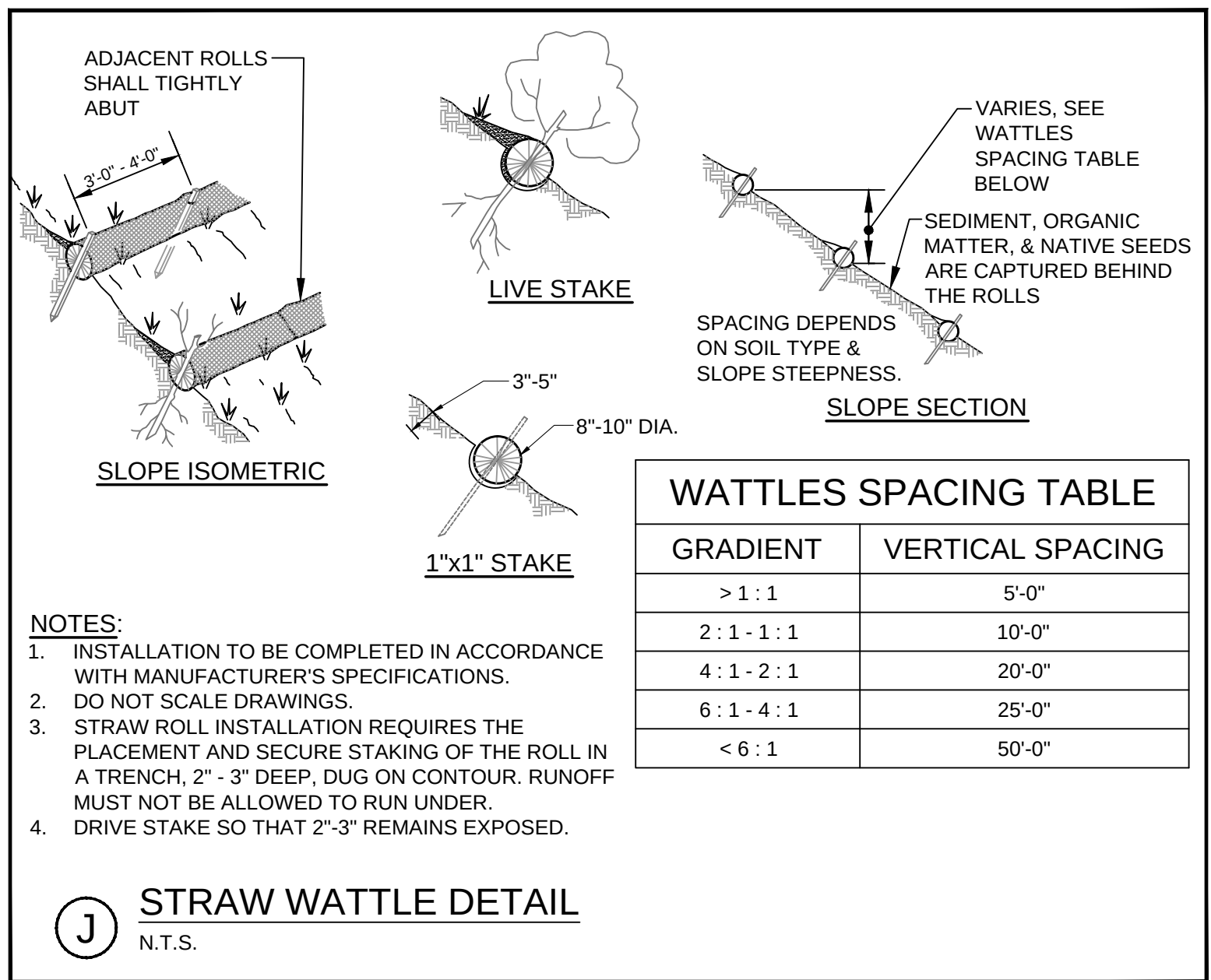
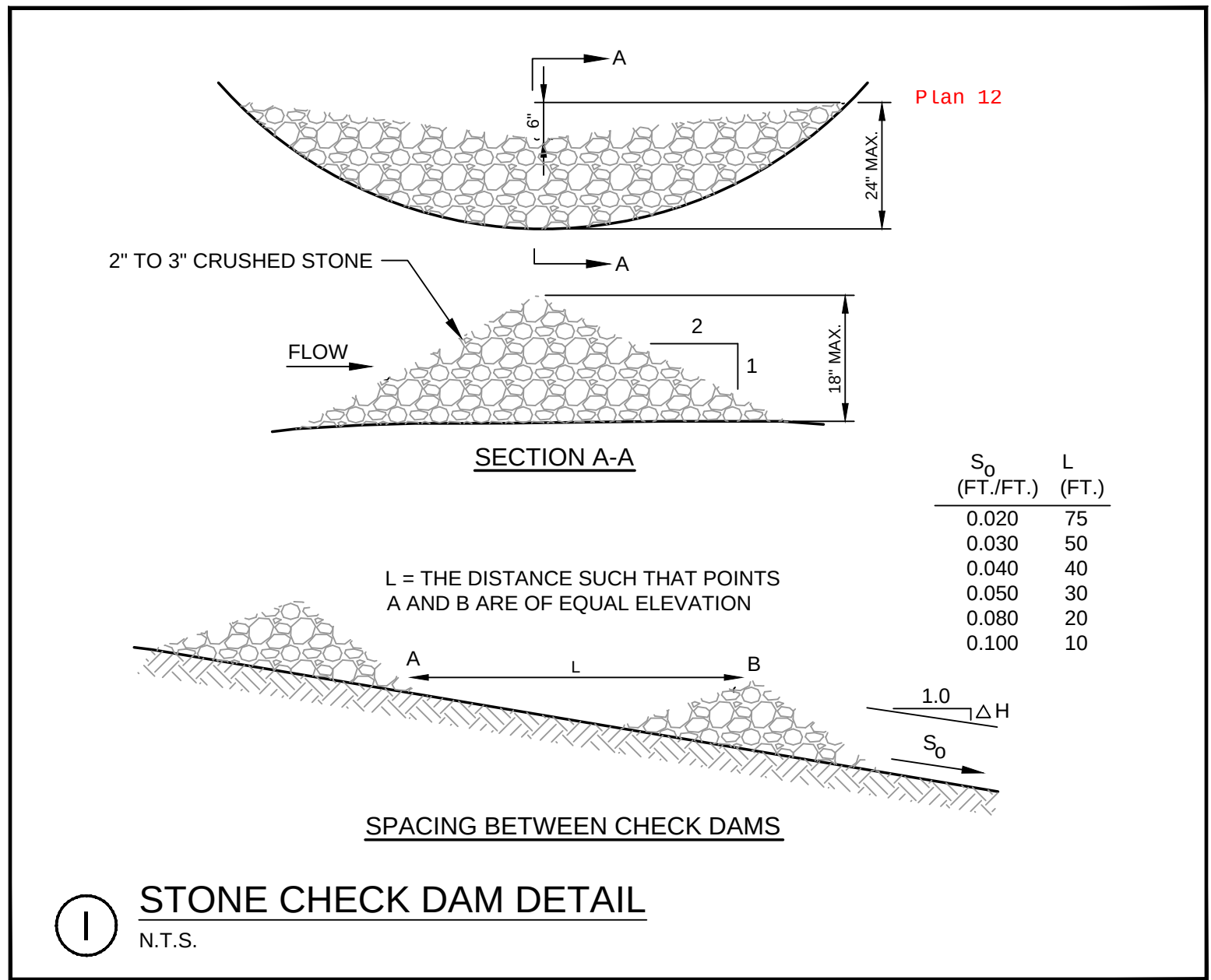
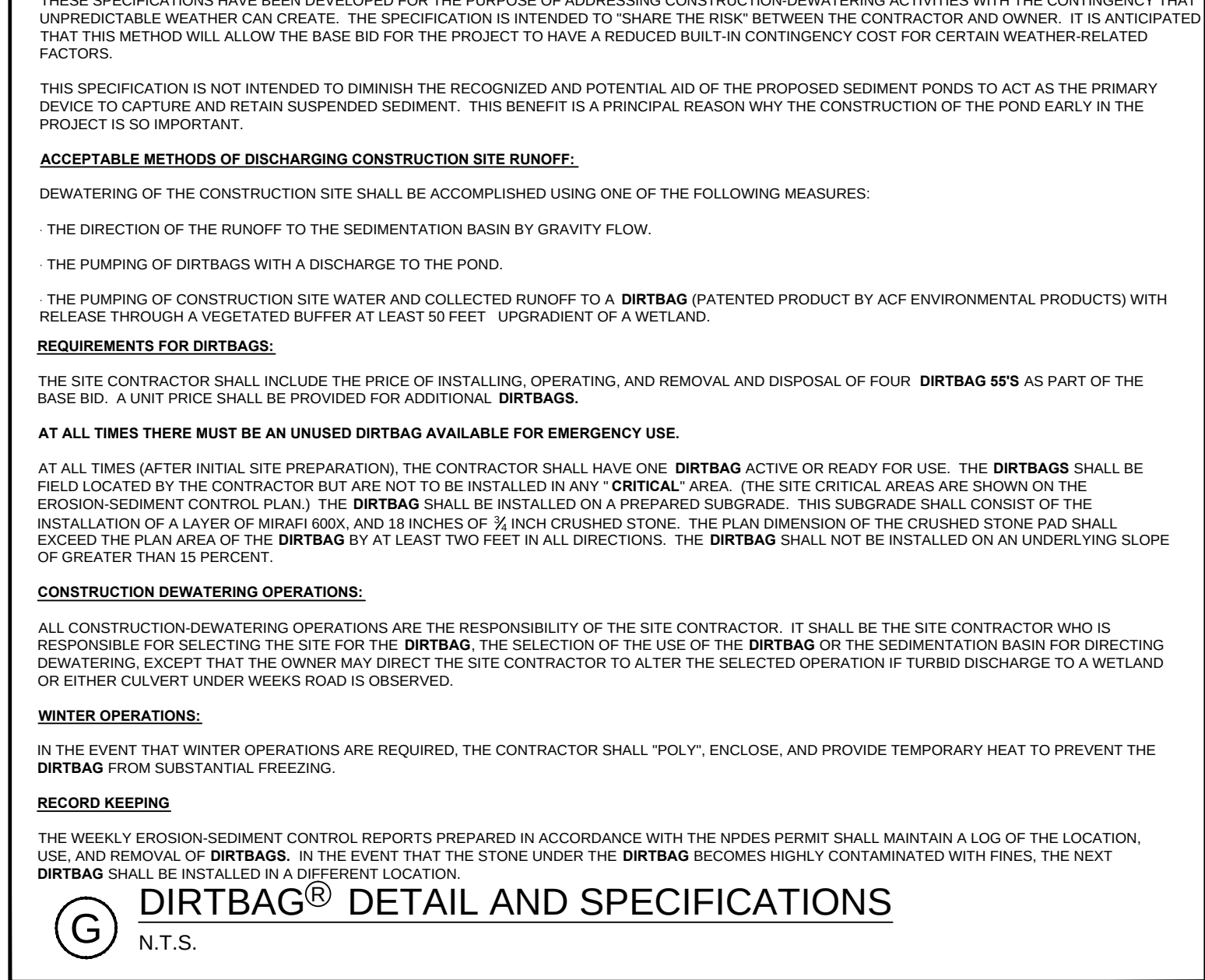
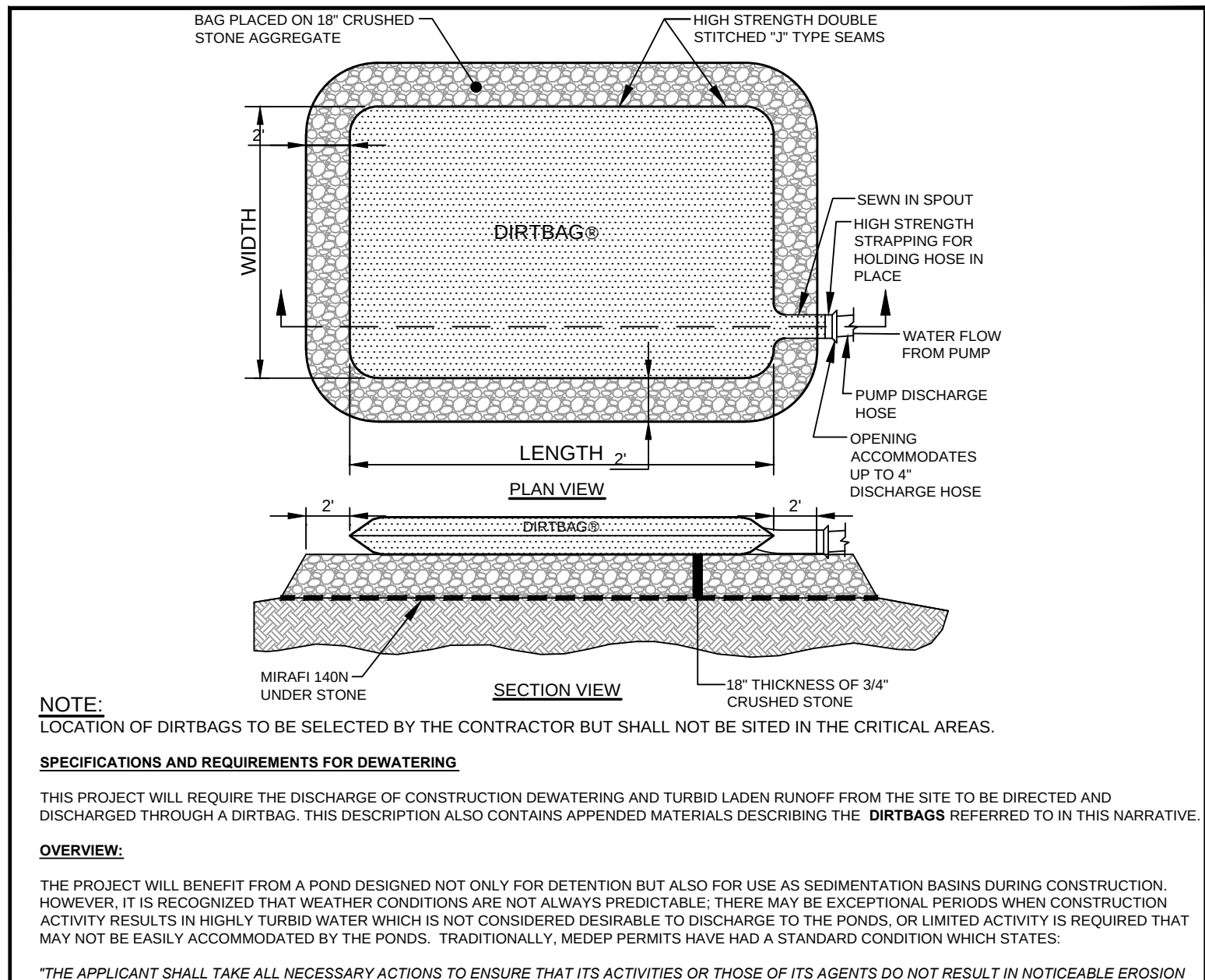
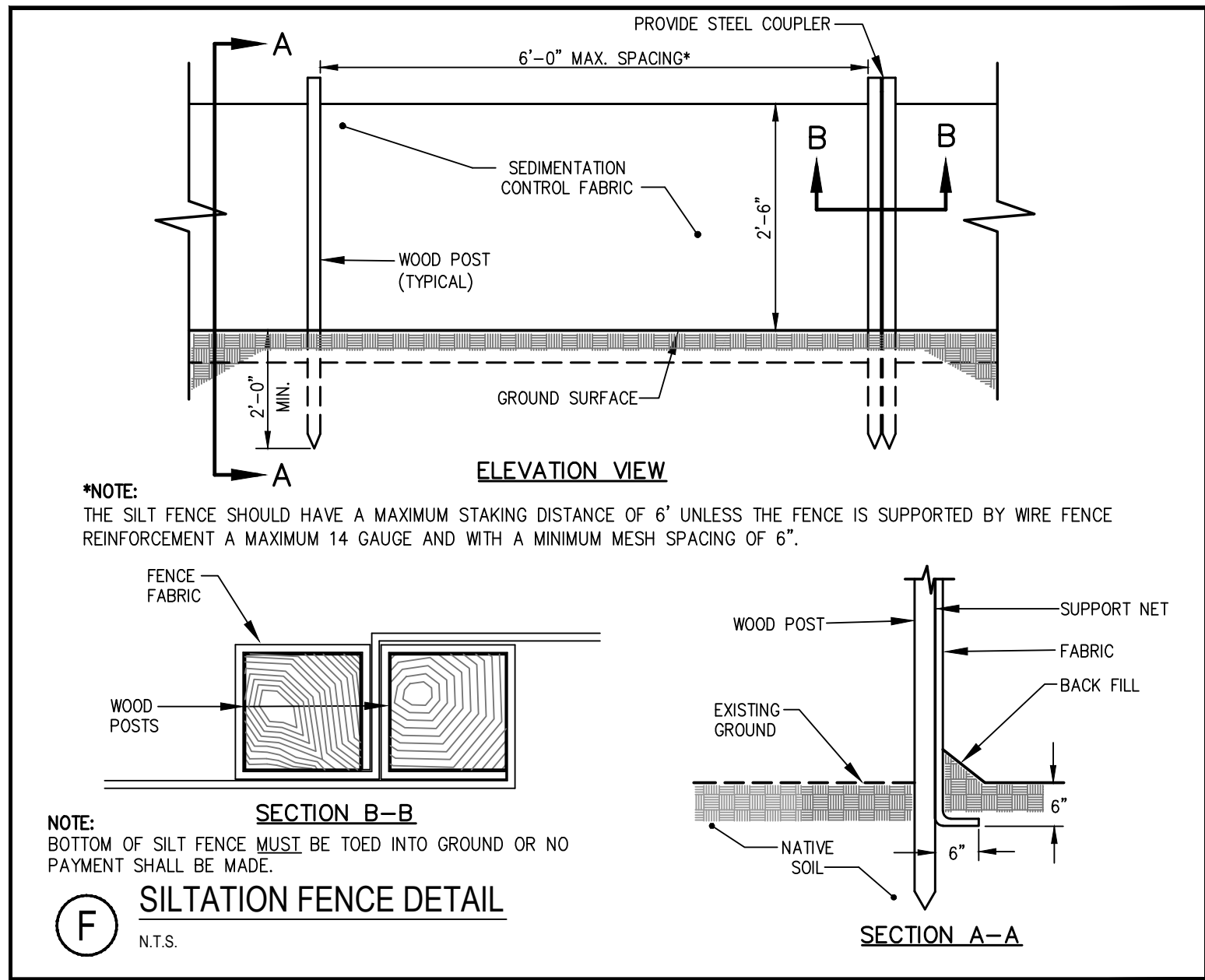
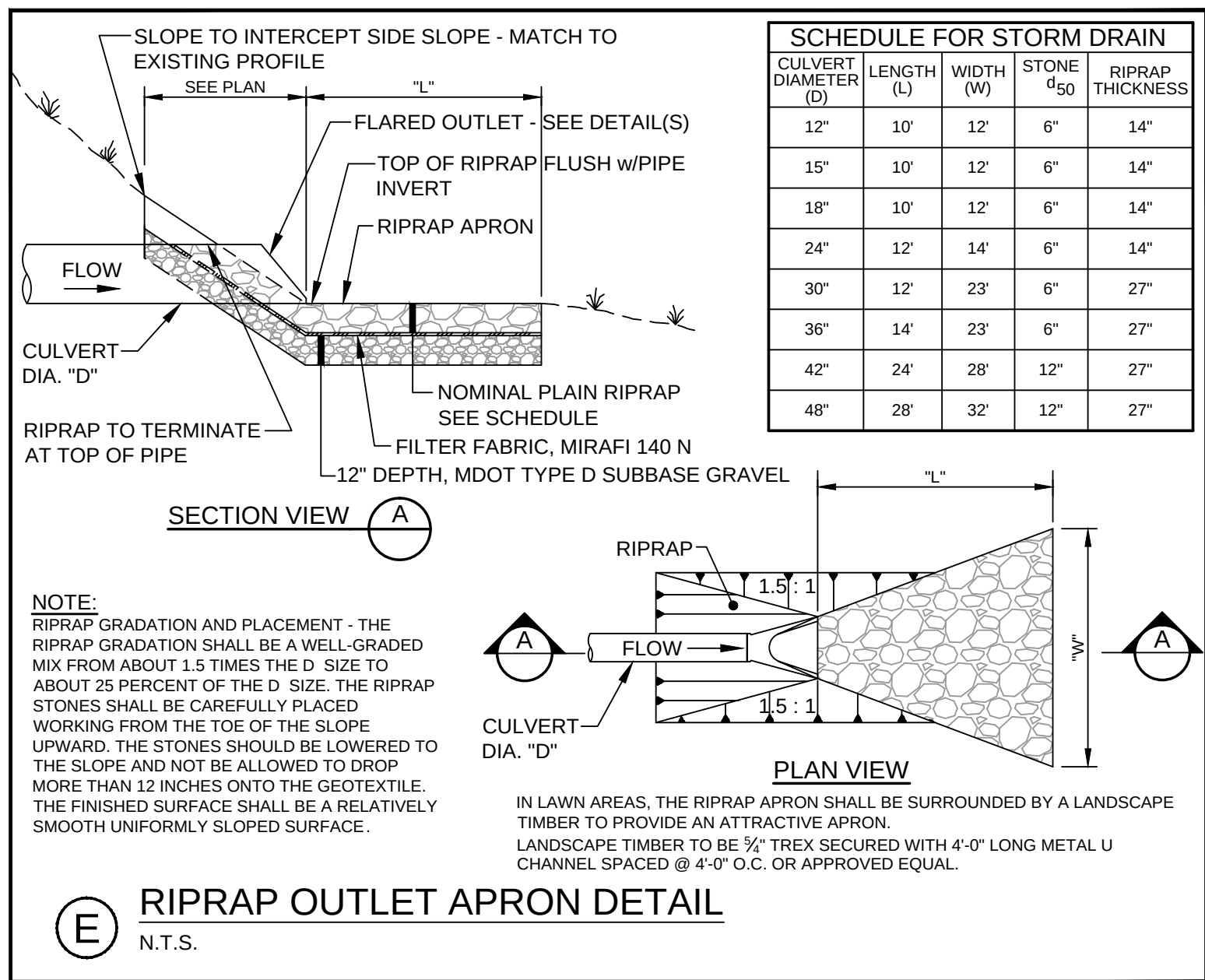
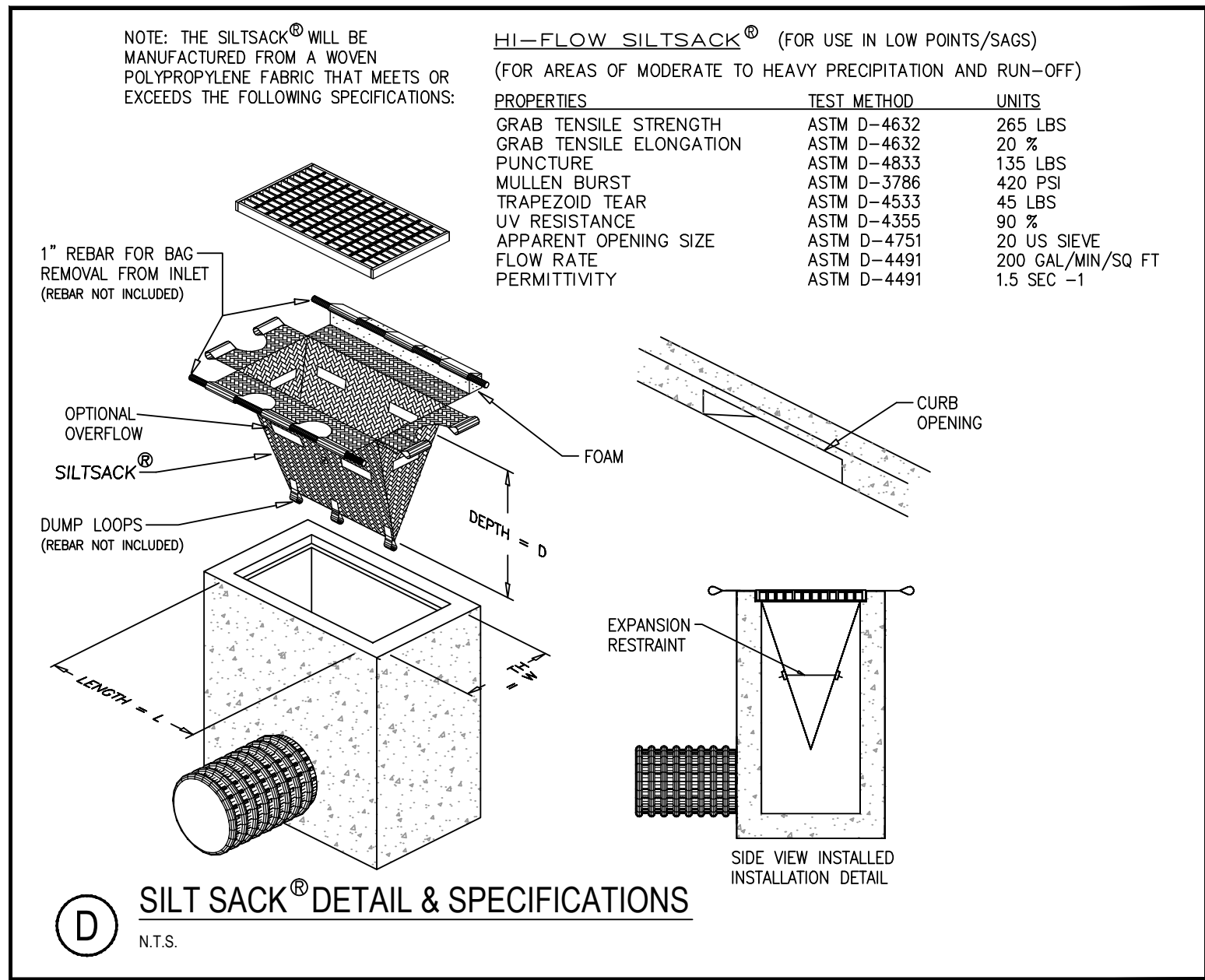
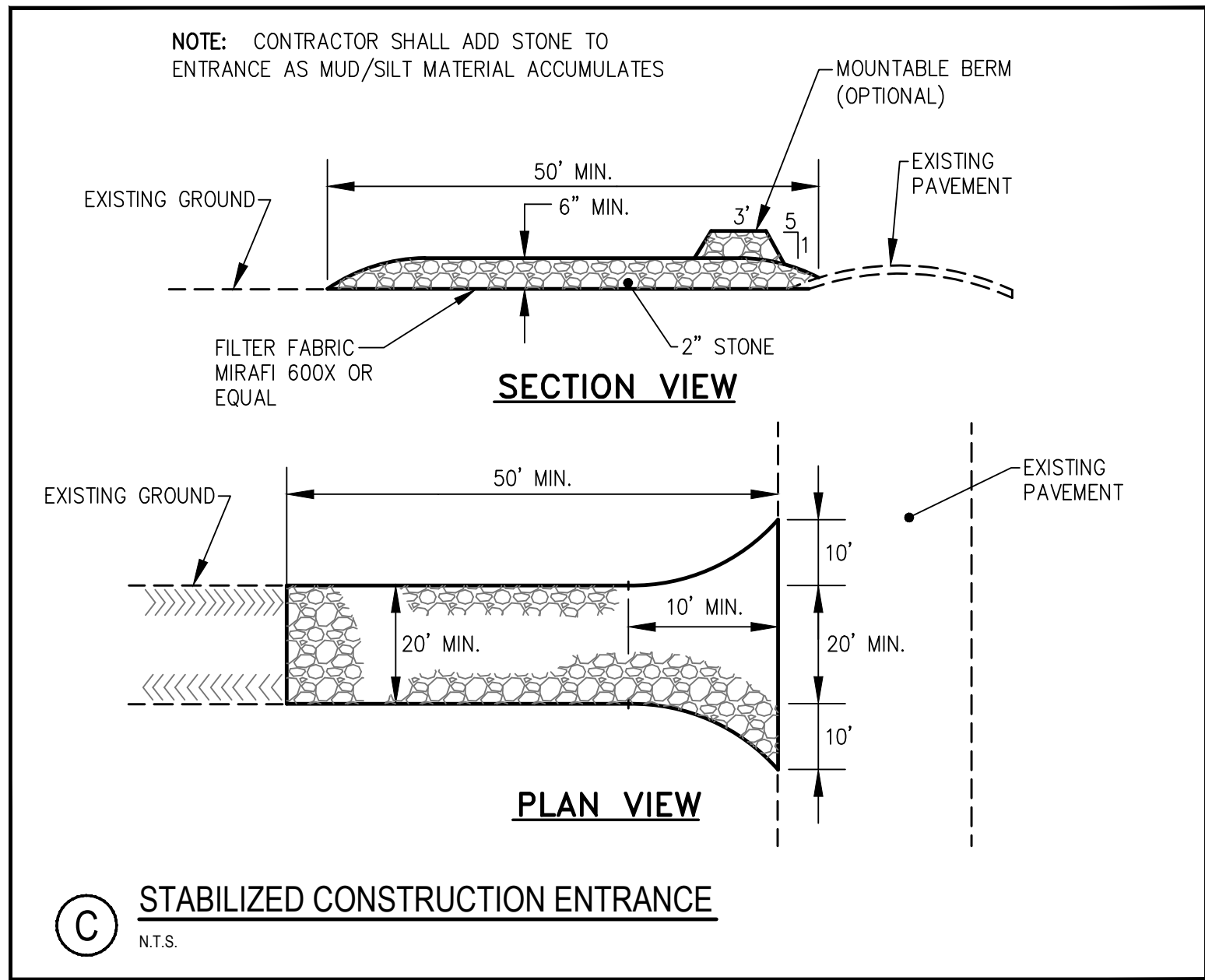
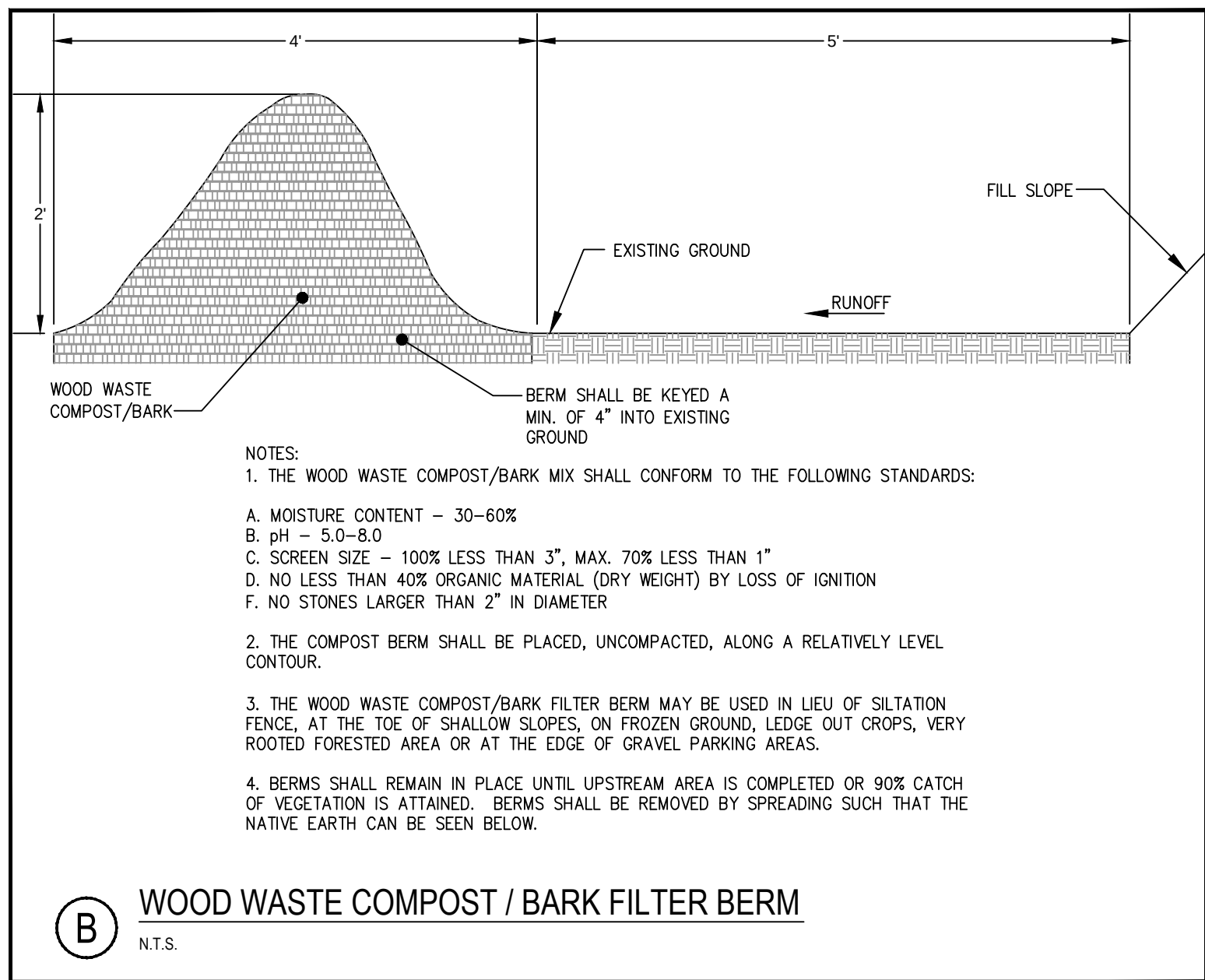
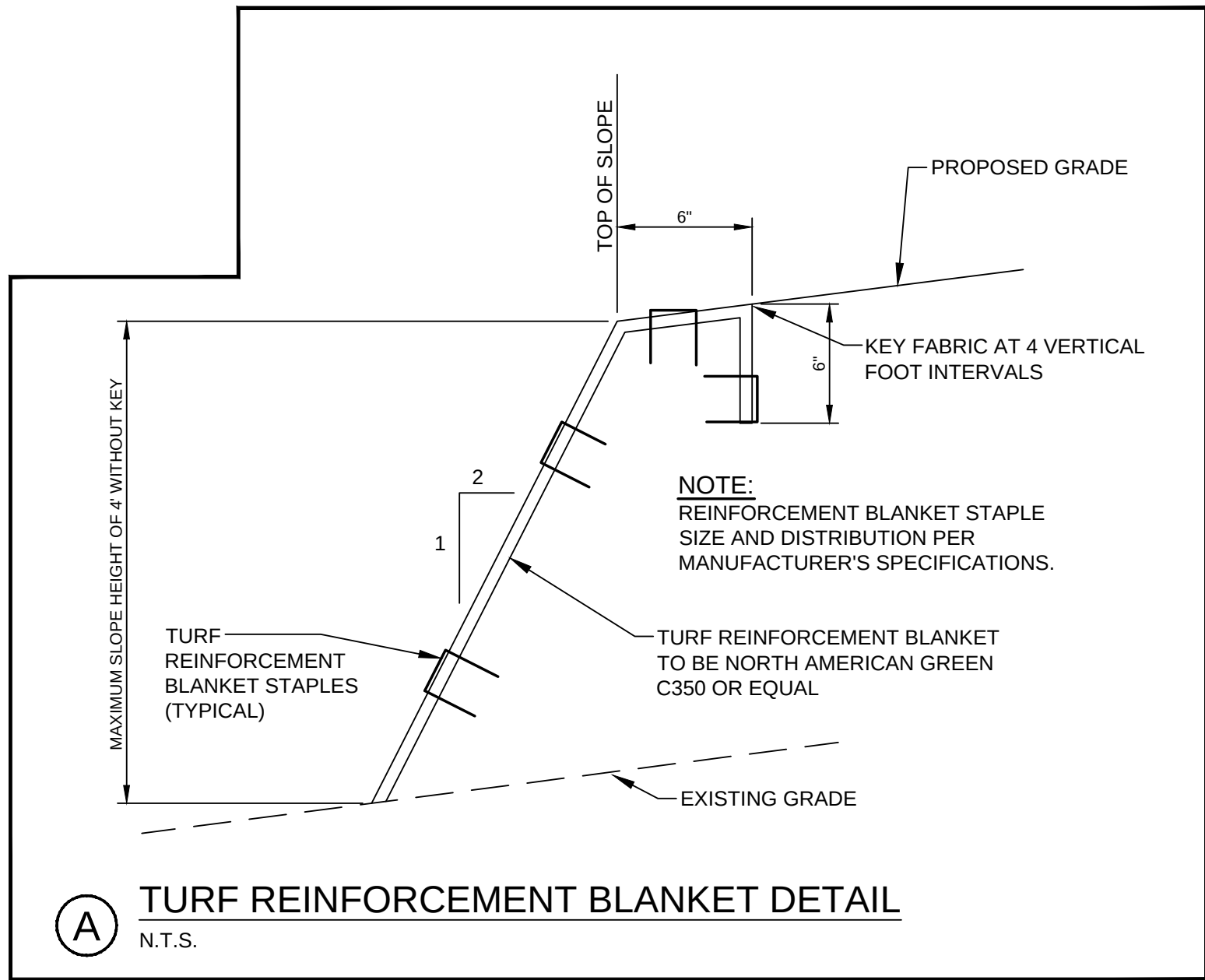
LONG-TERM OPERATION/MAINTENANCE RECOMMENDED FOR THE STORMWATER FACILITY IS PRESENTED BELOW.

THE RESPONSIBLE PARTY MAY CONTRACT WITH SUCH PROFESSIONALS, AS MAY BE NECESSARY IN ORDER TO COMPLY WITH THIS PROVISION AND MAY RELY ON THE ADVICE OF SUCH PROFESSIONALS IN CARRYING OUT ITS DUTY HEREUNDER, PROVIDED, THAT THE FOLLOWING OPERATION AND MAINTENANCE PROCEDURES ARE HEREBY ESTABLISHED AS A MINIMUM FOR COMPLIANCE WITH THIS SECTION.

- PARKING LOTS - CLEAR ACCUMULATIONS OF WINTER SAND AT LEAST FOUR TIMES A YEAR, PREFERABLY IN THE SPRING. EXCESS SHOULDER MATERIAL SHALL BE REMOVED MANUALLY OR BY FRONT-END LOADER. INSPECT PARKING LOT SIDE SLOPES ON AN ANNUAL BASIS FOR SLOUGHING OR UNDESIRABLE GROWTH.
- CATCH BASINS - REMOVE SEDIMENT FROM CATCH BASINS WHEN SEDIMENT HAS ACCUMULATED TO WITHIN 6 INCHES OF THE OUTLET INVERT BUT NO LESS THAN ANNUALLY.

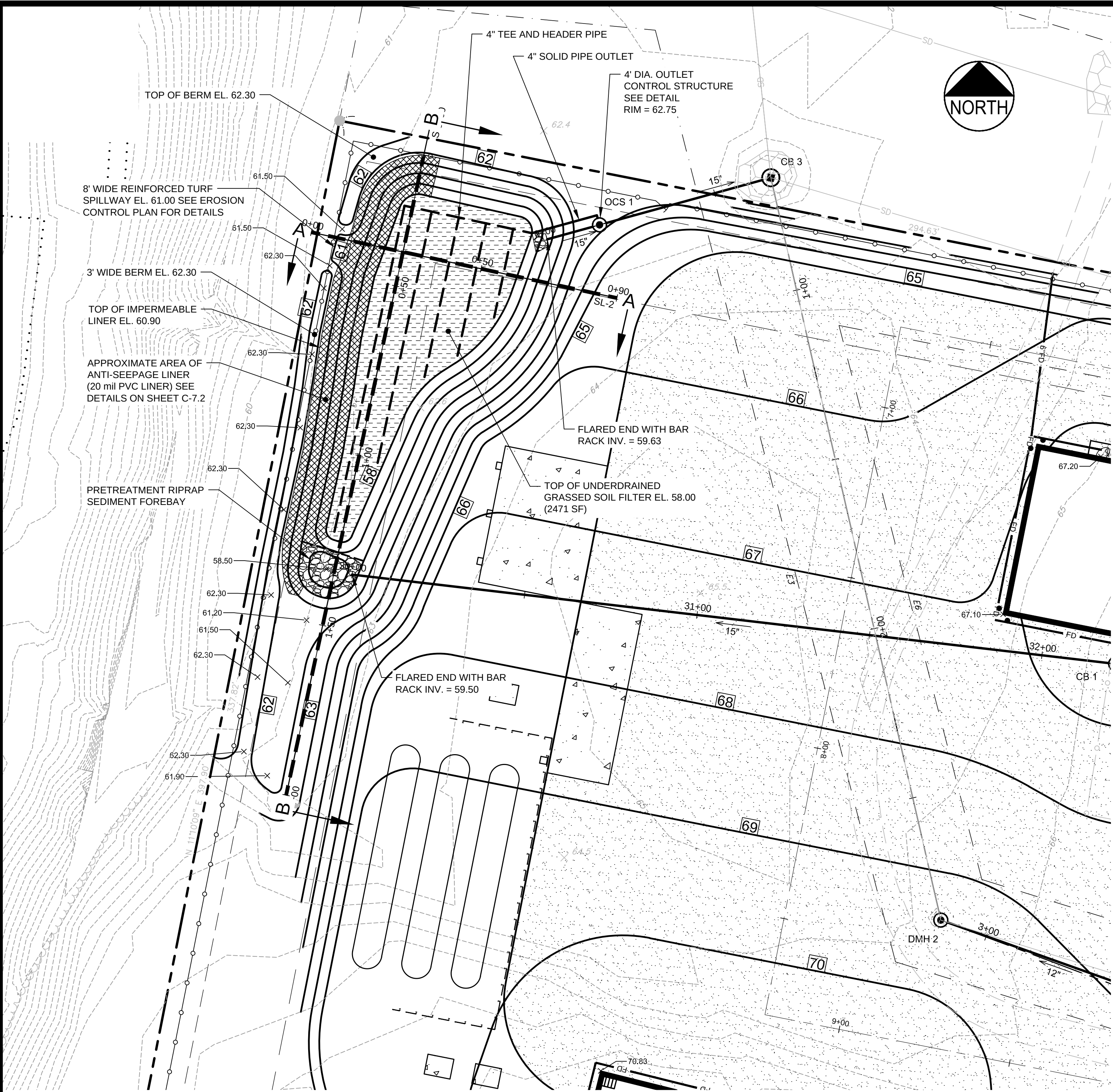
PRELIMINARY - NOT FOR CONSTRUCTION

			PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 	
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	SHEET TITLE EROSION CONTROL NOTES		DRAWN: DED
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW	CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DESIGNED: BEK	SCALE: AS NOTED
REV	DATE	DESCRIPTION		CHECKED: BEK	JOB NO. 195350142
		REVISIONS		FILE NAME: SP-M157 DETAILS	
				SHEET	C-6.1



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
SHEET TITLE EROSION CONTROL DETAILS		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 DETAILS SHEET C-6.2	
CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DATE: SEPT 2014 SCALE: AS NOTED JOB NO. 195350142	
REV 2 02.29.16 FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY 1 01.22.16 SUBMITTED TO CLIENT FOR REVIEW		DATE DESCRIPTION	
REVISIONS		LIC. # 11994	



GRASSED UNDERDRAINED FILTER PLAN

1" = 20'

CONSTRUCTION OVERSIGHT

The applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures. If necessary, the inspecting engineer will interpret the pond's construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the city in writing within 30 days to state that the pond has been completed. 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.

UNDERDRAINED FILTER BASINS

Construction Sequence: The soil filter media and vegetation 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.

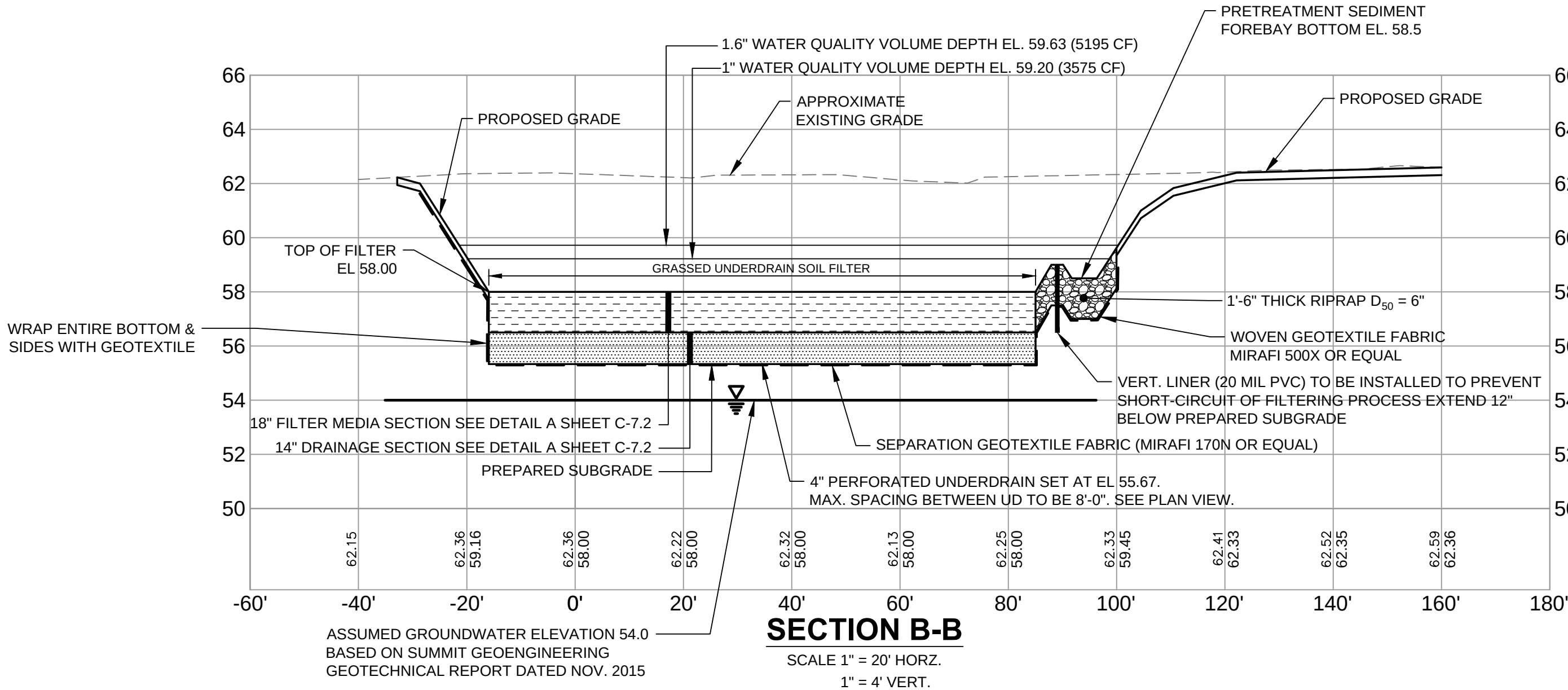
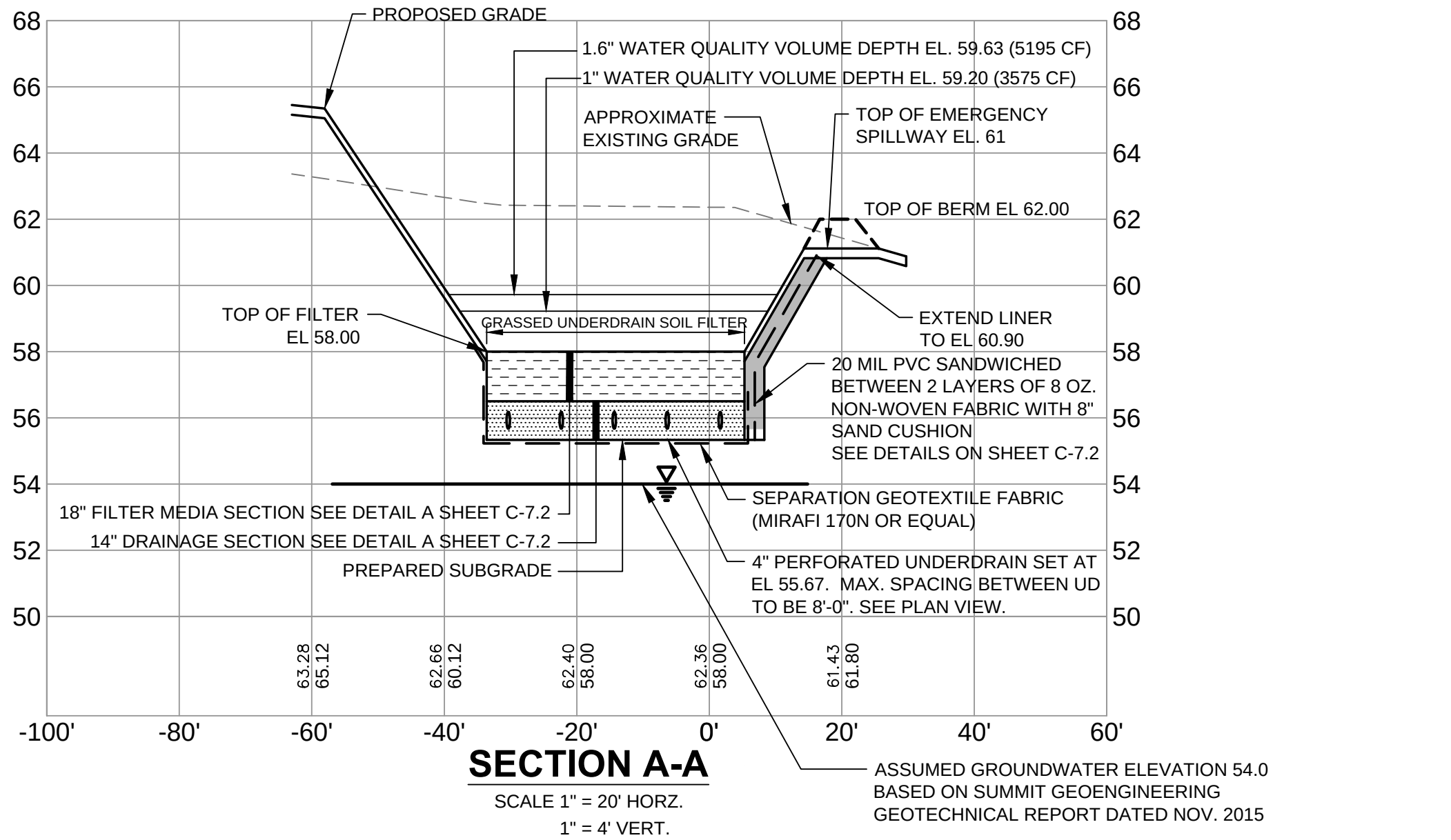
Compaction of Soil Filter: Filter soil media and underdrain bedding material must be compacted to between 90% and 92% standard proctor. The bed should be installed in at least 2 lifts of 9 inches to prevent pockets of loose media.

Construction Oversight: Inspection by a professional engineer will occur at a minimum:

- After the preliminary construction of the 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 filter media,
- After the filter media has been installed and seeded. Bio-retention cells must be stabilized per the provided planting scheme and density for the canopy coverage of 30 and 50%.
- After one year to inspect health of the vegetation and make corrections, and
- All the material used for the construction of the filter basin 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.

Testing and Submittals: The contractor shall identify the location of the source of each component of the filter media. 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 mixed 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 STM C136 (Standard Test Method for Sieve Analysis of fine and Course Aggregates 1996A) on each type of the sample material. The resulting soil filter media mixture must have 8% to 12% by weight passing the #200 sieve, a clay content of less than 2% (determined hydrometer grain size analysis) and have 10% dry weight of organic matter.
- Perform a permeability test on the soil filter media mixture conforming to ASTM D2434 with the mixture compacted to 90-92% of maximum dry density based on ASTM D698.



PRELIMINARY - NOT FOR CONSTRUCTION

				PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC.			
				SHEET TITLE STORMWATER MANAGEMENT: GRASSED UNDERDRAINED FILTER DETAILS		778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM			
				CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.					
				P.E. <i>Bo Kennedy</i> LIC. # 11994		DRAWN: CDD DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 POND SECTIONS			
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY					DATE:	JAN. 2016	
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW					SCALE:	AS NOTED	
REV	DATE	DESCRIPTION					JOB NO.	195350142	
REVISIONS							SHEET	C-7.0	

1. SPECIFIC DESIGN CRITERIA

A. UNDERDRAIN PIPE:- PROPER LAYOUT OF THE PIPE UNDERDRAIN SYSTEM IS NECESSARY TO EFFECTIVELY DRAIN THE ENTIRE FILTER AREA. THERE MUST BE AT LEAST ONE LINE OF UNDERDRAIN PIPE FOR EVERY EIGHT FEET OF FILTER AREAS WIDTH. THE SLOPE OF THE INSTALLED UNDERDRAIN PIPE MUST BE POSITIVE. THE UNDERDRAIN PIPING SHOULD BE 4" TO 6" SLOTTED, RIGID SCHEDULE 40 PVC OR SDR35. STRUCTURE JOINTS SHALL BE SEALED SO THAT THEY ARE WATERTIGHT.

B. PIPE BEDDING AND TRANSITION ZONE: THE 4 TO 6 INCH DIAMETER PERFORATED UNDERDRAIN PIPE(S) MUST BE BEDDED IN INCHES OF UNDERDRAIN MATERIAL WITH AT LEAST 6 INCHES OF MATERIAL BENEATH THE PIPE AND 4 INCHES ABOVE. PIPE BEDDING MATERIAL INFORMATION IS PROVIDED BELOW:

THE UNDERDRAIN MATERIAL CONSISTS OF WELL GRADED, CLEAN, COARSE GRAVEL MEETING THE MEDOT SPECIFICATION 703.22 UNDERDRAIN TYPE B FOR UNDERDRAIN BACKFILL. THE MATERIAL MUST CONTAIN LESS THAN 5% FINES PASSING THE #200 SIEVE. NO TRANSITION ZONE IS NECESSARY SINCE THE DRAINAGE PIPE IS BEDDED IN LESS PERVIOUS GRAVEL AND THIS DESIGN IS ACCEPTABLE FOR AREAS WHERE THE HEAD OR DEPTH TO SEASONAL HIGH GROUNDWATER IS CLOSE TO THE BOTTOM OF THE DRAINAGE LAYER. UNDERDRAIN PIPES MUST BE PLACED NO FURTHER THAN 8 FEET APART.

C. SOIL FILTER BED: THE SOIL FILTER MUST BE AT LEAST 18 INCHES DEEP ON TOP OF THE GRAVEL UNDERDRAIN PIPE BEDDING AND MUST EXTEND ACROSS THE BOTTOM OF THE ENTIRE FILTER AREA. THIS SOIL MIXTURE SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS CAN BE MIXED WITHIN THE FILTER.

D. SOIL FILTER MEDIA: SOIL MEDIA MUST CONSIST OF A LOAMY COARSE SAND SOIL ORGANIC SOURCES MUST BE APPROVED BY THE DEPARTMENT; HOWEVER AN AGRICULTURAL SOURCE IS NOT ACCEPTABLE FOR THE ORGANIC COMPONENT OF THE MEDIA.

THE RESULTING MIXTURE MUST HAVE NO MORE THAN 8% PASSING THE 200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%. THE SYSTEM MUST BE DESIGNED TO DRAIN THE SURFACE STORAGE VOLUME IN NO LESS THAN 24 HOURS AND NO MORE THAN 48 HOURS.

AS AN EXAMPLE, THE MIXTURE MAY CONTAIN BY VOLUME THE FOLLOWING:
50% OF SAND (MEDOT #703.01 CONTAINS INSUFFICIENT FINE FOR THE MEDIA)
20% OF LOAMY TOPSOIL
30% OF COMPOSTED WOODY FIBERS AND FINE SHREDDED BARK, SUPER HUMUS OR EQUIVALENT (ADJUSTED FOR MINERAL SOIL CONTENT)

E. CLAY CONTENT: USE OF SOILS WITH MORE THAN 2 % CLAY CONTENT COULD CAUSE FAILURE OF THE SYSTEM AND CARE SHOULD BE TAKEN, ESPECIALLY IN AREAS WHERE THE PREDOMINANT SOIL CONTAINS MARINE CLAY, THAT THE SAND AND TOPSOIL USED IN THE MIXTURE HAVE VERY LITTLE OR NO CLAY CONTENT.

F. FILTER PERMEABILITY: THE FILTER MUST BE PERMEABLE ENOUGH TO INSURE DRAINAGE WITHIN 48 HOURS MAXIMUM, YET HAVE SUFFICIENT FINES TO INSURE FILTRATION OF FINE PARTICLES AND REMOVAL OF DISSOLVED POLLUTANTS. THE DESIGN MAY EITHER RELY ON THE SOIL PERMEABILITY, IF KNOWN, TO PROVIDE THE SLOW RELEASE OF THE WATER TREATMENT VOLUME OVER A MINIMUM OF 24 HOURS, OR MAY INSURE THIS RATE BY INSTALLING A CONSTRICTIVE ORIFICE OR VALVE ON THE UNDERDRAIN OUTLET. IN DETERMINING THE PERMEABILITY OF THE MEDIA, THE PERCENT FINES OF THE MIXTURE AND THE LEVEL OF COMPACTION SHOULD BE CONSIDERED. GENERALLY, THE SOIL MEDIA SHOULD BE ONLY LIGHTLY COMPACTED BETWEEN 80 AND 82% STANDARD PROCTOR (ASTM D698) AND SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR.

G. GRADATION TESTING: GRADATION TESTS, INCLUDING HYDROMETER TESTING FOR CLAY CONTENT, AND PERMEABILITY TESTING OF THE SOIL FILTER MATERIAL, SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW BEFORE PLACEMENT AND COMPACTION.

H. GEOTEXTILE FABRIC: A GEOTEXTILE FABRIC WITH SUITABLE CHARACTERISTICS MAY BE PLACED BETWEEN THE SIDES OF THE FILTER LAYER AND ADJACENT SOIL. THE FABRIC WILL PREVENT THE SURROUNDING SOIL FROM MIGRATING INTO AND CLOGGING THE FILTER AND CLOGGING THE OUTLET. OVERLAP SEAMS MUST BE A MINIMUM OF 12 INCHES. DO NOT WRAP FABRIC OVER THE TOP OF THE PIPE BEDDING AS IT WILL CAUSE CLOGGING AND WILL PREVENT FLOWS OUT OF THE FILTER. THE GEOTEXTILE FABRIC SHALL BE MIRAFI 170N OR EQUIVALENT.

I. VEGETATION: THE SOIL FILTER SURFACE MUST BE PLANTED WITH A CONSERVATION MIX OF GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL DRAINED SOILS. UPON SEEDING, THE SOIL FILTER SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET, BUT MUST NOT BE FERTILIZED. ANNUAL RYE HAS BEEN ADDED TO RAPIDLY ESTABLISH VEGETATION. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN APPROVED EQUIVALENT CONSERVATION TYPE MIXTURE:

ANNUAL RYE	4.0	LBS/M. SQ. FT.
TALL FESCUE	1.6	LBS/M. SQ. FT.
TALL RED FESCUE	1.6	LBS/M. SQ. FT.
BIRDSFOOT TREFOIL	0.8	LBS/M. SQ. FT.
TOTAL	8.0	LBS/M. SQ. FT.

J. ROCK FOREBAY: A ROCK FOREBAY IS RECOMMENDED TO REDUCE FLOW VELOCITY INTO THE VOLUME III: BMPS TECHNICAL DESIGN MANUAL CHAPTER 7.1, FILTRATION BMP- GRASSED FILTER BASIN. IT SHALL REMAIN CLEAR OF SEDIMENT UNTIL THE UPGRADIENT TRIBUTARY AREA IS FULLY VEGETATED.

2. CONSTRUCTION CRITERIA

A. BASIN EXCAVATION: THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND CAN BE USED FOR A SEDIMENT TRAP FROM THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM MUST BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. IF THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

B. COMPACTION OF SOIL FILTER: FILTER SOIL MEDIA 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.

C. OUTLET DISCHARGE: OUTFLOW OF THE FILTER BASIN UNDERDRAIN WILL BE CONTROLLED BY A CONSTRICTIVE ORIFICE.

D. CONSTRUCTION SEQUENCE: EROSION AND SEDIMENTATION FROM UNSTABLE SUBCATCHMENTS IS THE MOST COMMON REASON FOR FILTER FAILURE. NOT HEEDING THE CONSTRUCTION SEQUENCING CRITERIA IS LIKELY TO RESULT IN THE NEED TO REPLACE THE SOIL FILTER. THE SOIL FILTER MEDIA AND VEGETATION 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. OTHERWISE, THE RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA MUST BE DIVERTED AROUND THE FILTER UNTIL STABILIZATION IS COMPLETED UNLESS THE DEPARTMENT HAS DETERMINED, ON A CASE-BY-CASE BASIS, THAT SUFFICIENT MEASURES ARE BEING TAKEN TO PREVENT EROSION OF MATERIAL FROM THE UNSTABLE CATCHMENT AREA AND DEPOSITION ON THE FILTER.

E. REMEDIAL LOAM COVER: TO RAPIDLY ESTABLISH VEGETATION IN THE FILTER AREA, THE CONTRACTOR WILL INSTALL A 2-3 INCH LAYER OF SANDY LOAM TOPSOIL (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ABOVE THE GRASS FILTER PRIOR TO SEEDING, MULCHING AND ANCHORING EROSION CONTROL MESH.

F. CONSTRUCTION OVERSIGHT: INSPECTION OF THE FILTER BASIN SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY THE DESIGN ENGINEER WITH REQUIRED REPORTING TO THE CITY OF PORTLAND. AT A MINIMUM, INSPECTIONS WILL OCCUR:
- AFTER PRELIMINARY CONSTRUCTION OF THE 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 FILTER MEDIA;
- AFTER THE FILTER MEDIA HAS BEEN INSTALLED AND SEEDED;
- PRIOR TO SUBSTANTIAL COMPLETION, LABOR DAY AND COLUMBUS DAY THE HEALTH OF THE VEGETATION SHALL BE INSPECTED AND THE CONTRACTOR SHALL DEVELOP A PLAN TO ESTABLISH TURF IN THE FILTER;
- AFTER ONE YEAR TO INSPECT HEALTH OF THE VEGETATION AND MAKE CORRECTIONS; AND
- ALL MATERIAL USED FOR THE CONSTRUCTION OF THE FILTER BASIN WILL BE APPROVED BY THE DESIGN ENGINEER AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.

G. TESTING AND SUBMITTALS: THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL RESULTS OF FIELD AND LABORATORY TESTING SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR CONFIRMATION. THE CONTRACTOR SHALL:
SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED 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 COARSE AGGREGATES; 1996A) ON EACH TYPE OF THE SAMPLE MATERIAL. THE RESULTING SOIL FILTER MEDIA MIXTURE MUST HAVE NO MORE THAN 8% BY WEIGHT PASSING THE #200 SIEVE, A CLAY CONTENT OF LESS THAN 2% (DETERMINED HYDROMETER GRAIN SIZE ANALYSIS) AND HAVE 10% DRY WEIGHT OF ORGANIC MATTER.
PERFORM A PERMEABILITY TEST ON THE SOIL FILTER MEDIA MIXTURE CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 90-92% OF MAXIMUM DRY DENSITY BASED ON ASTM D698.

3. MAINTENANCE CRITERIA

DURING THE FIRST YEAR, THE BASIN WILL BE INSPECTED SEMI-ANNUALLY AND FOLLOWING MAJOR STORM EVENTS.

DEBRIS AND SEDIMENT BUILDUP SHALL BE REMOVED FROM THE FOREBAY AND BASIN AS NEEDED.

MOWING OF A GRASSED BASIN CAN OCCUR SEMIANNUALLY TO A HEIGHT NO LESS THAN 6 INCHES.

ANY BARE AREA OR EROSION RILLS SHALL BE REPAIRED WITH NEW FILTER MEDIA OR SANDY LOAM THEN SEEDED AND MULCHED.

MAINTAINING GOOD GRASS COVER WILL MINIMIZE CLOGGING WITH FINE SEDIMENTS AND IF PONDING EXCEEDS 48 HOURS, THE TOP OF THE FILTER BED MUST BE ROTOTILLED TO REESTABLISH THE SOIL'S FILTRATION CAPACITY IF EXTENDED PONDING IS OBSERVED.

A. MAINTENANCE AGREEMENT: AN AGENT OF SUBURBAN PROPANE IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ANY UNDERDRAINED FILTER. OTHER STORMWATER O&M REQUIREMENTS ARE INCLUDED WITH PERMIT APPLICATION.

B. SOIL FILTER INSPECTION: THE SOIL FILTER SHOULD BE INSPECTED AFTER EVERY MAJOR STORM IN THE FIRST YEAR TO BE SURE IT IS FUNCTIONING PROPERLY. THEREAFTER, THE FILTER SHOULD BE INSPECTED AT LEAST ONCE EVERY SIX MONTHS TO ENSURE THAT IT IS DRAINING WITHIN 48 HOURS FOLLOWING A ONE INCH STORM OR GREATER. AND THAT FOLLOWING A STORMS THAT FILL THE SYSTEM TO OVERFLOW, IT DRAINS IN NO LESS THAN 36 TO 60 HOURS. IF THE SYSTEM DRAINS TOO FAST, AN ORIFICE MAY NEED TO BE ADDED ON THE UNDERDRAIN OUTLET OR, IF ALREADY PRESENT, MAY NEED TO BE MODIFIED.

C. SOIL FILTER REPLACEMENT: THE TOP SEVERAL INCHES OF THE FILTER SHALL BE REPLACED WITH FRESH MATERIAL WHEN WATER PONDS ON THE SURFACE OF THE BED FOR MORE THAN 72 HOURS. THE REMOVED SEDIMENTS SHOULD BE DISPOSED OF IN AN ACCEPTABLE MANNER.

D. SEDIMENT REMOVAL: SEDIMENT AND PLANT DEBRIS SHOULD BE REMOVED FROM THE PRETREATMENT STRUCTURE AT LEAST ANNUALLY.

E. MOWING: IF MOWING IS DESIRED, ONLY HANDHELD STRING TRIMMERS OR PUSH-MOWERS ARE ALLOWED ON THE FILTER (NO TRACTOR) AND THE GRASS BED SHOULD BE MOWED NO MORE THAN 2 TIMES PER GROWING SEASON TO MAINTAIN GRASS HEIGHTS OF NO LESS THAN 6 INCHES.

F. FERTILIZATION: FERTILIZATION OF THE UNDERDRAINED FILTER AREA SHOULD BE AVOIDED UNLESS ABSOLUTELY NECESSARY TO ESTABLISH VEGETATION.

G. HARVESTING AND WEEDING: HARVESTING AND PRUNING OF EXCESSIVE GROWTH WILL NEED TO BE DONE OCCASIONALLY. WEEDING TO CONTROL UNWANTED OR INVASIVE PLANTS MAY ALSO BE NECESSARY. ADD NEW MULCH ONLY AS NECESSARY FOR BIORETENTION CELL.

A DETAILED O & M SCHEDULE ACCOMPANIES THIS APPLICATION. THE O & M IS TO BE COMPLETED BY SUBURBAN PROPANE OR ITS ASSIGNED PERSONNEL AND IS SUBJECT TO PERIODIC REVISIONS.

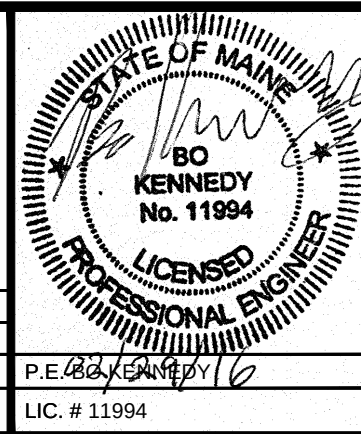
Plan 14



GRASSED UNDERDRAINED SOIL FILTER CONSTRUCTION NOTES STRUCTURE
N.T.S.

PRELIMINARY - NOT FOR CONSTRUCTION

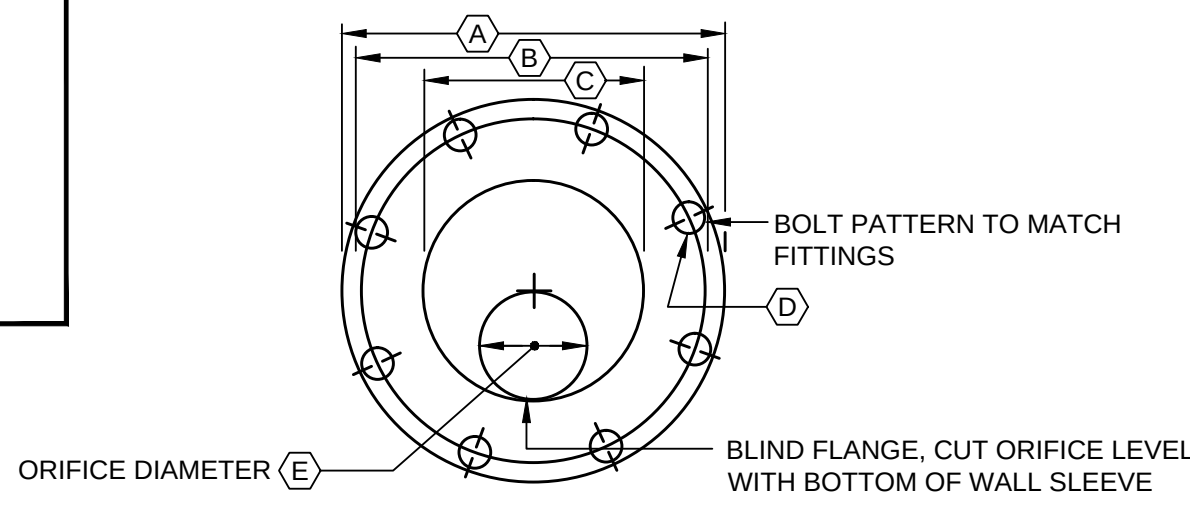
REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO OWNER FOR REVIEW
REVISIONS		



PROJECT	SUBURBAN PROPANE RELOCATION	
SHEET TITLE	STORMWATER MANAGEMENT: GRASSED UNDERDRAINED FILTER NOTES	
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.	

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: CDD	DATE: JAN. 2016
DESIGNED: BEK	SCALE: -
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 POND SECTIONS	
SHEET	C-7.1

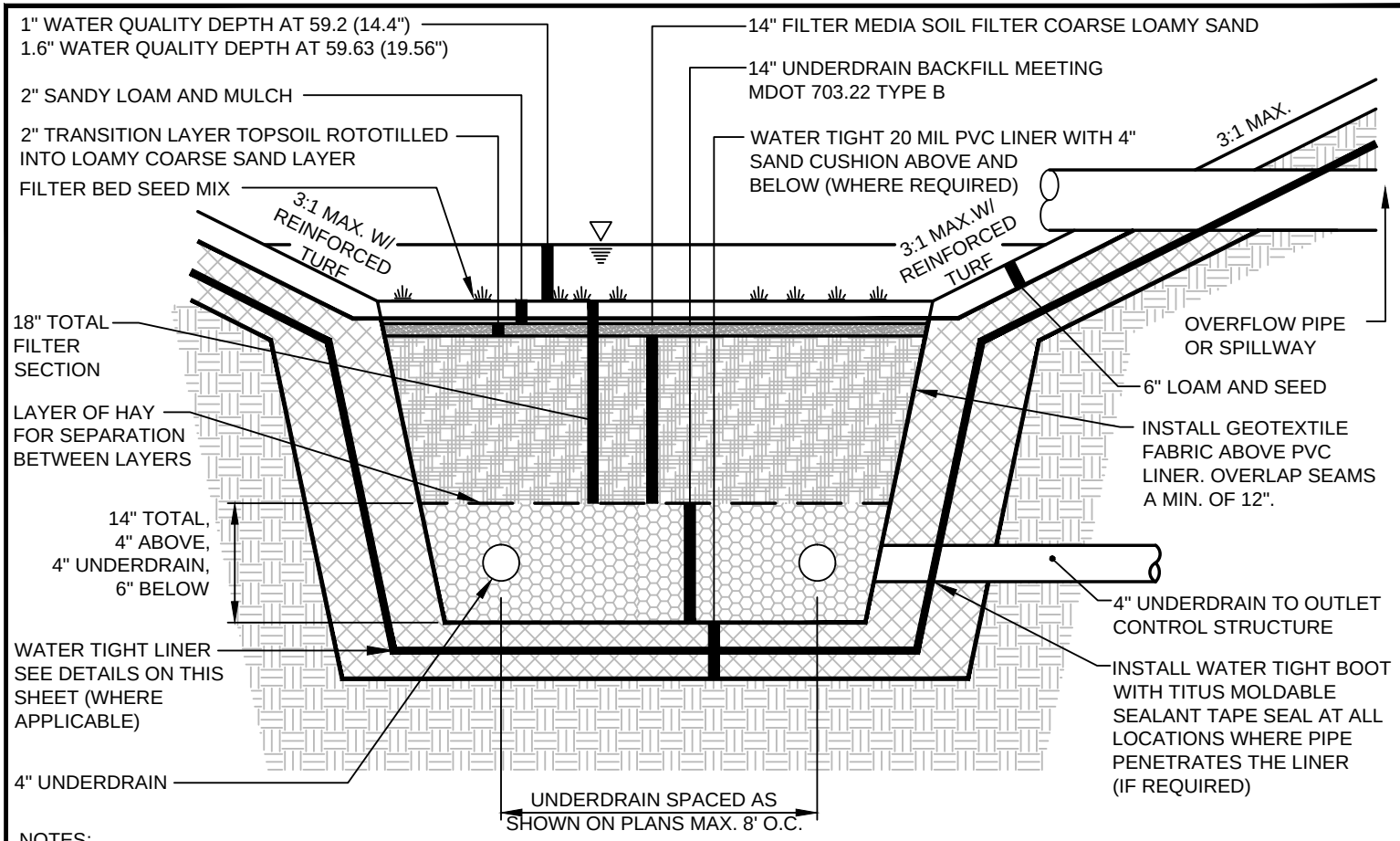
P:\ME\SP-M157-Suburban Propane Relocation\Cadd\Permit Set\dwg\SP-M157 DETAILS.dwg, C-7.2 SWM Details, 2/29/2016 3:11:30 PM, davis_d, 1:1



OUTLET ORIFICE DIMENSIONS		
ITEM DESCRIPTION		WATER QUALITY VOLUME DRAW DOWN ORIFICE
		POND 1
A	FLANGE O.D.	9"
B	BOLT CIRCLE	7 1/2"
C	NOMINAL PIPE SIZE	4"
D	BOLT HOLE DIA.	3/4"
E	ECCENTRIC ORIFICE DIAMETER	0.80"

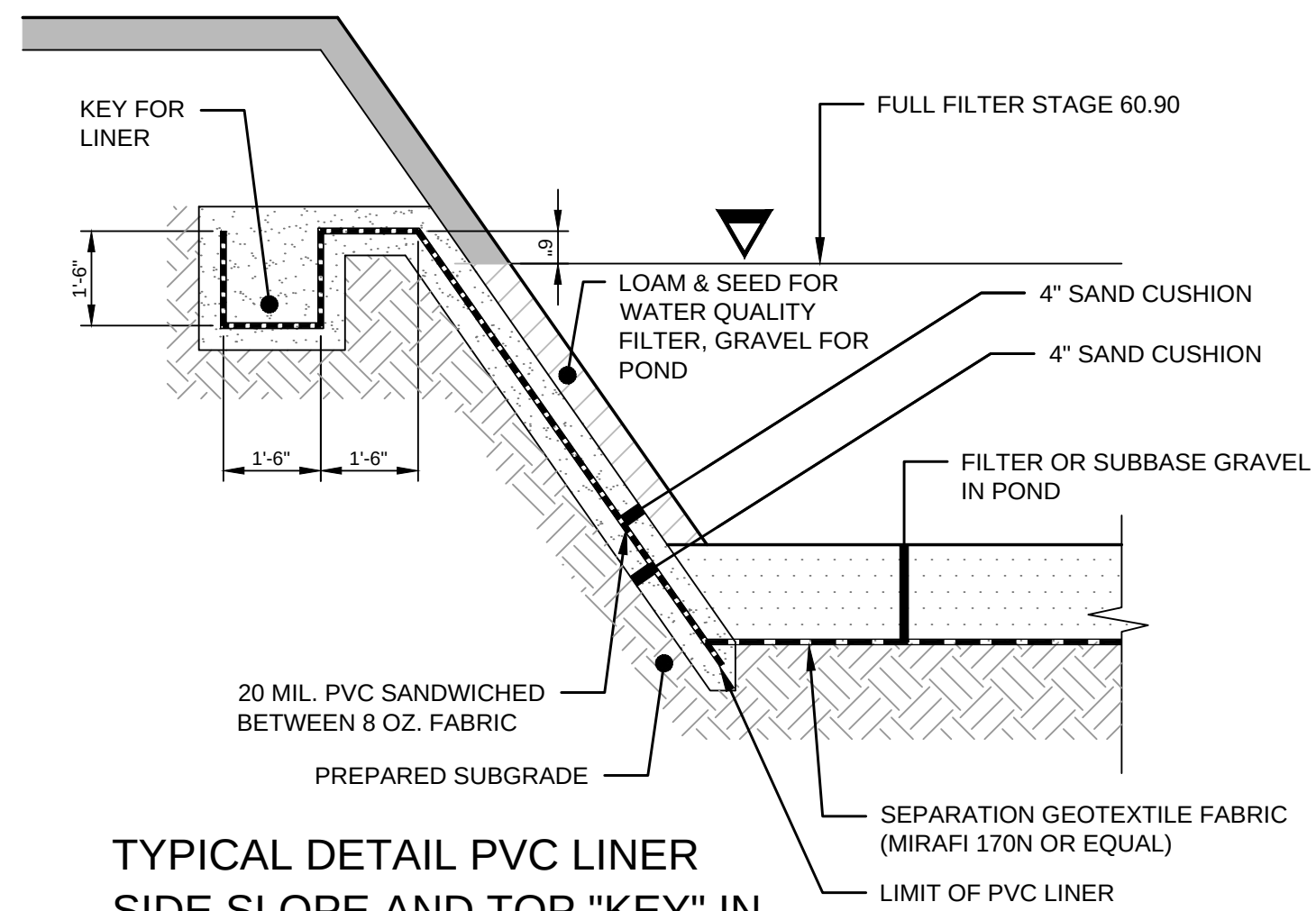
NOTE: ORIFICE DIAMETER HAS BEEN SIZED TO DRAW DOWN THE WATER QUALITY VOLUME BETWEEN 24 AND 32 HOURS

A ORIFICE DETAIL
N.T.S.



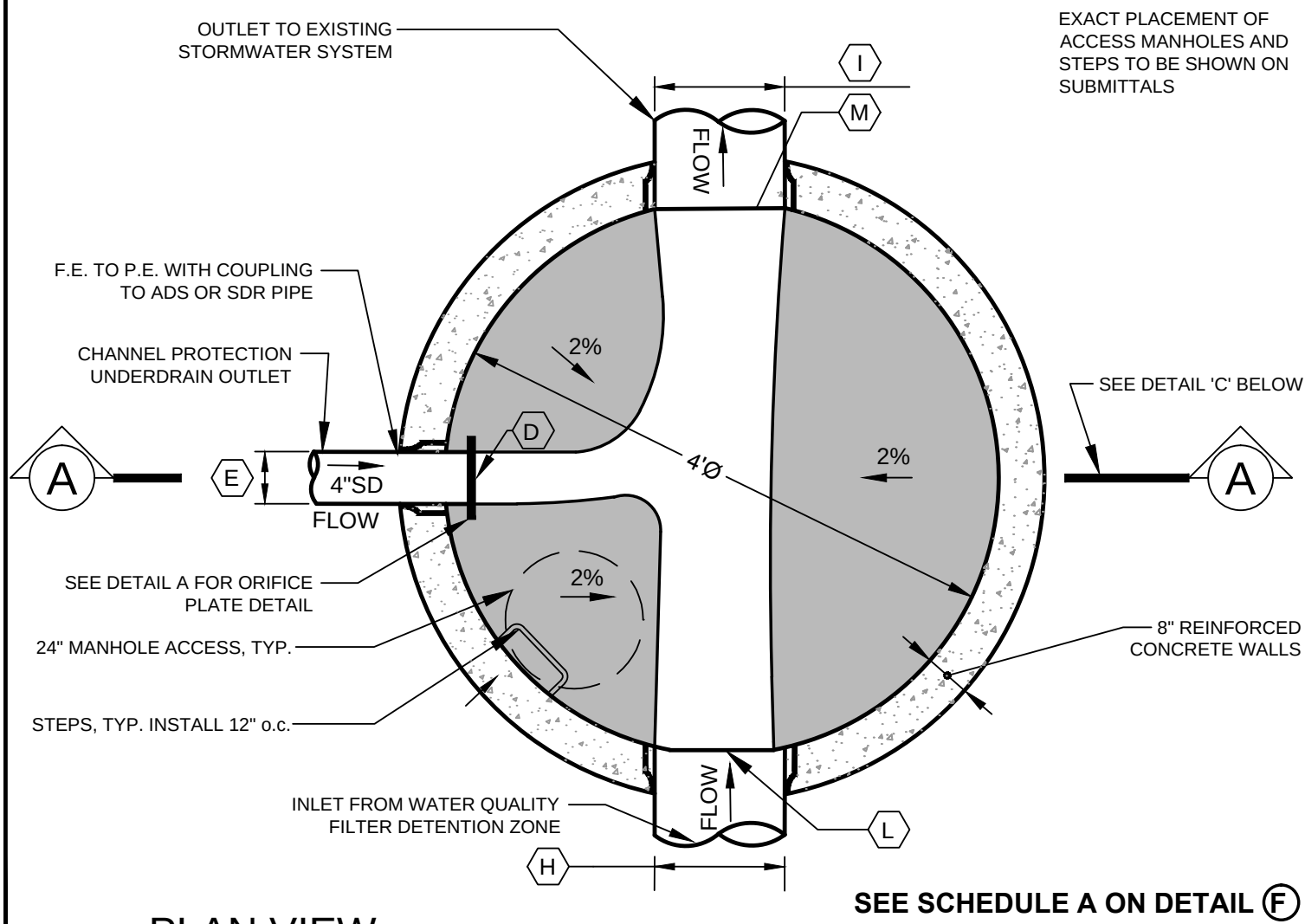
NOTES:
1. FILTER IS DESIGNED TO TREAT 1.6\"/>

D TYPICAL SECTION FOR
UNDERDRAINED GRASSED SOIL FILTER WITH PVC LINER
N.T.S.

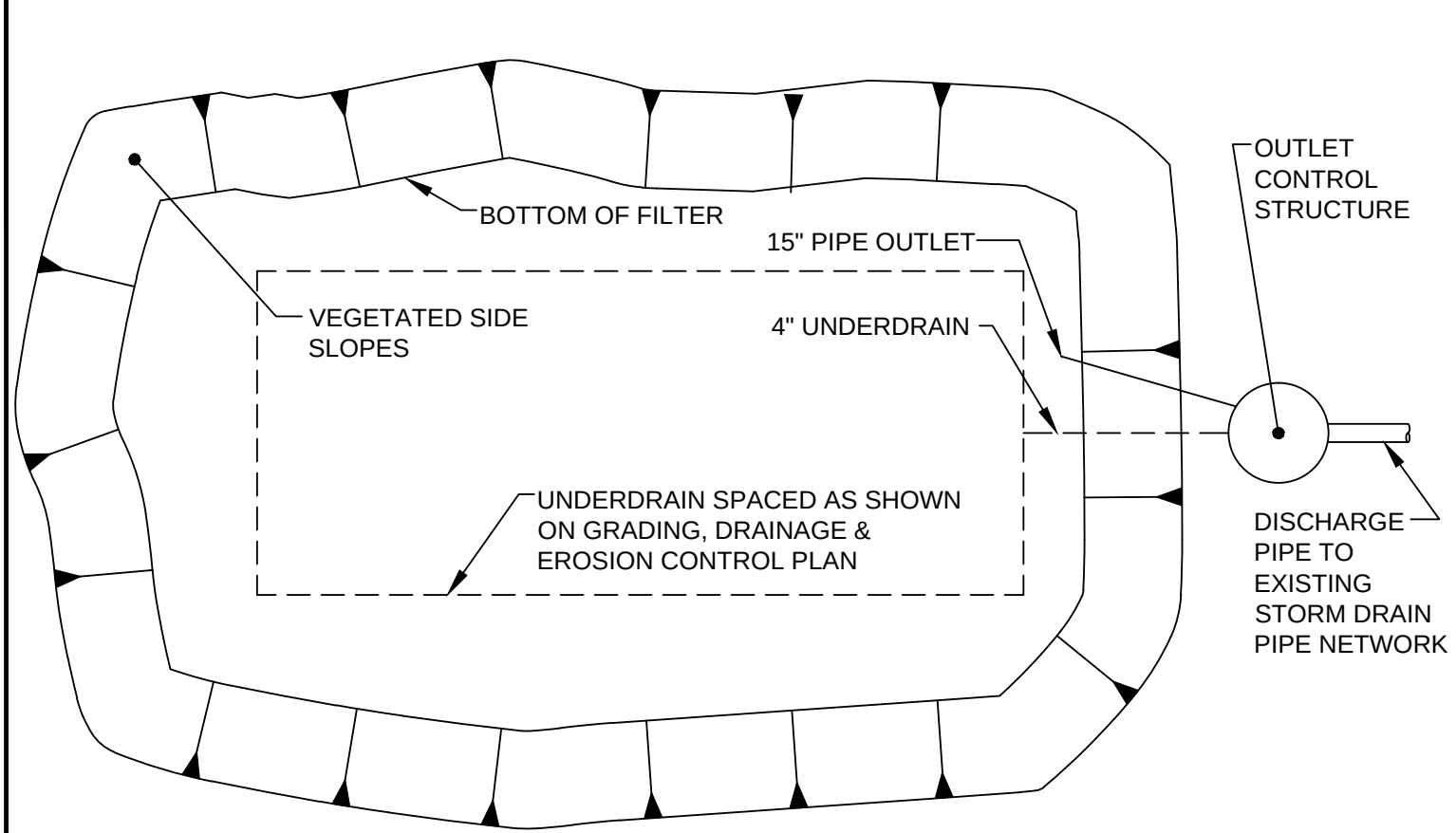


G TYPICAL DETAIL PVC LINER
SIDE SLOPE AND TOP "KEY" IN
POND OR WATER QUALITY FILTER
N.T.S.

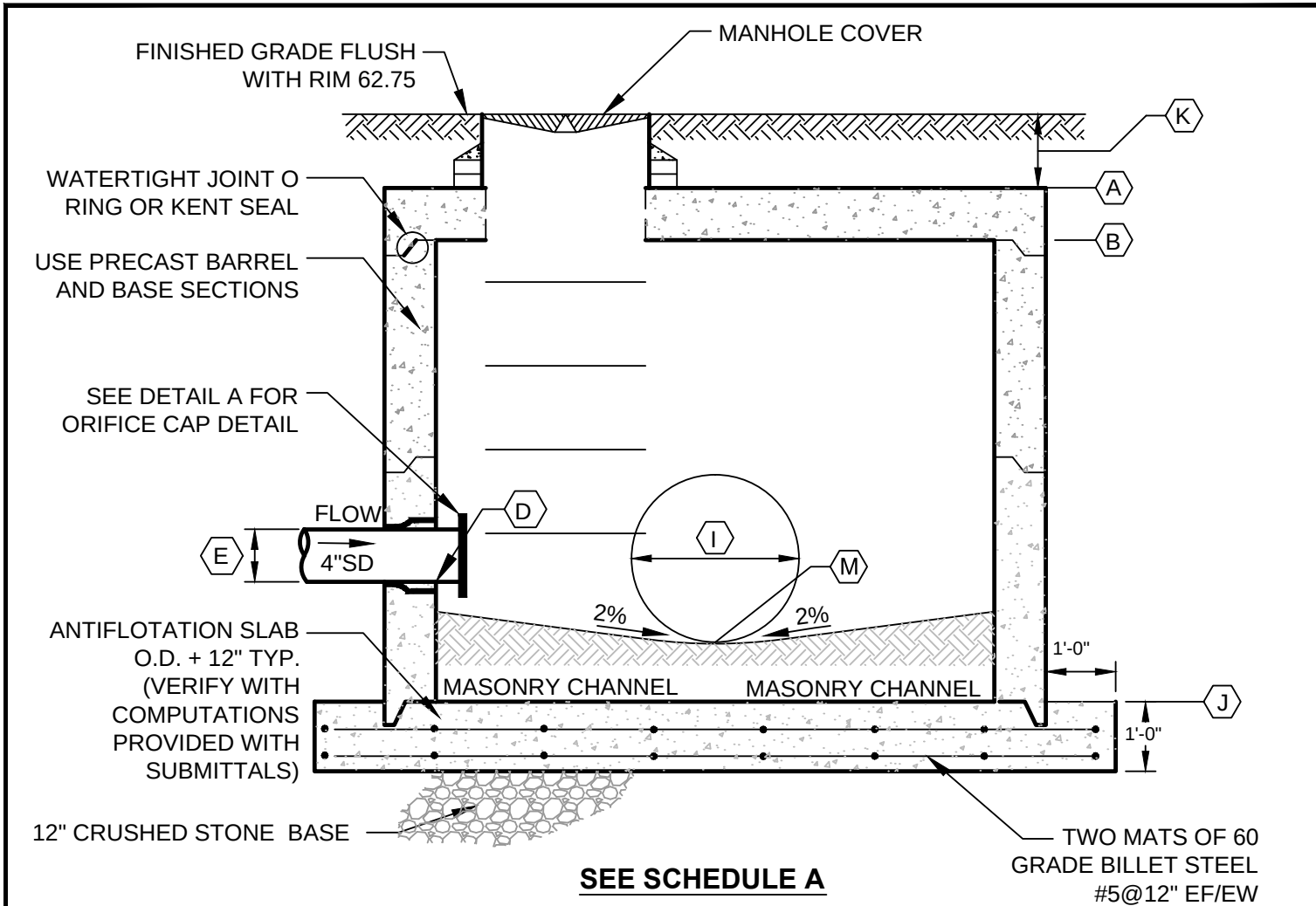
Plan 15



B PLAN VIEW
4' DIA. PRECAST OUTLET CONTROL STRUCTURE
N.T.S.



E TYPICAL PLAN FOR WATER QUALITY FILTER
N.T.S.



C SECTION A-A
4' DIA. PRECAST OUTLET CONTROL STRUCTURE
N.T.S.

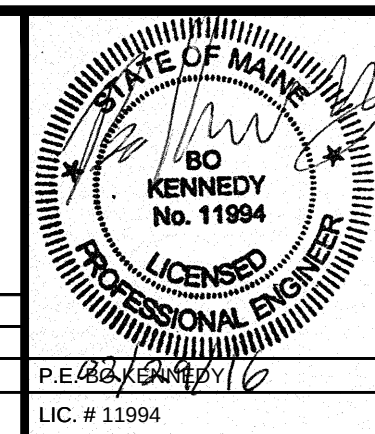
SCHEDULE A OUTLET CONTROL STRUCTURE		
ITEM DESCRIPTION		DIMENSION/ ELEVATION
A	TOP OF STRUCTURE	62.0
B	UNDERSIDE TOP SLAB	61.33
D	WATER QUALITY VOLUME PIPE INVERT	55.67
E	WATER QUALITY VOLUME PIPE DIAMETER *	4"
H	DIAMETER OF INLET PIPE FROM DET. ZONE	15"
I	DIAMETER OF OUTLET PIPE	15"
J	BOTTOM OF STRUCTURE	54.5
K	RIM TO TOP OF STRUCTURE	1'-0"
L	DETENTION ZONE INLET INVERT	59.49
M	OUTLET CONTROL STRUCTURE OUTLET INVERT	55.50

* SEE DETAIL 'A' ON THIS SHEET FOR ECCENTRIC ORIFICE SIZE REQUIRED.
OUTLET CONTROL STRUCTURE IS AN I/D MANHOLE.

F SCHEDULE 'A'
N.T.S.

PRELIMINARY - NOT FOR CONSTRUCTION

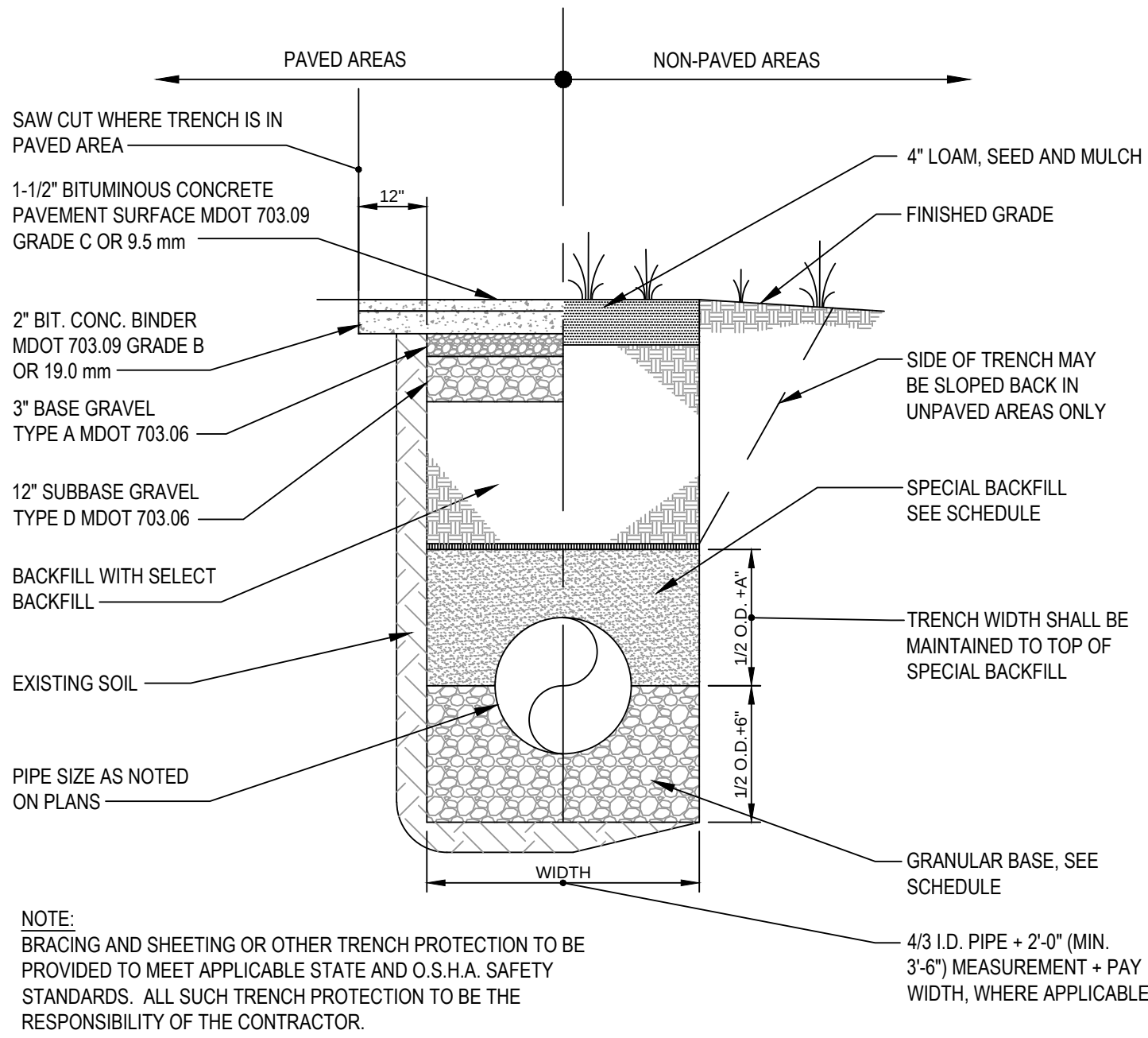
REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW



PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	STORMWATER MANAGEMENT DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: SEPT 2014
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-7.2

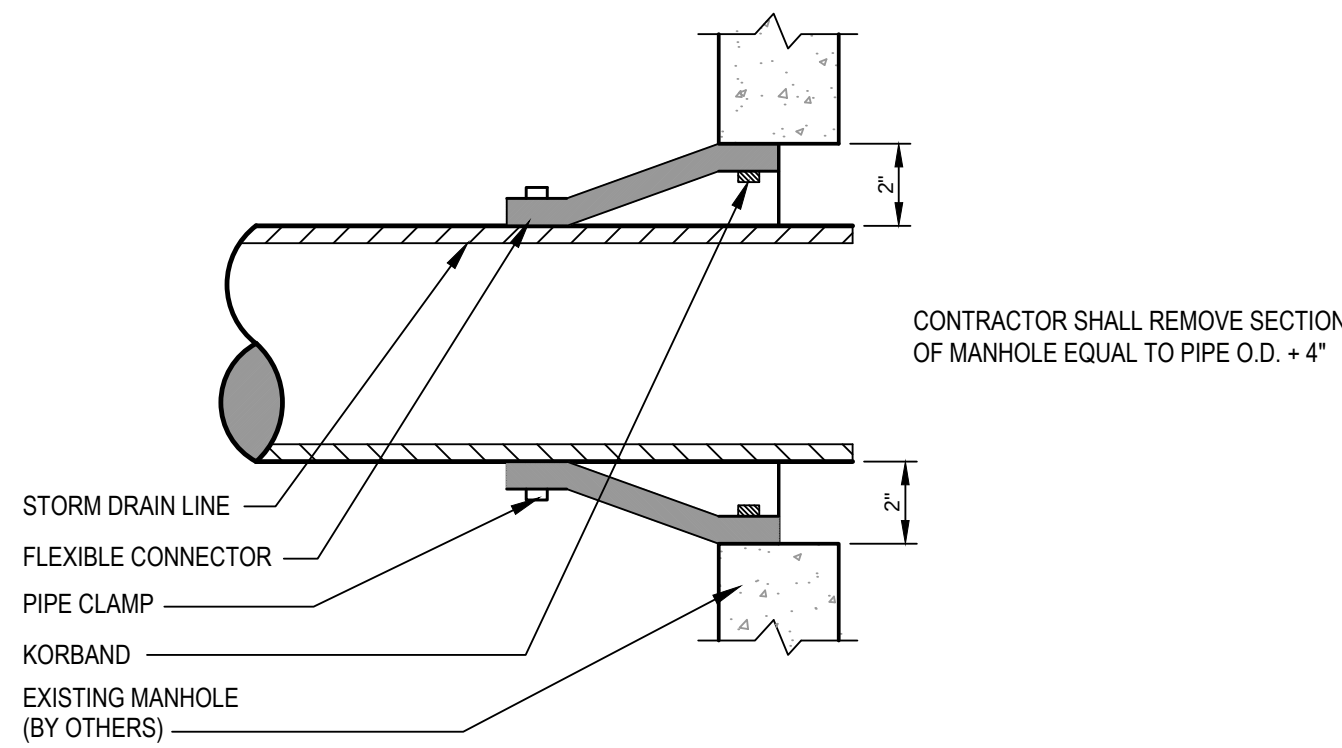
TRENCH SECTION BACKFILL SCHEDULE				
TYPE OF PIPE	GRANULAR BASE MATERIAL	SPECIAL BACKFILL	SPECIAL BACKFILL COVER "A" (IN)	SELECT BACKFILL
CONCRETE	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	12"	GRANULAR AASHTO M145-49 A-3 OR BETTER
PVC OR HDPE	3/4" CRUSHED STONE	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
DUCTILE IRON	GRANULAR AASHTO M145-49 A-3 OR BETTER	GRANULAR AASHTO M145-49 A-3 OR BETTER	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER
UNDER-DRAINS	3/4" CRUSHED STONE	3/4" CRUSHED STONE	6"	GRANULAR AASHTO M145-49 A-3 OR BETTER



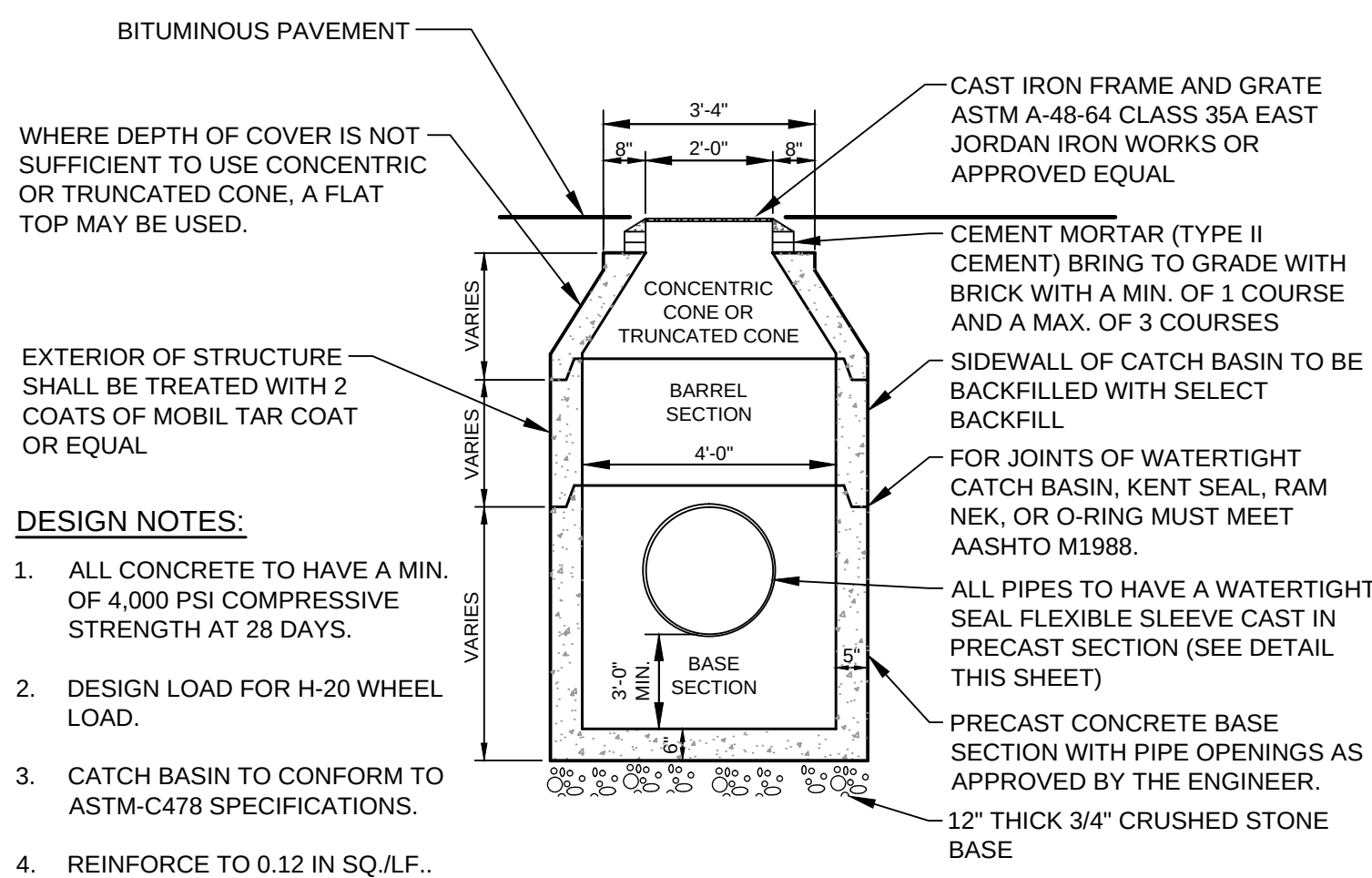
A TYPICAL UTILITY PIPE TRENCH SECTION
N.T.S.

NOTES:

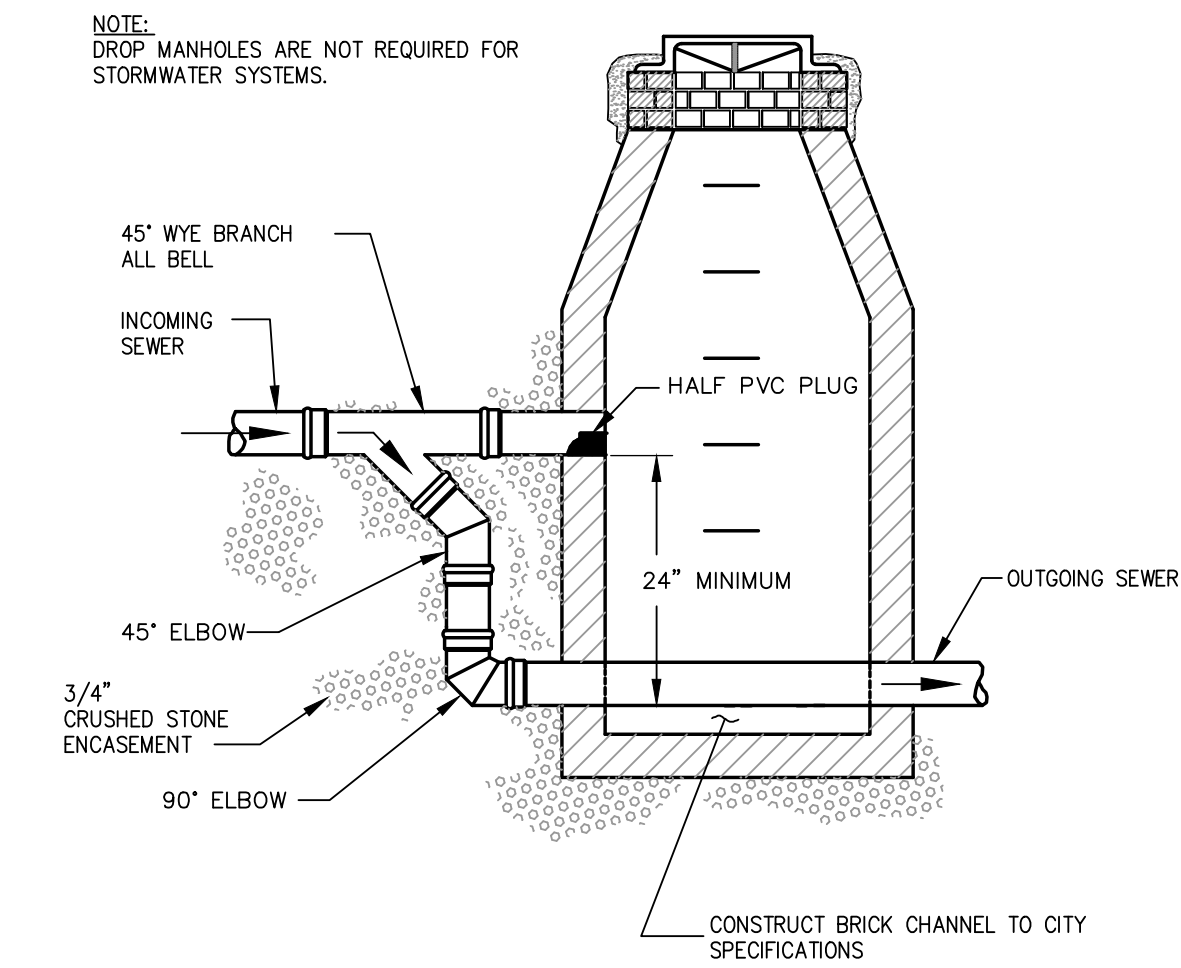
1. A FLEXIBLE PIPE TO MANHOLE CONNECTOR SHALL BE EMPLOYED IN THE CONNECTION OF ALL PIPE TO MANHOLE JUNCTIONS.
2. THE CONNECTOR SHALL BE KOR-N-SEAL AS MANUFACTURED BY NPC SYSTEMS, INC., OF MILFORD, NH OR EQUAL.
3. THE CONNECTOR SHALL BE THE SOLE ELEMENT RELIED ON TO ASSURE A FLEXIBLE WATERTIGHT SEAL OF THE PIPE TO MANHOLE. NO ADHESIVES OR LUBRICANTS SHALL BE EMPLOYED IN THE INSTALLATION OF THE CONNECTOR TO THE MANHOLE. THE RUBBER FOR THE CONNECTOR SHALL COMPLY TO ASTM C443 AND ASTM C923 AND CONSIST OF EPDM AND ELASTOMERS KNOWN TO BE RESISTANT TO OZONE, WEATHER ELEMENTS, CHEMICALS, INCLUDING ACIDS, ALKALIS, ANIMAL AND VEGETABLE FATS, OILS AND PETROLEUM PRODUCTS FROM SPILLS.
4. ALL STAINLESS STEEL ELEMENTS OF THE CONNECTOR SHALL BE TOTALLY NON-MAGNETIC SERIES 304 STAINLESS, EXCLUDING THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND AROUND THE PIPE WHICH SHALL BE SERIES 305 STAINLESS. THE WORM SCREW USED FOR TIGHTENING THE STEEL BAND SHALL BE TORQUED BY A BREAK-AWAY TORQUE WRENCH AVAILABLE FROM THE PRECAST MANHOLE SUPPLIER, AND SET AT 60/70 in/lbs.
5. THE CONNECTOR SHALL BE INSTALLED IN THE MANHOLE WALL BY ACTIVATING THE EXPANDING MECHANISM IN STRICT ACCORDANCE WITH THE RECOMMENDATION OF THE CONNECTOR MANUFACTURER.
6. THE CONNECTOR SHALL BE OF A SIZE SPECIFICALLY DESIGNED FOR THE PIPE MATERIAL AND SIZE BEING UTILIZED ON THE PROJECT.
7. ALL CONNECTORS WHICH ARE CAPPED AWAITING PIPE INSTALLATION AT A LATER DATE MUST BE RESTRAINED.



C CORE AND SEAL CONNECTION TO EXISTING STORM DRAIN OR SANITARY MANHOLE
N.T.S.



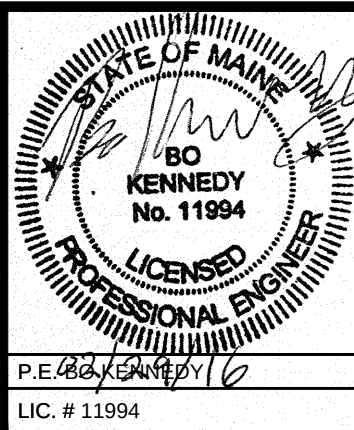
B 4'-0" PRECAST CATCH BASIN DETAIL
N.T.S.



D EXTERNAL DROP MANHOLE DETAIL
N.T.S.

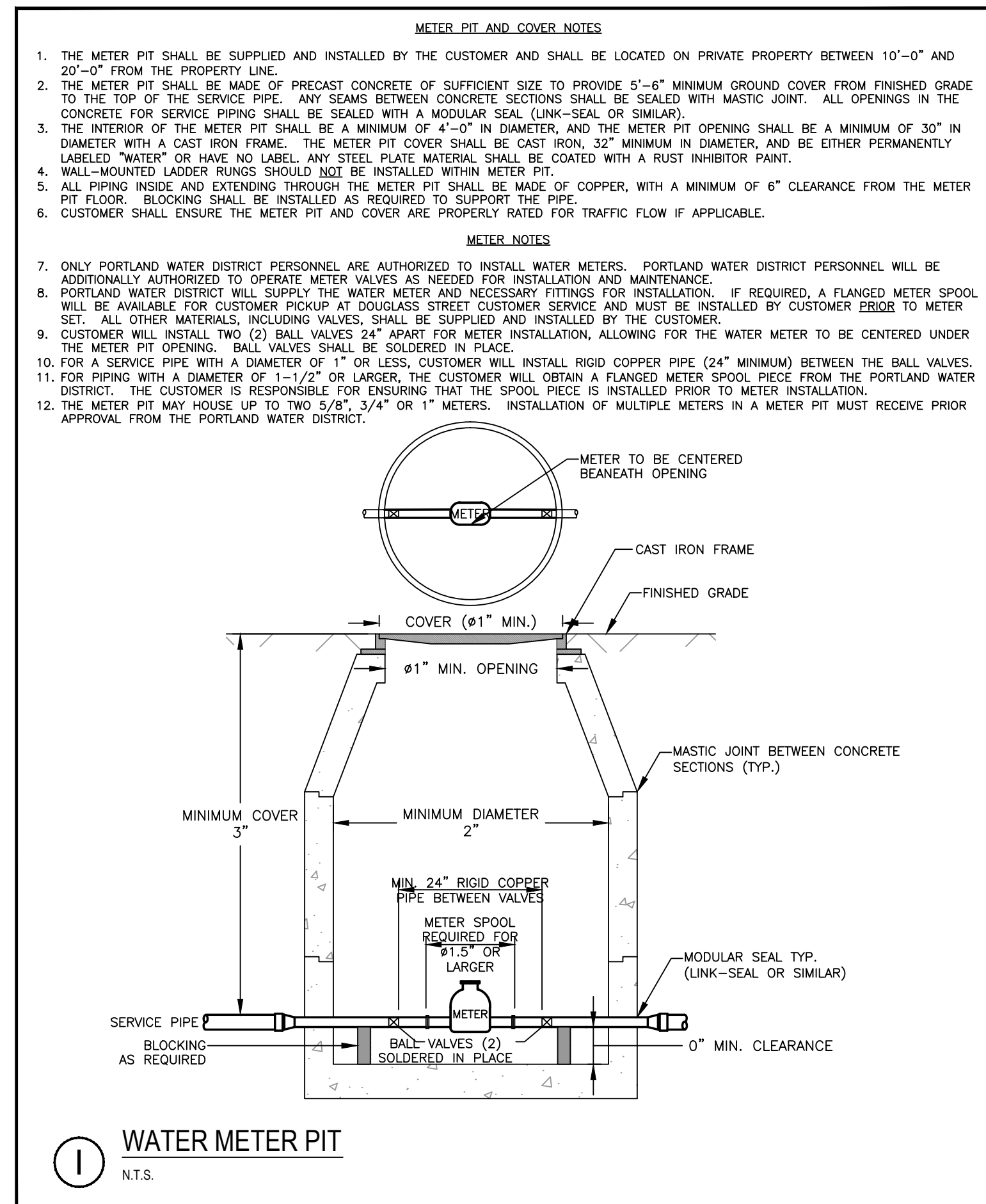
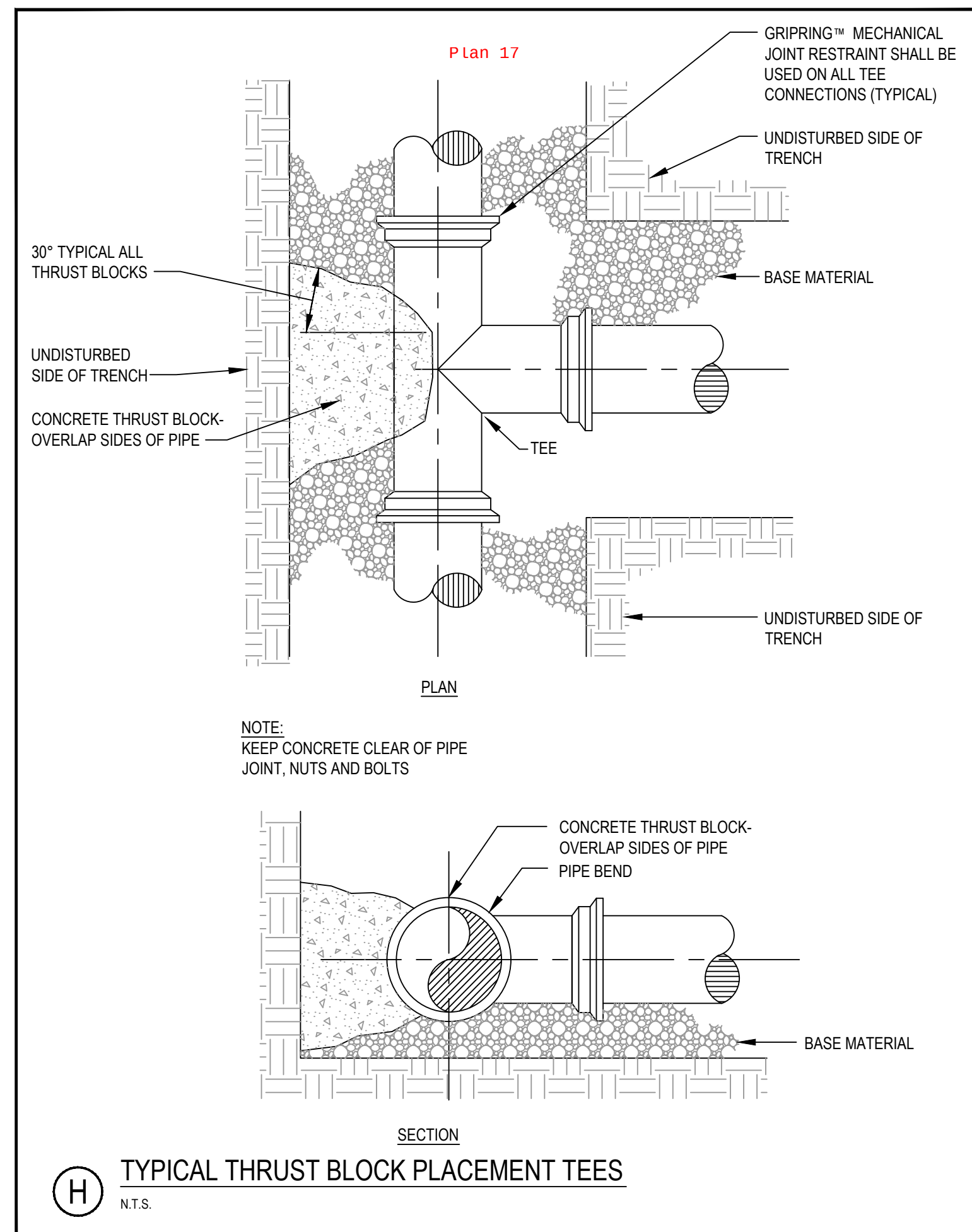
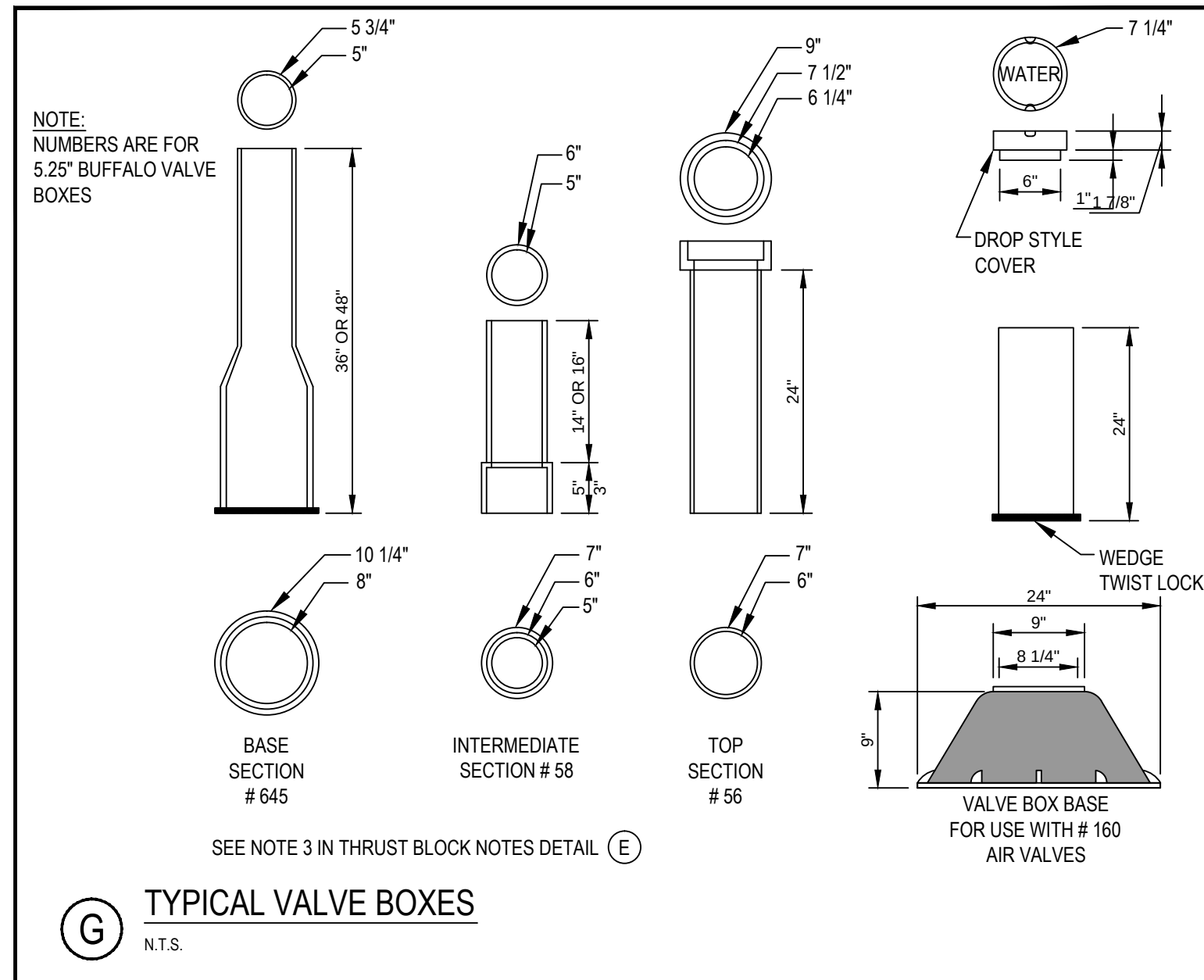
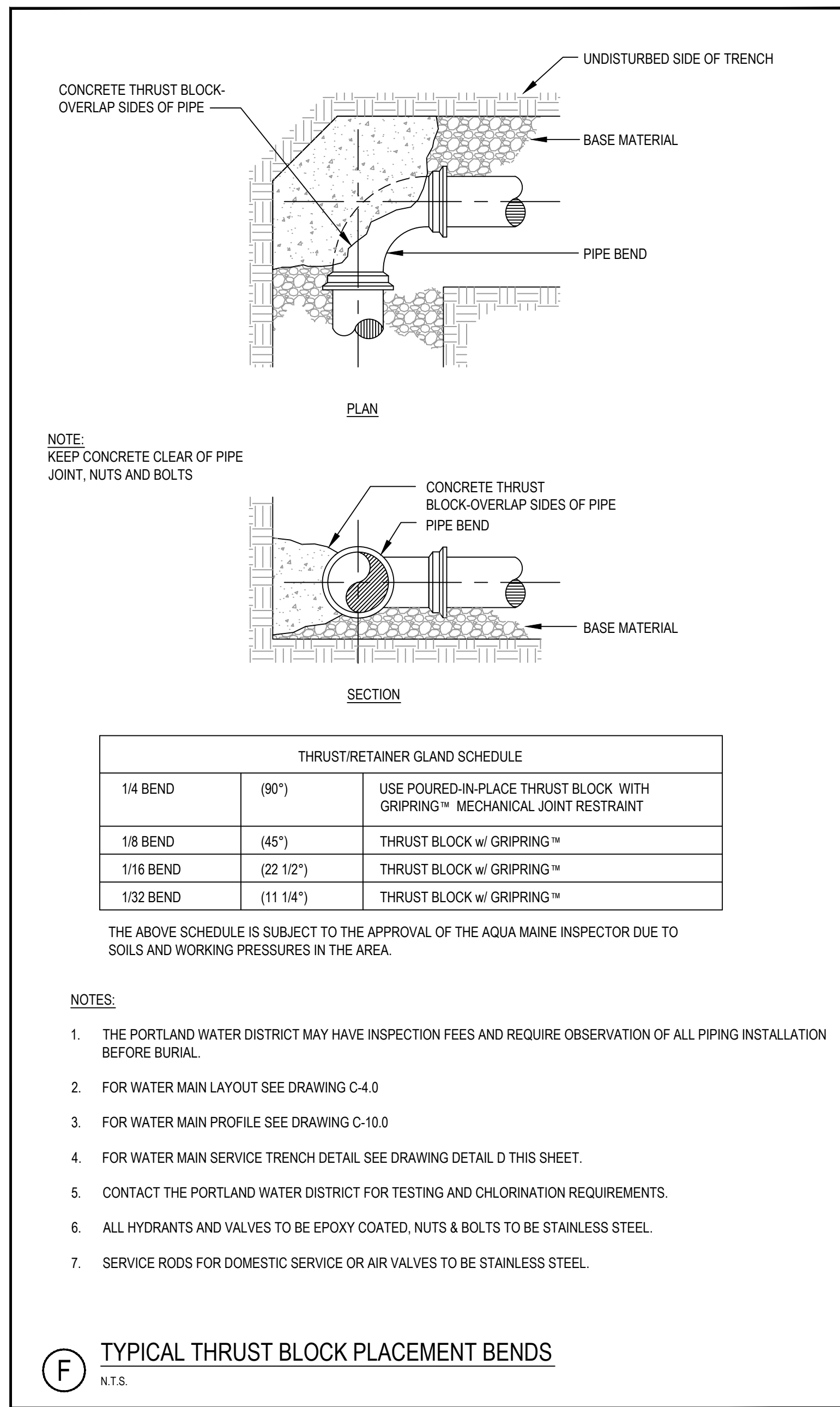
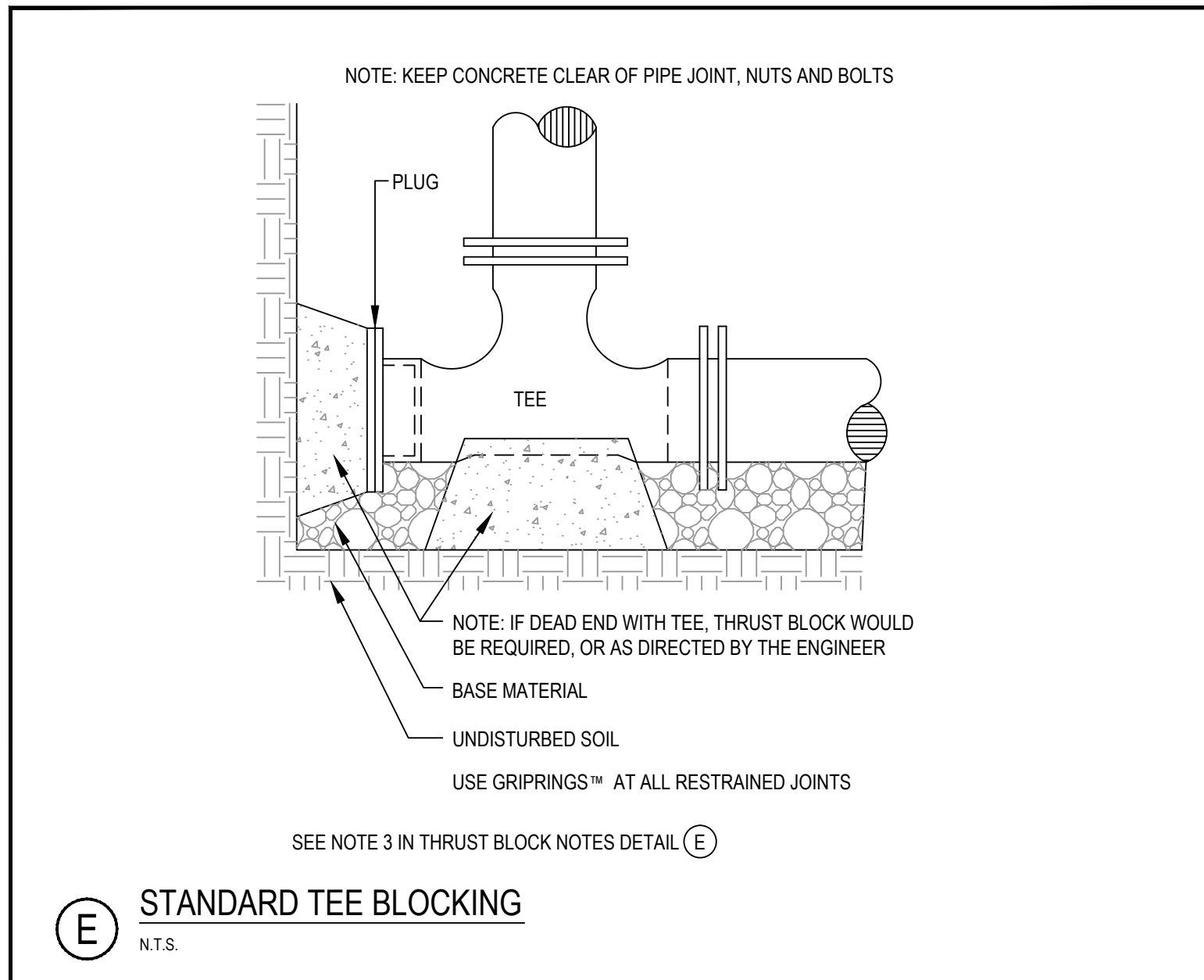
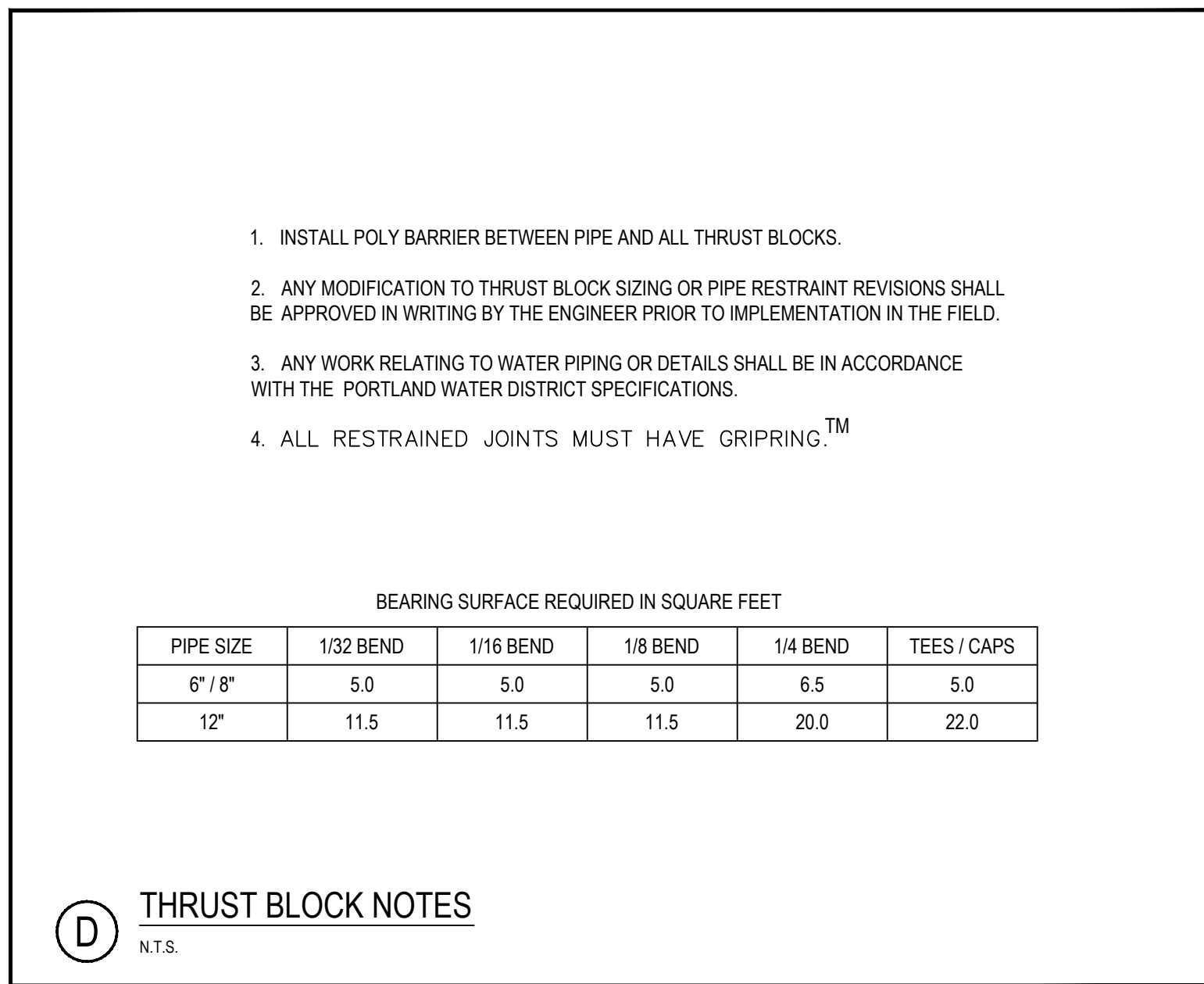
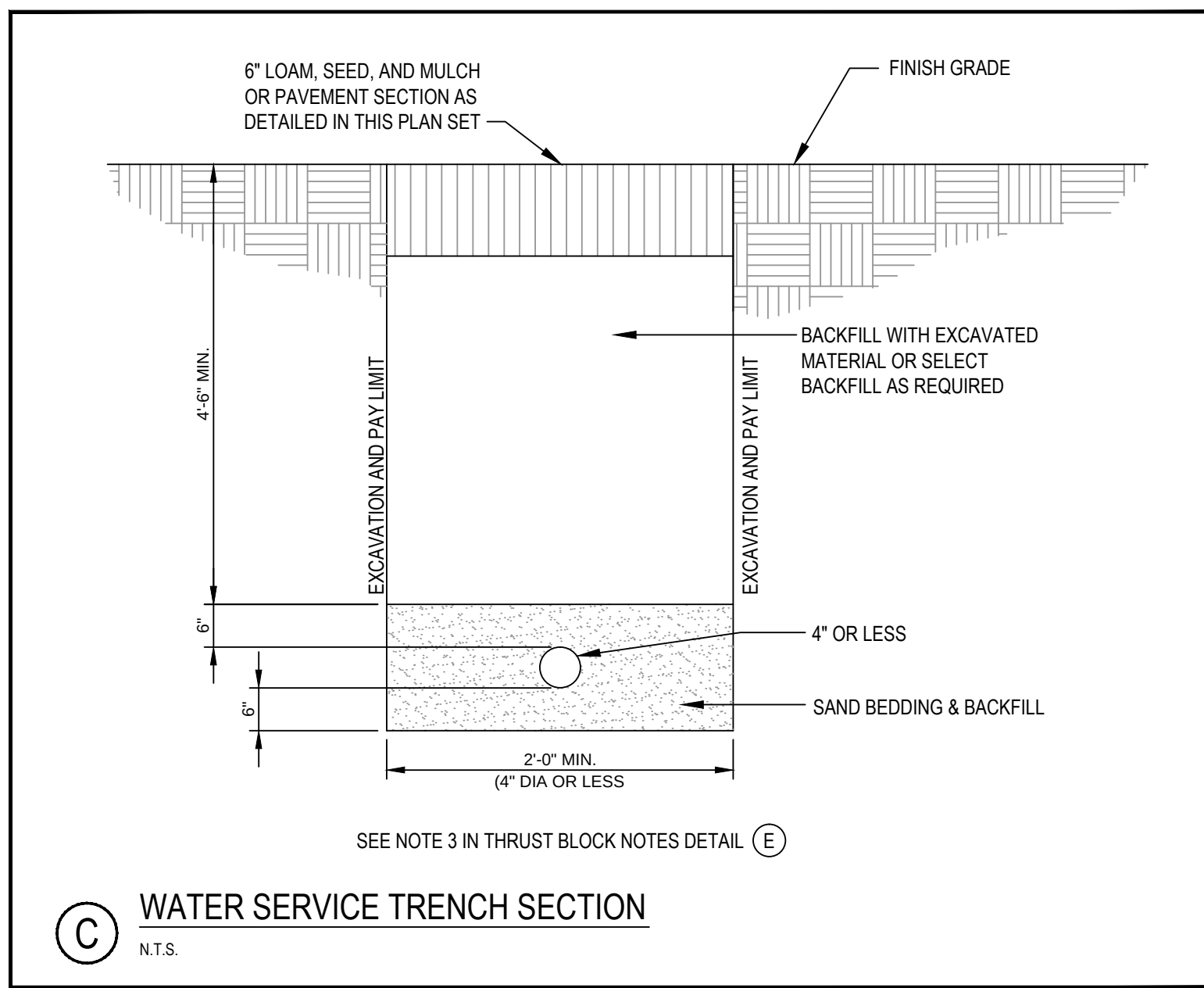
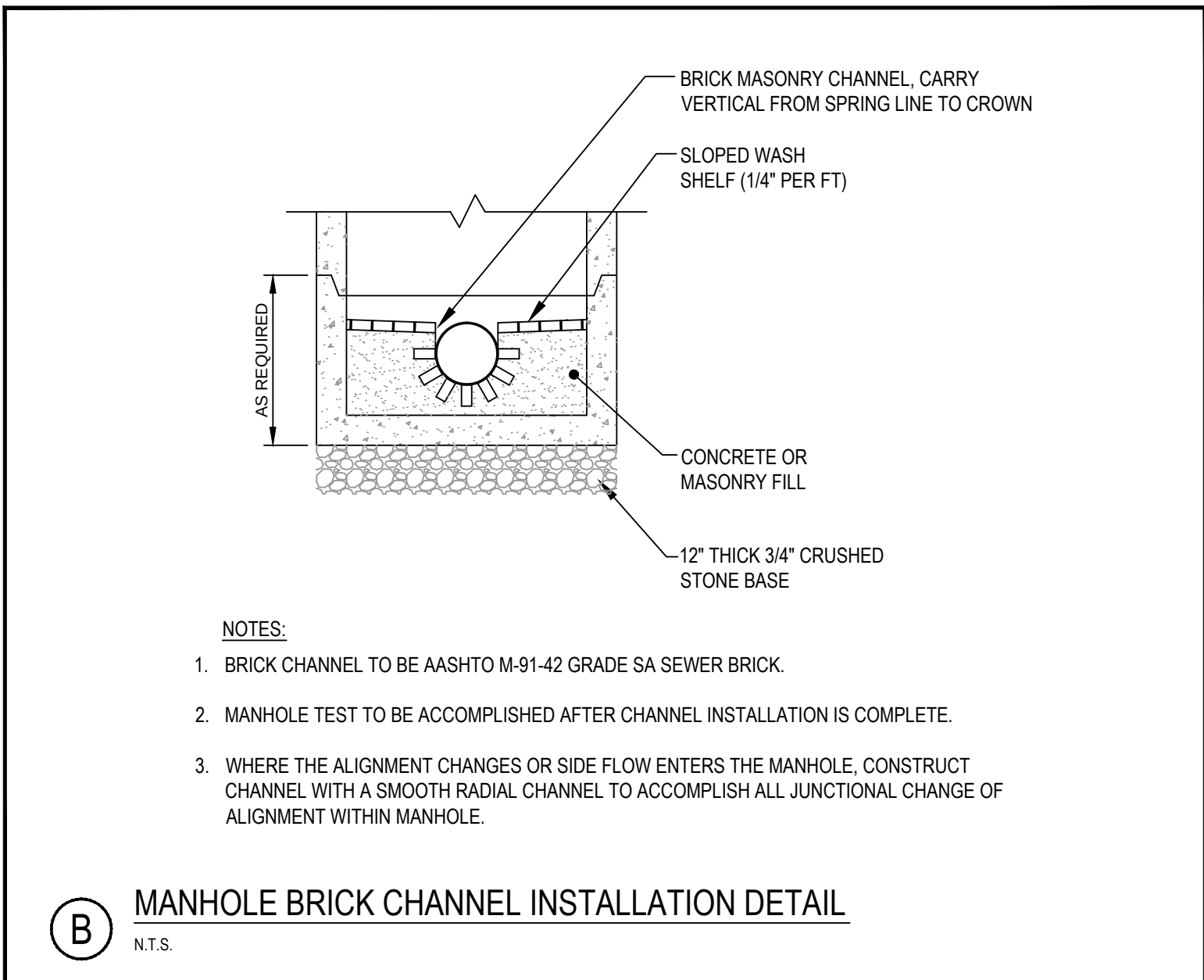
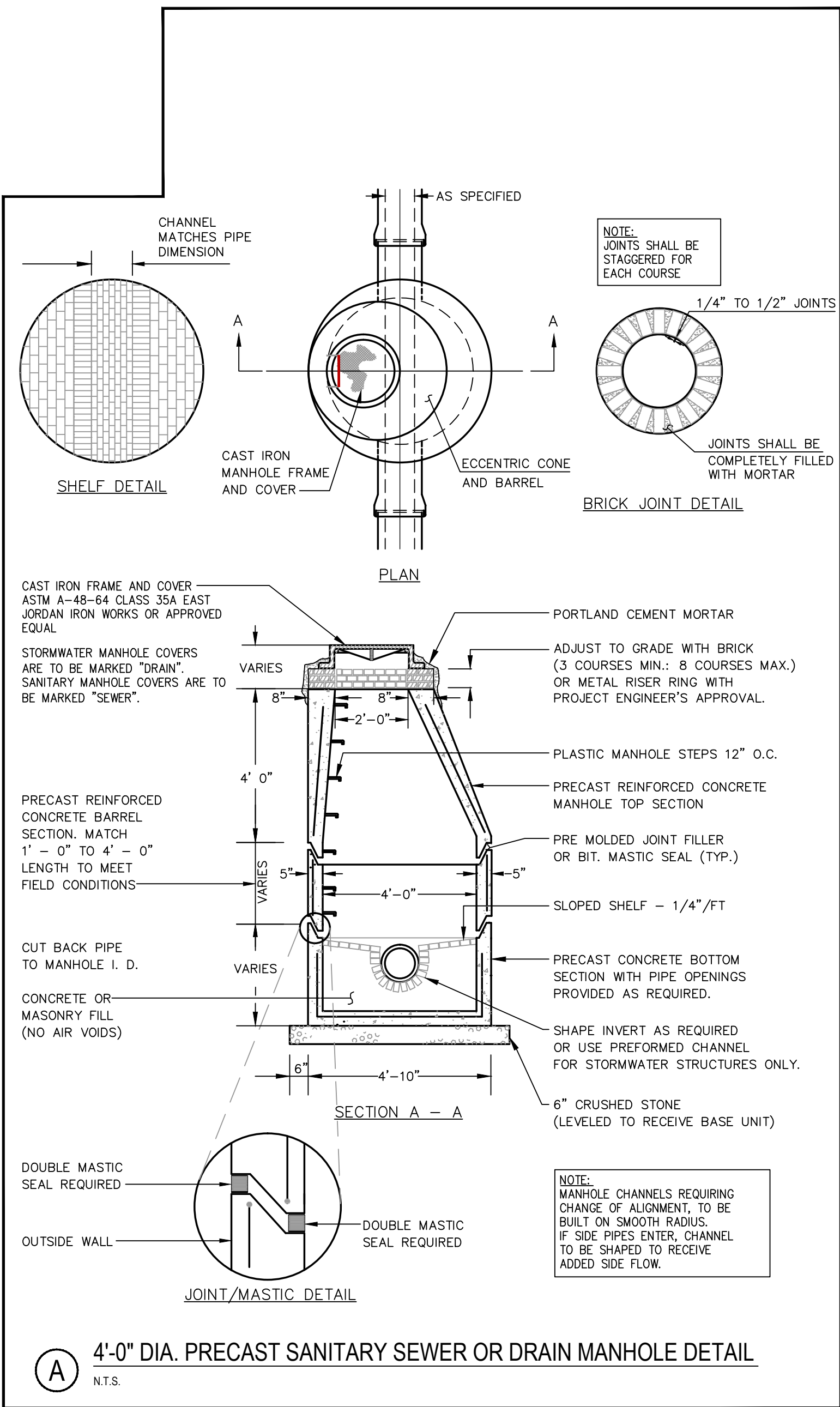
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
3	02.28.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
2	01.22.16	SUBMITTED TO CLIENT FOR REVIEW
1	02.11.15	SUBMITTED TO CONTRACTOR FOR PRICING
REVISIONS		



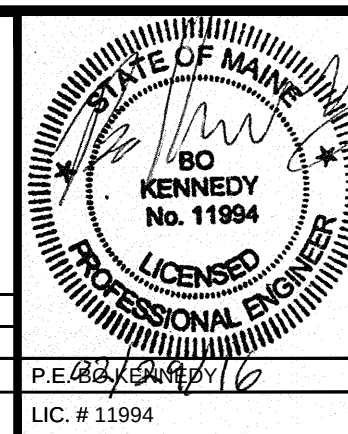
PROJECT	SUBURBAN PROPANE RELOCATION	
SHEET TITLE	UTILITY DETAILS	
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.	

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.0

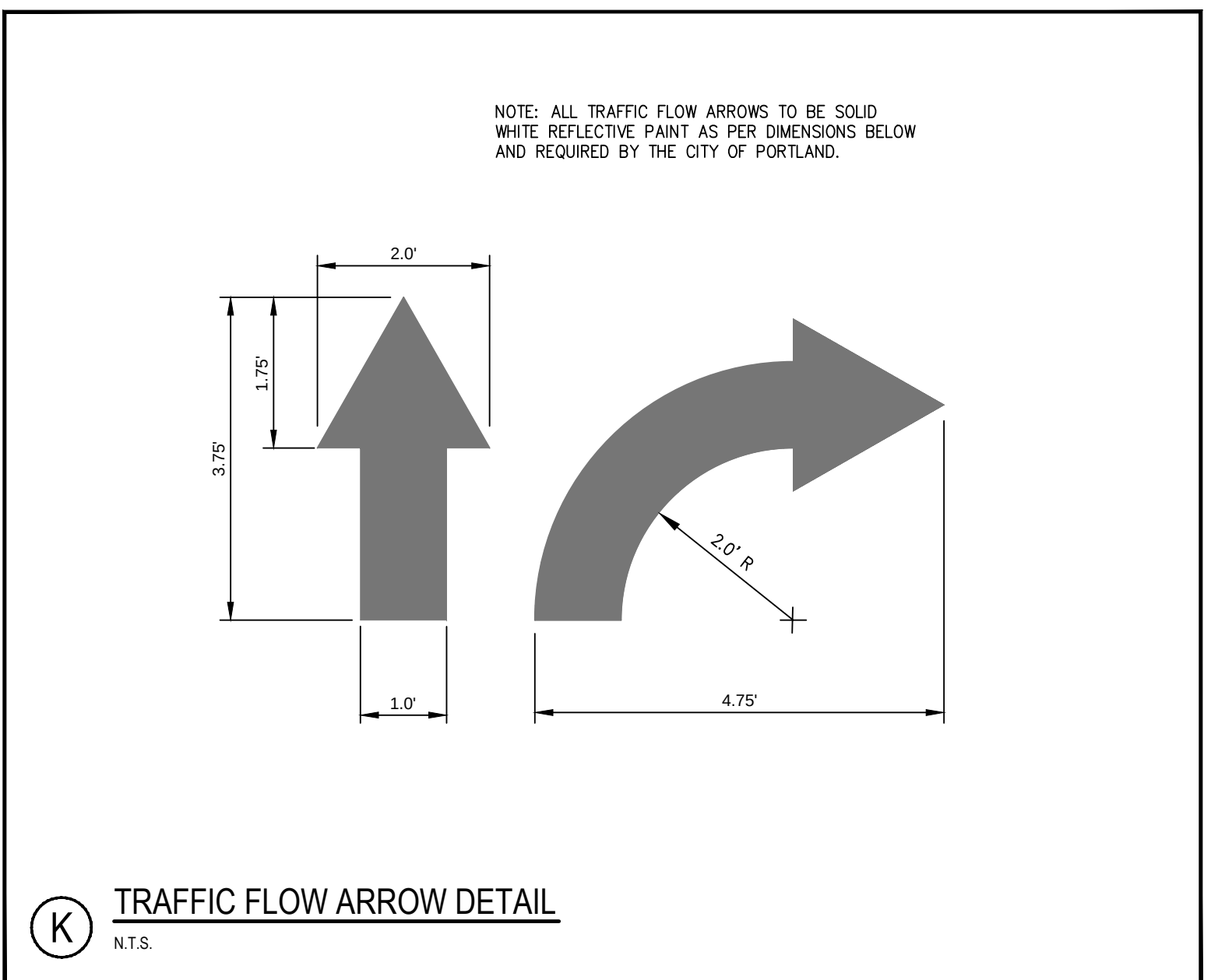
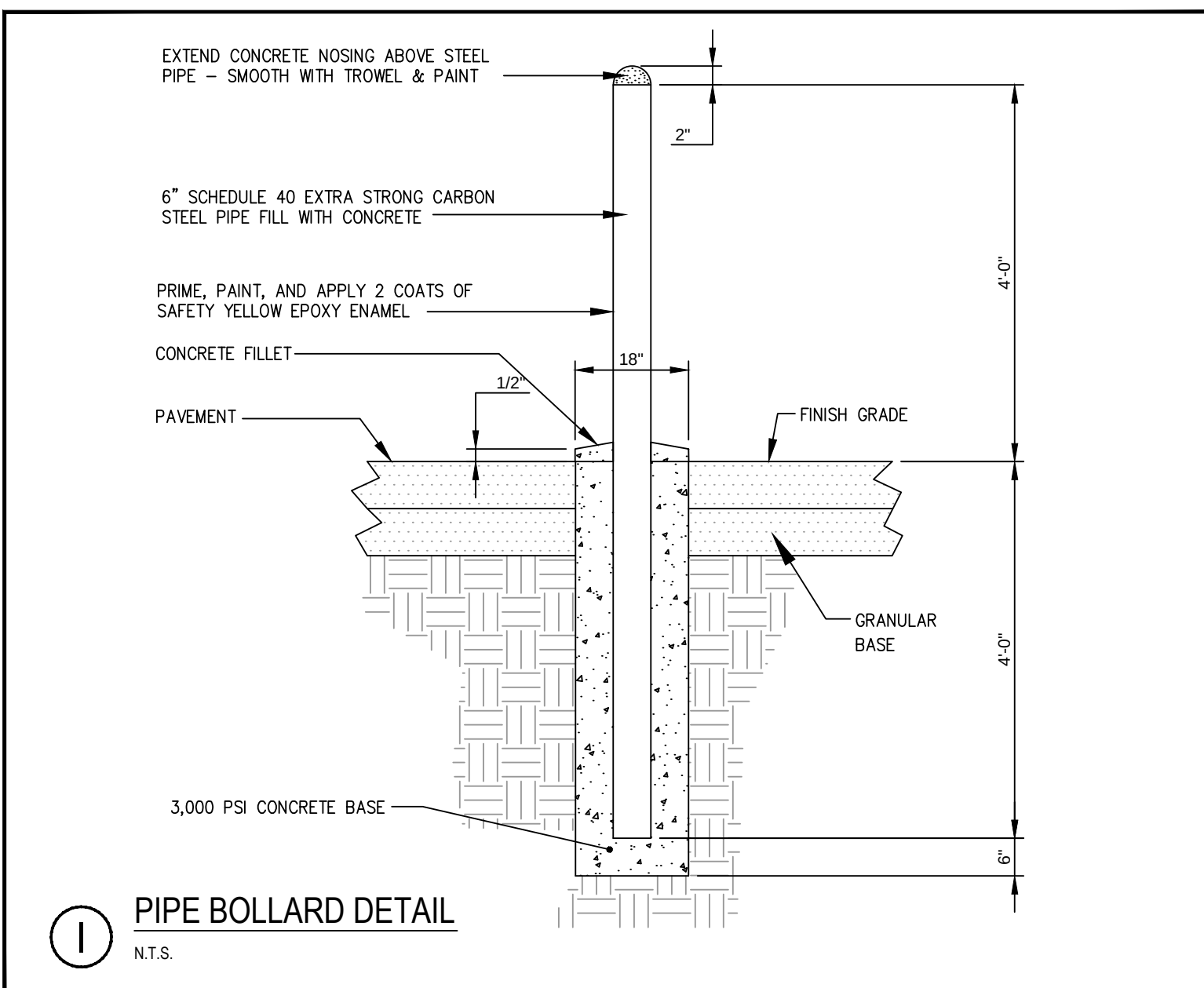
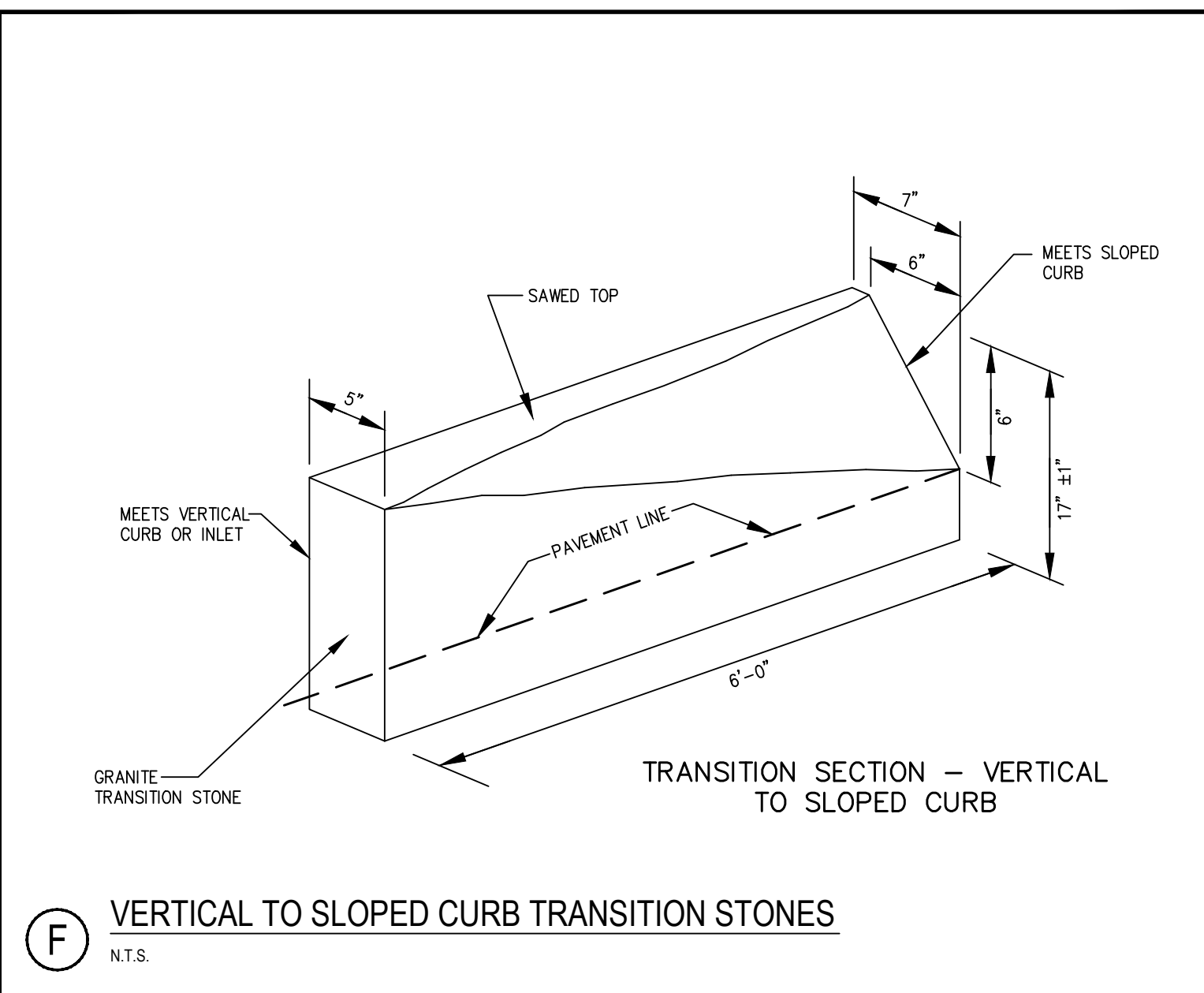
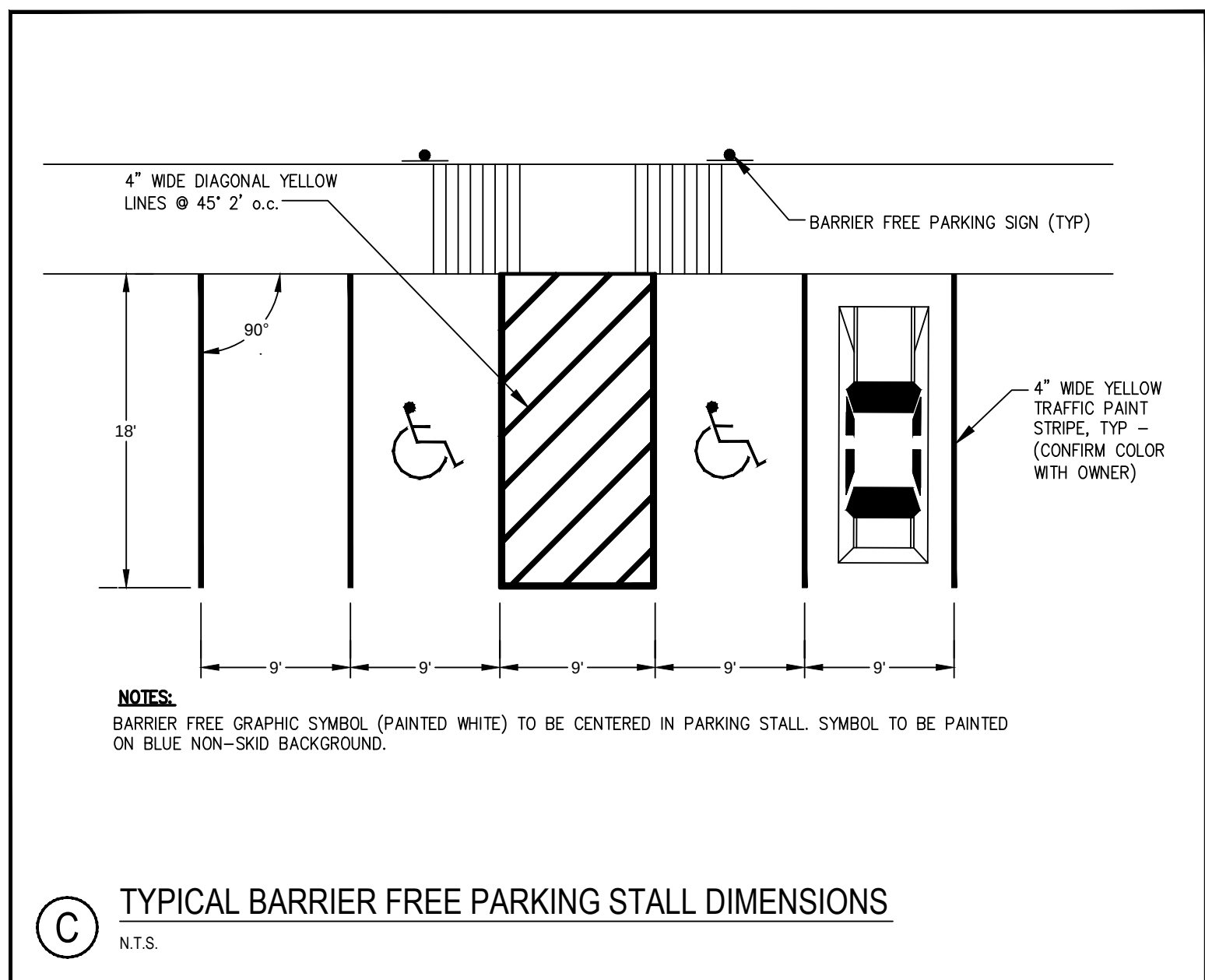
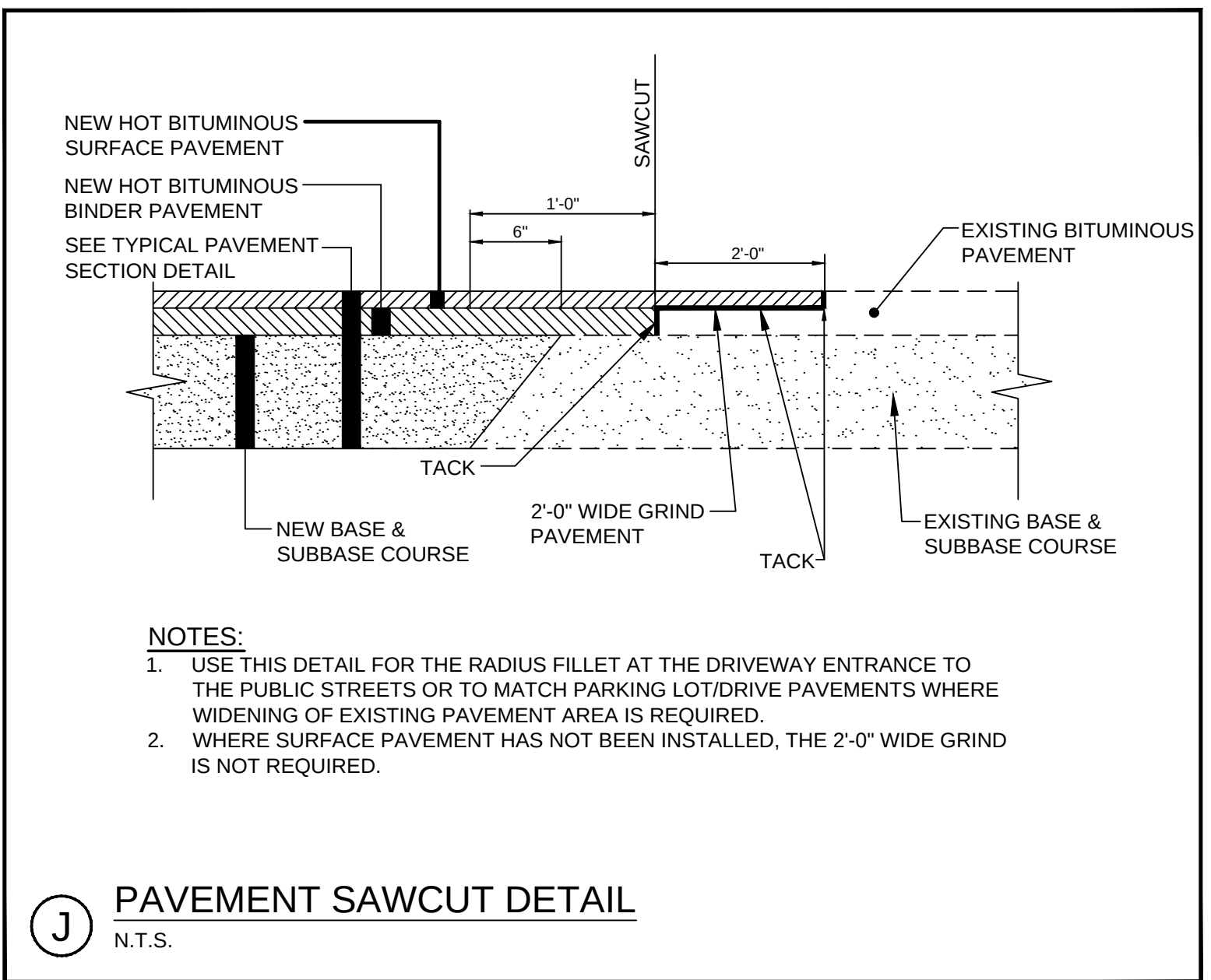
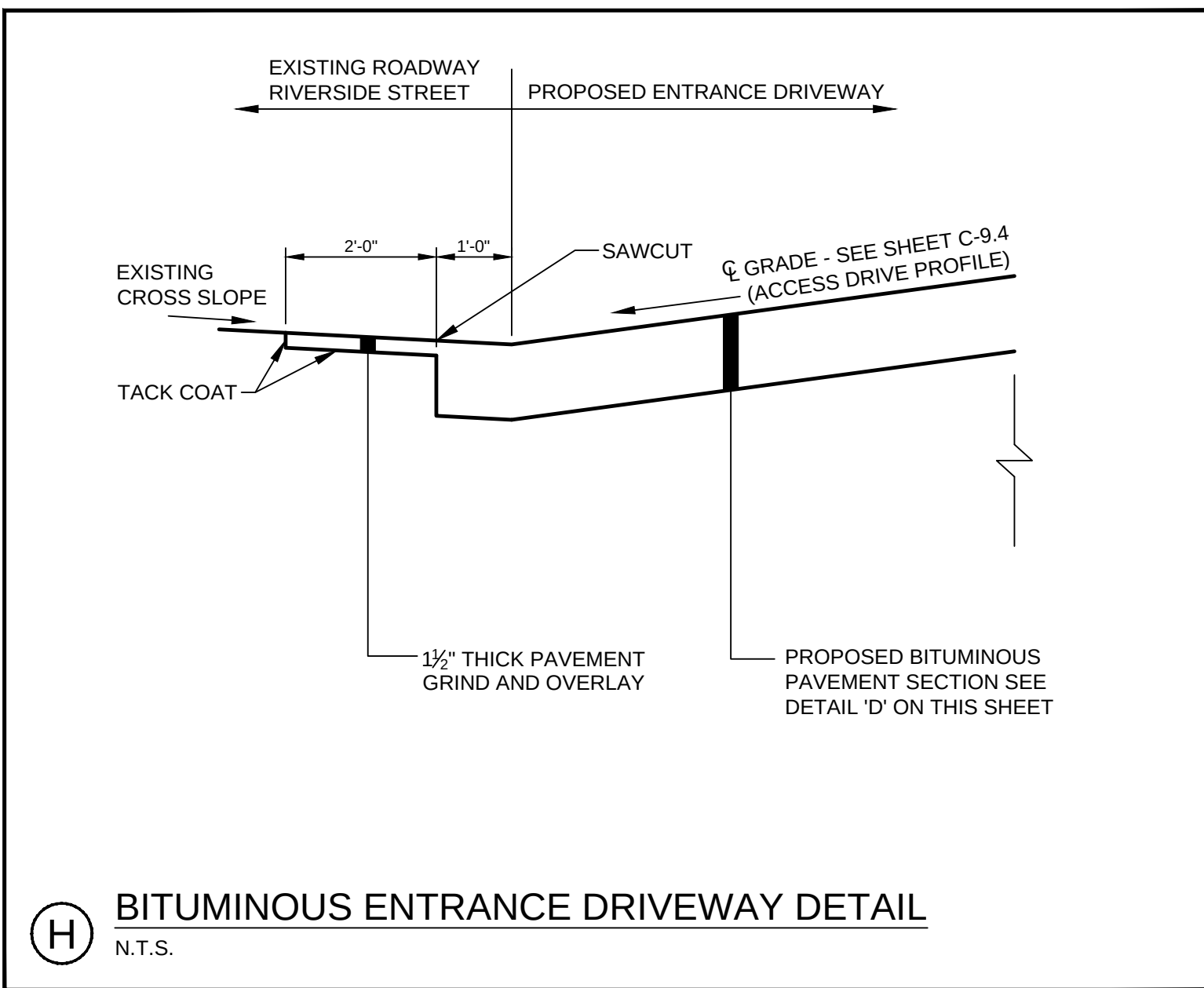
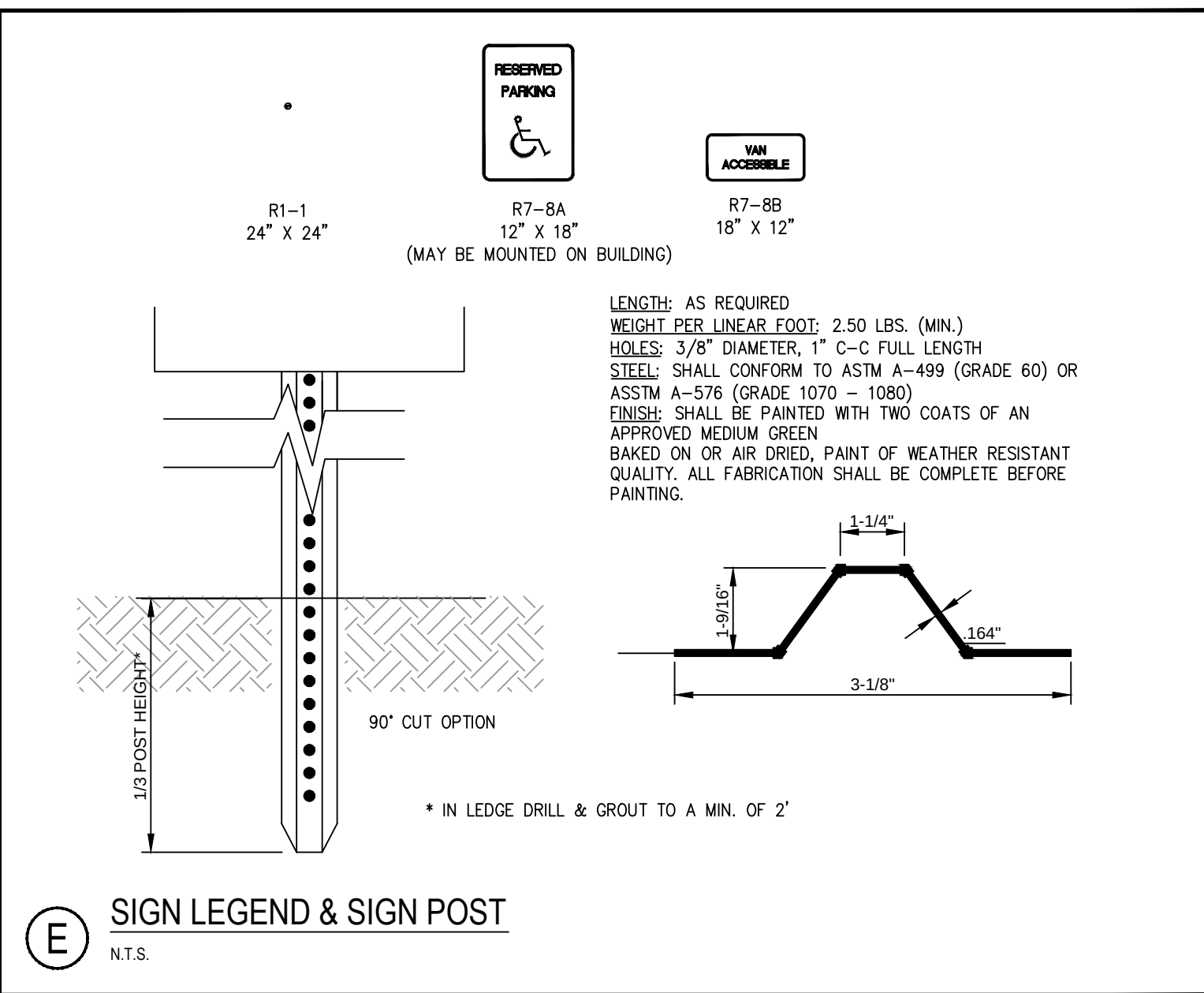
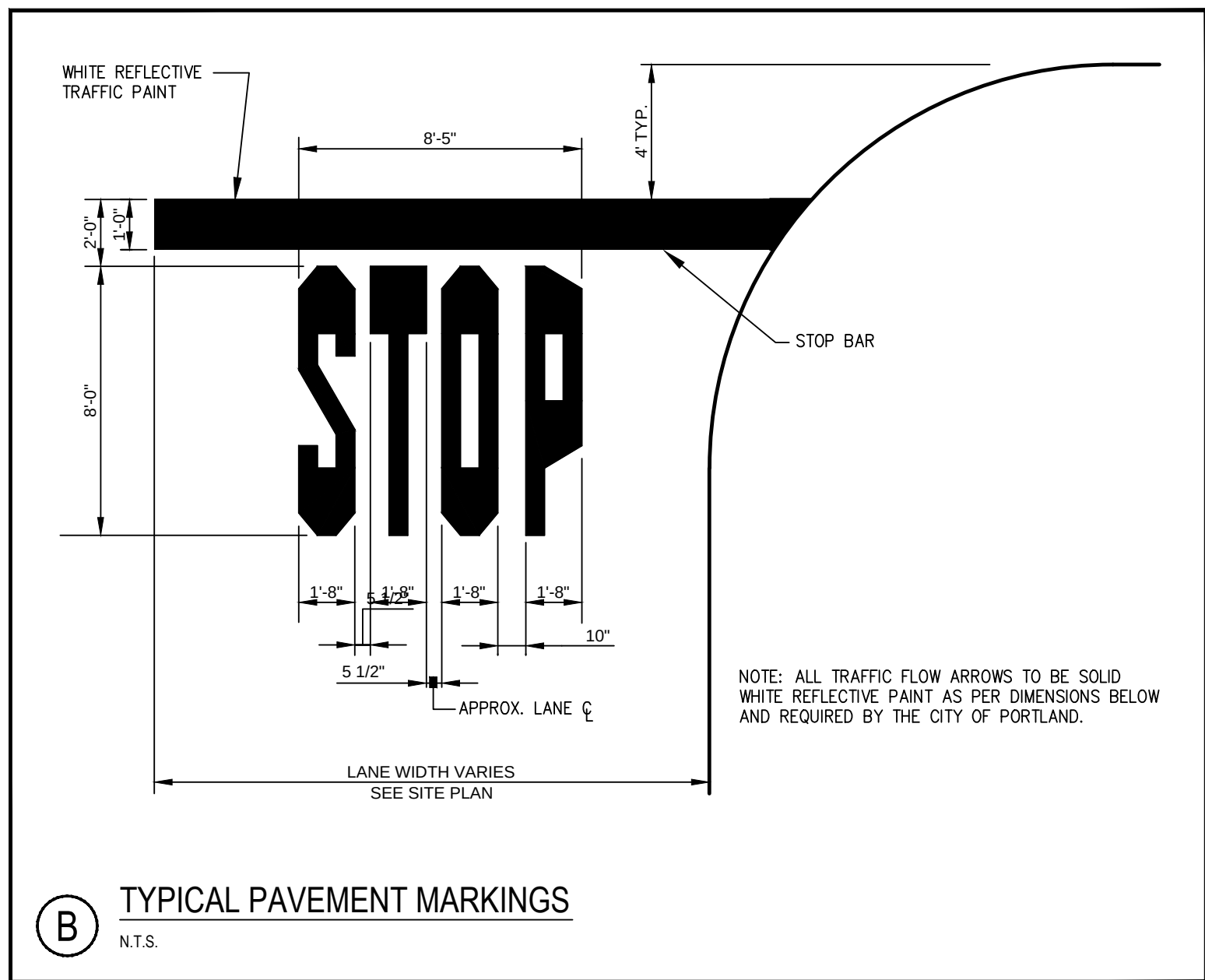
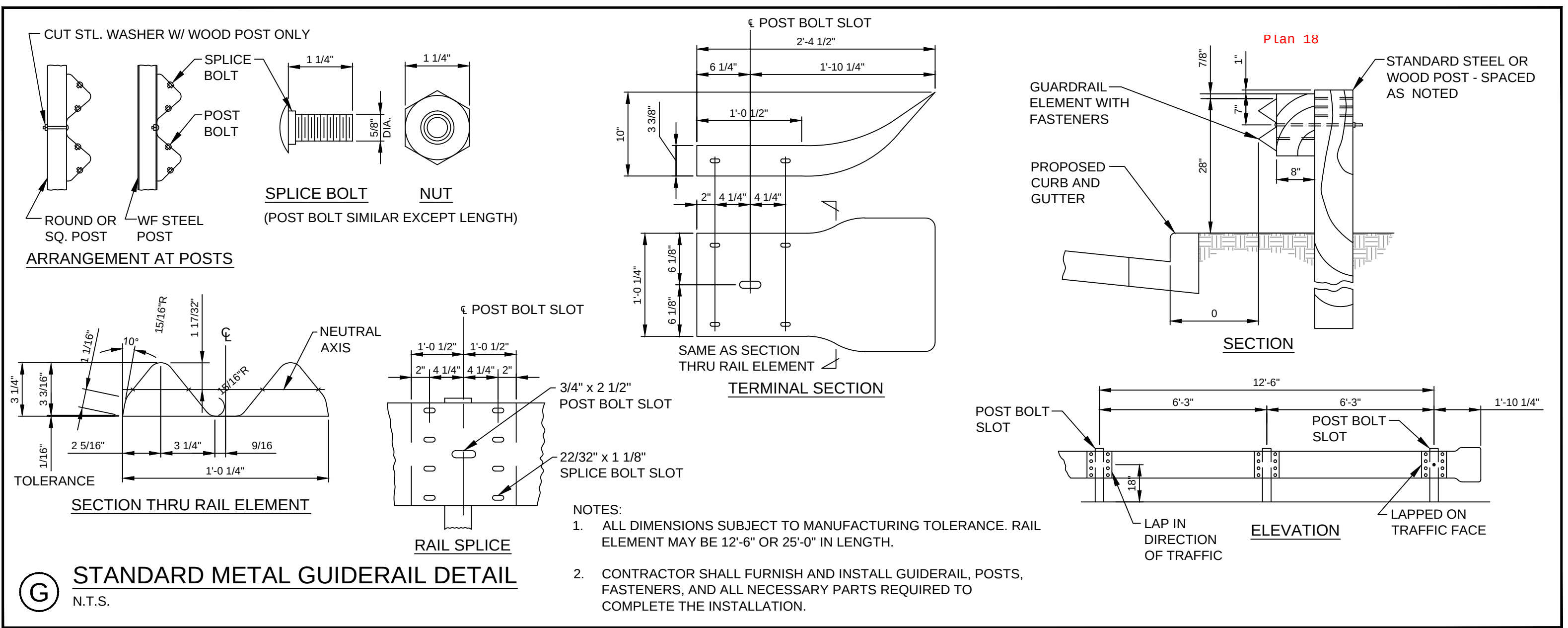
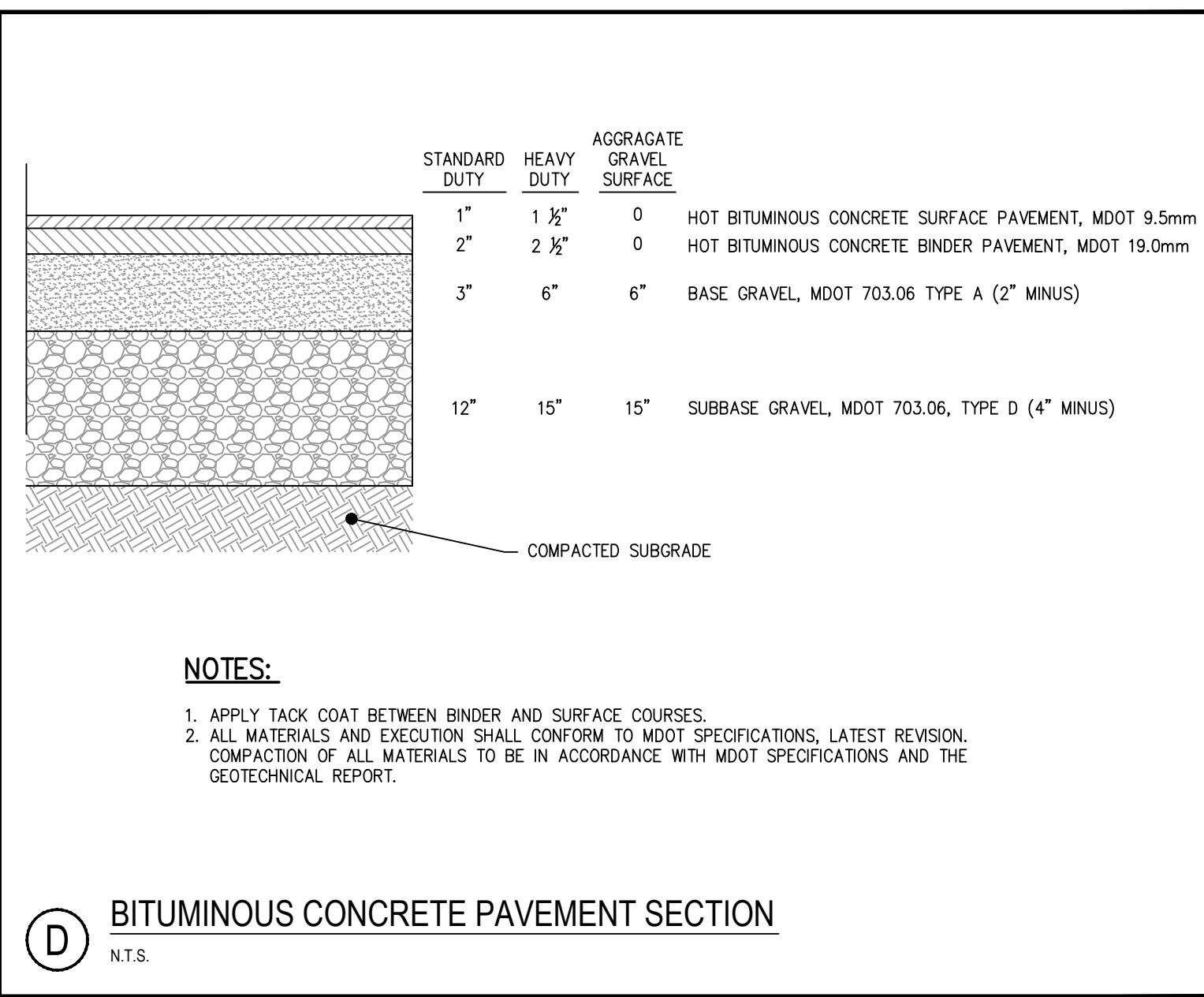
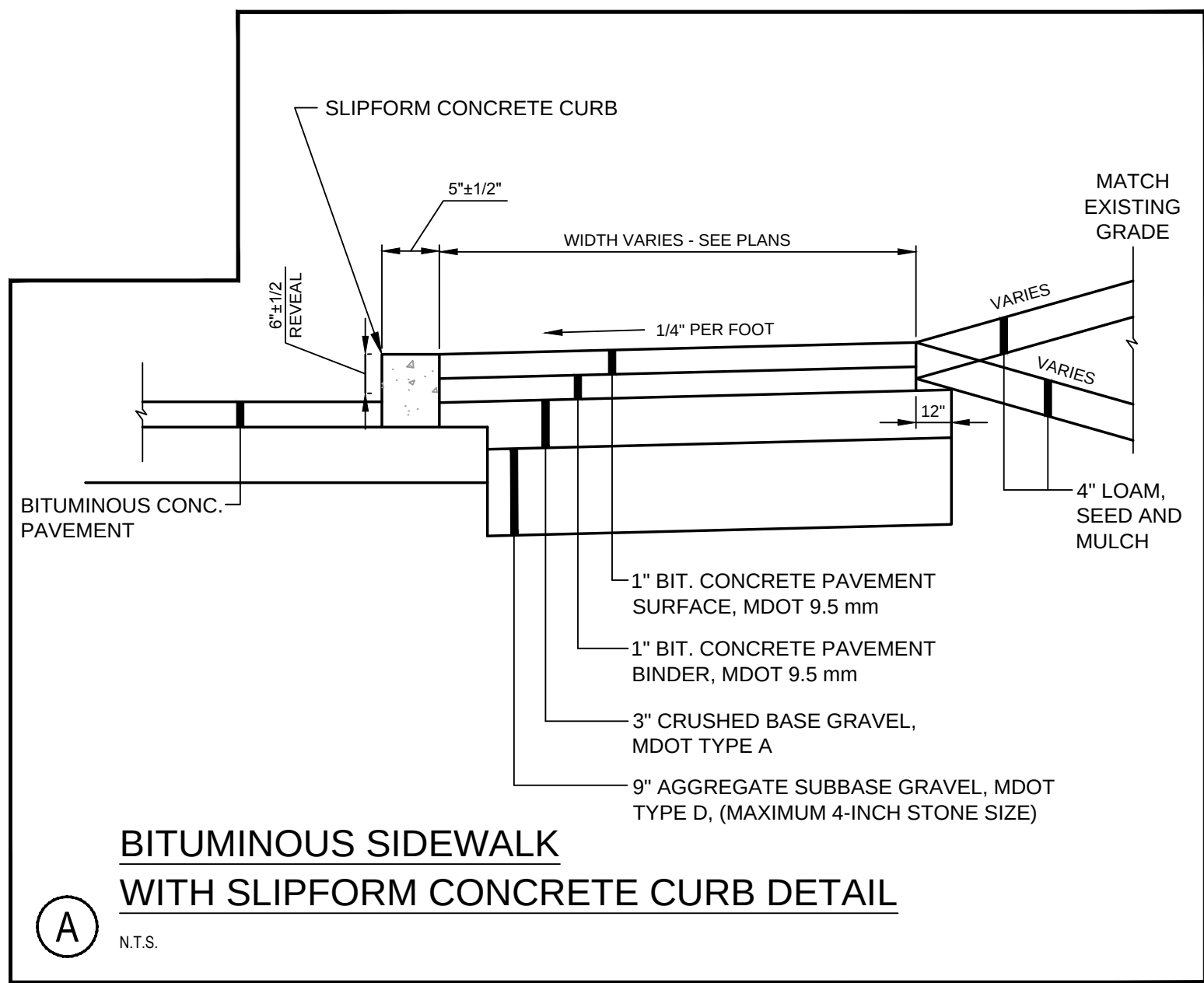


PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	REVISIONS
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW	

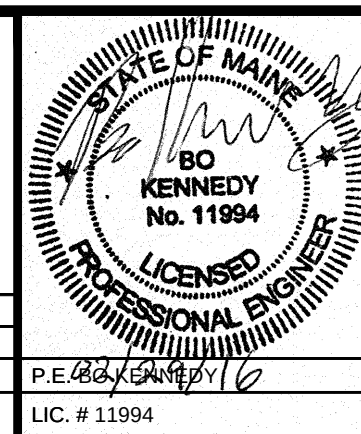


PROJECT	SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC.
SHEET TITLE	UTILITY DETAILS	778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM
CUSTOMER	THOMPSON'S POINT DEVELOPMENT CO. INC.	DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 DETAILS SHEET C-8.1
		DATE: JAN 2016 SCALE: AS NOTED JOB NO. 195350142



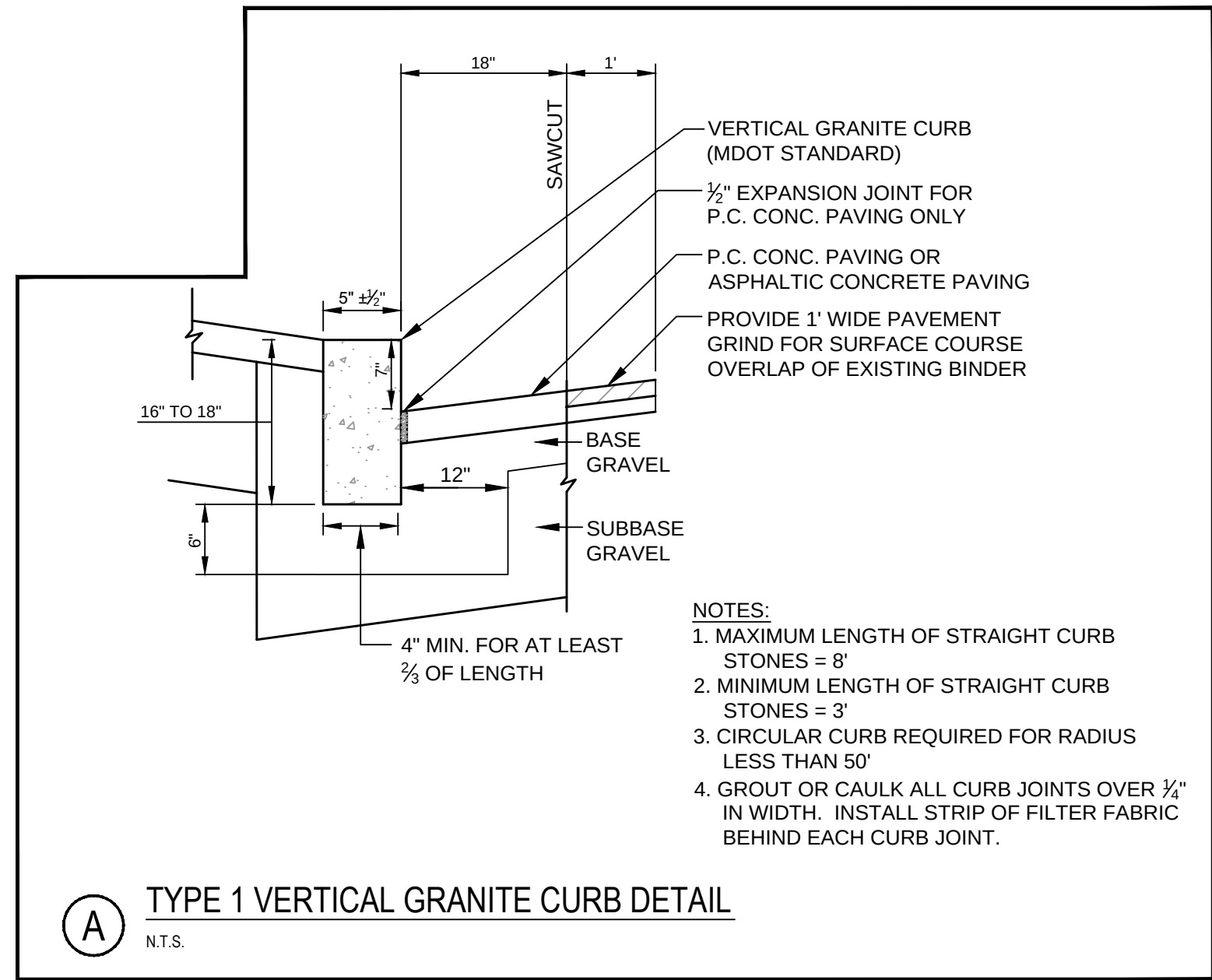
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW

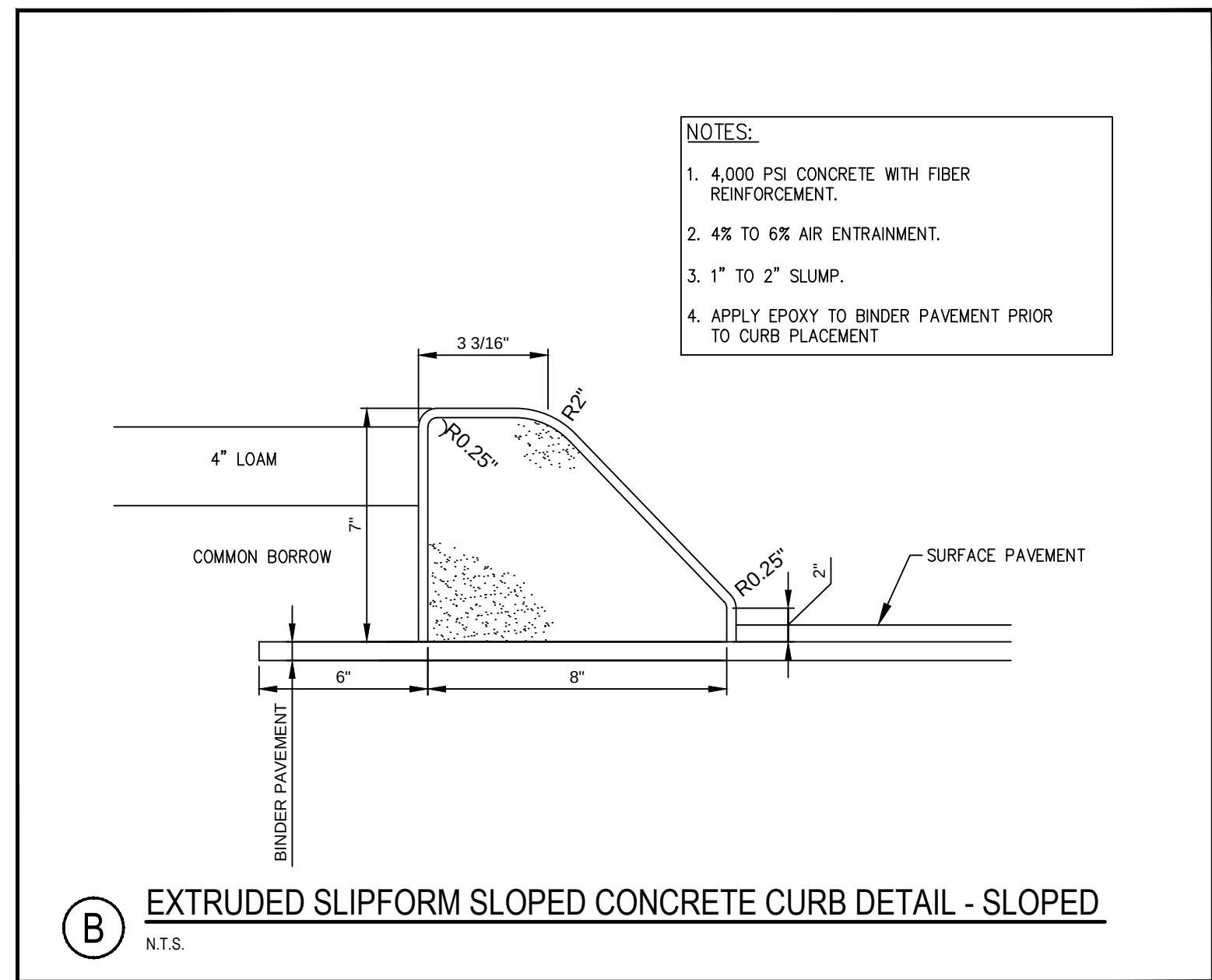


PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	SITE DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

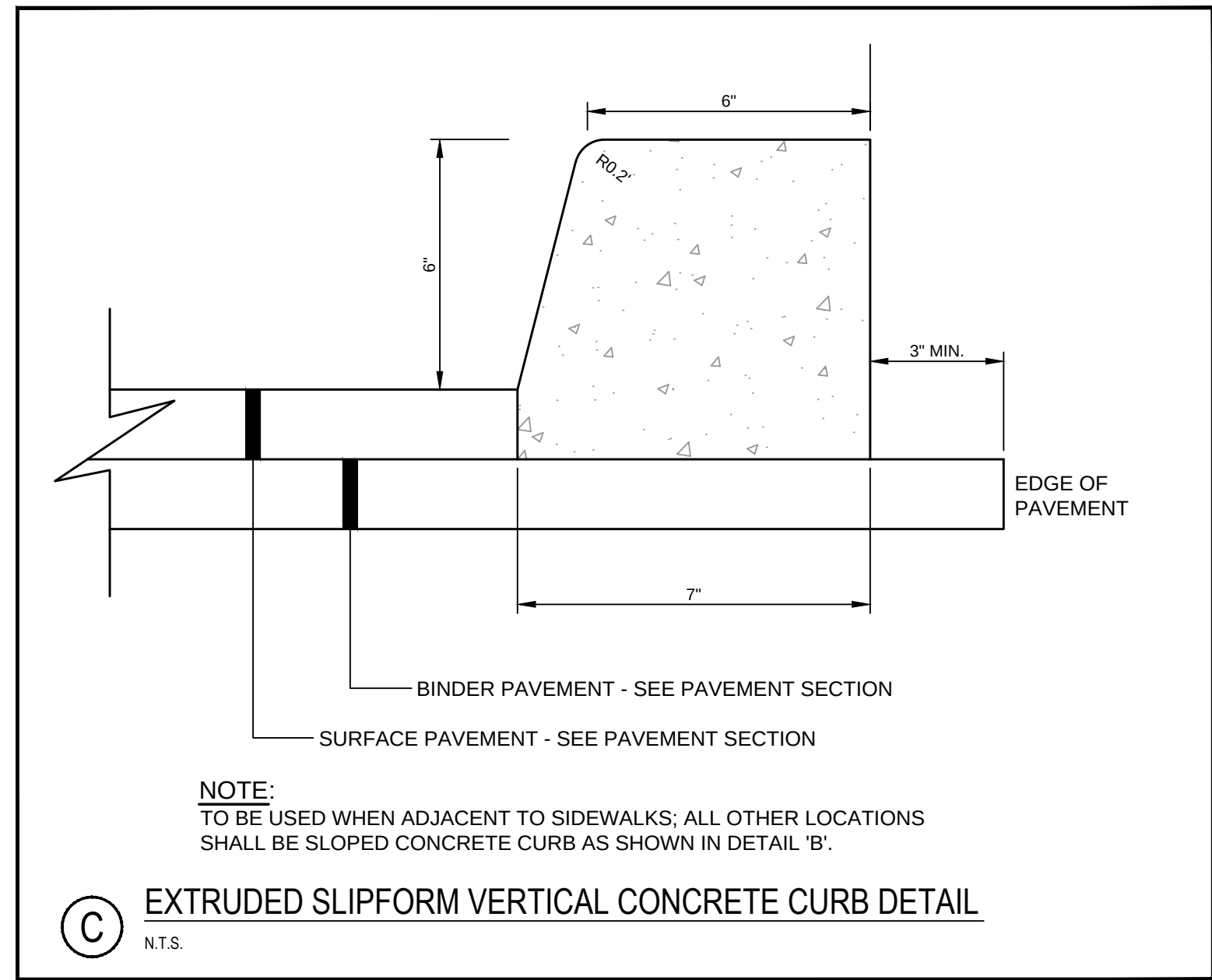
STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.2



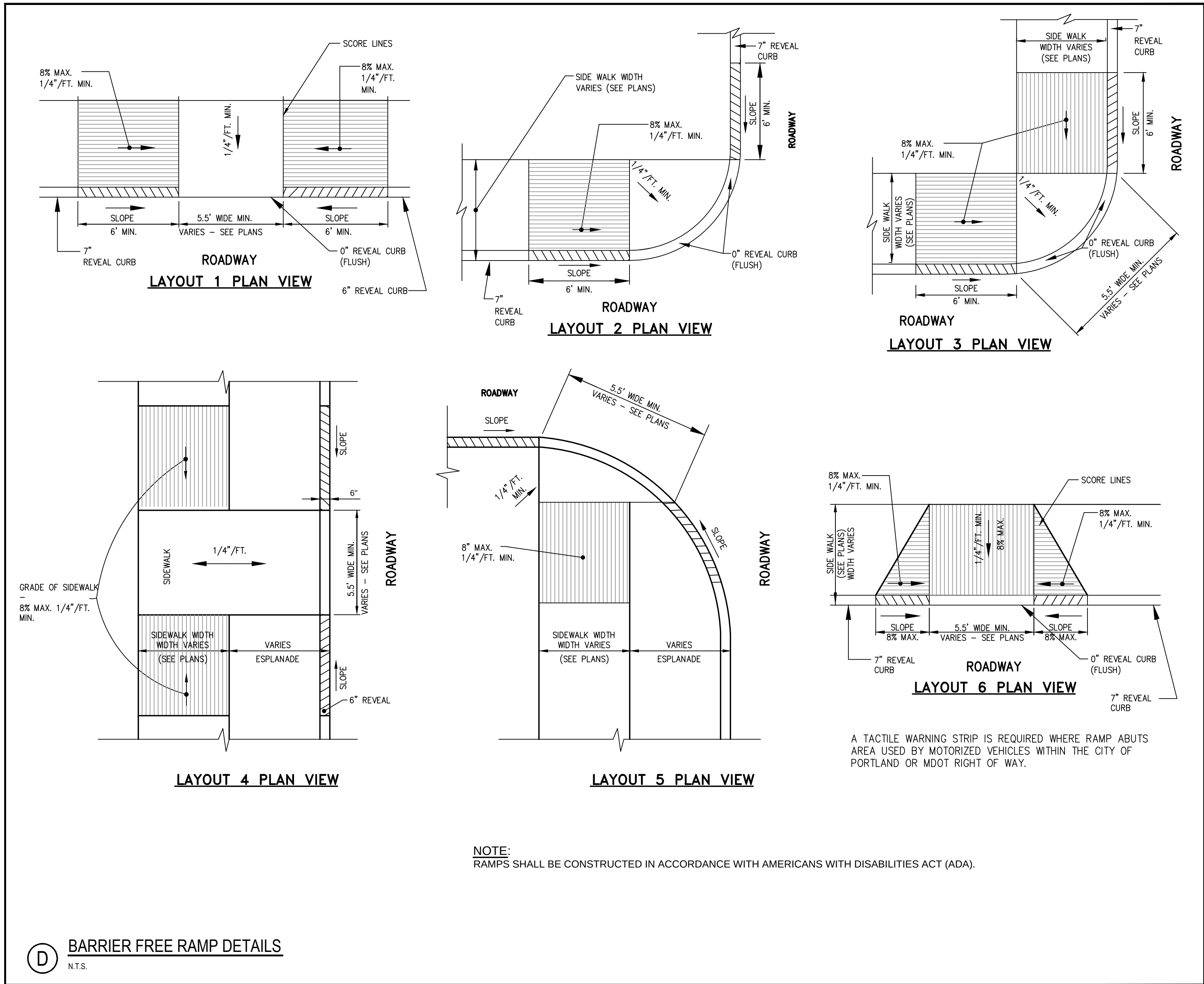
A TYPE 1 VERTICAL GRANITE CURB DETAIL
N.T.S.



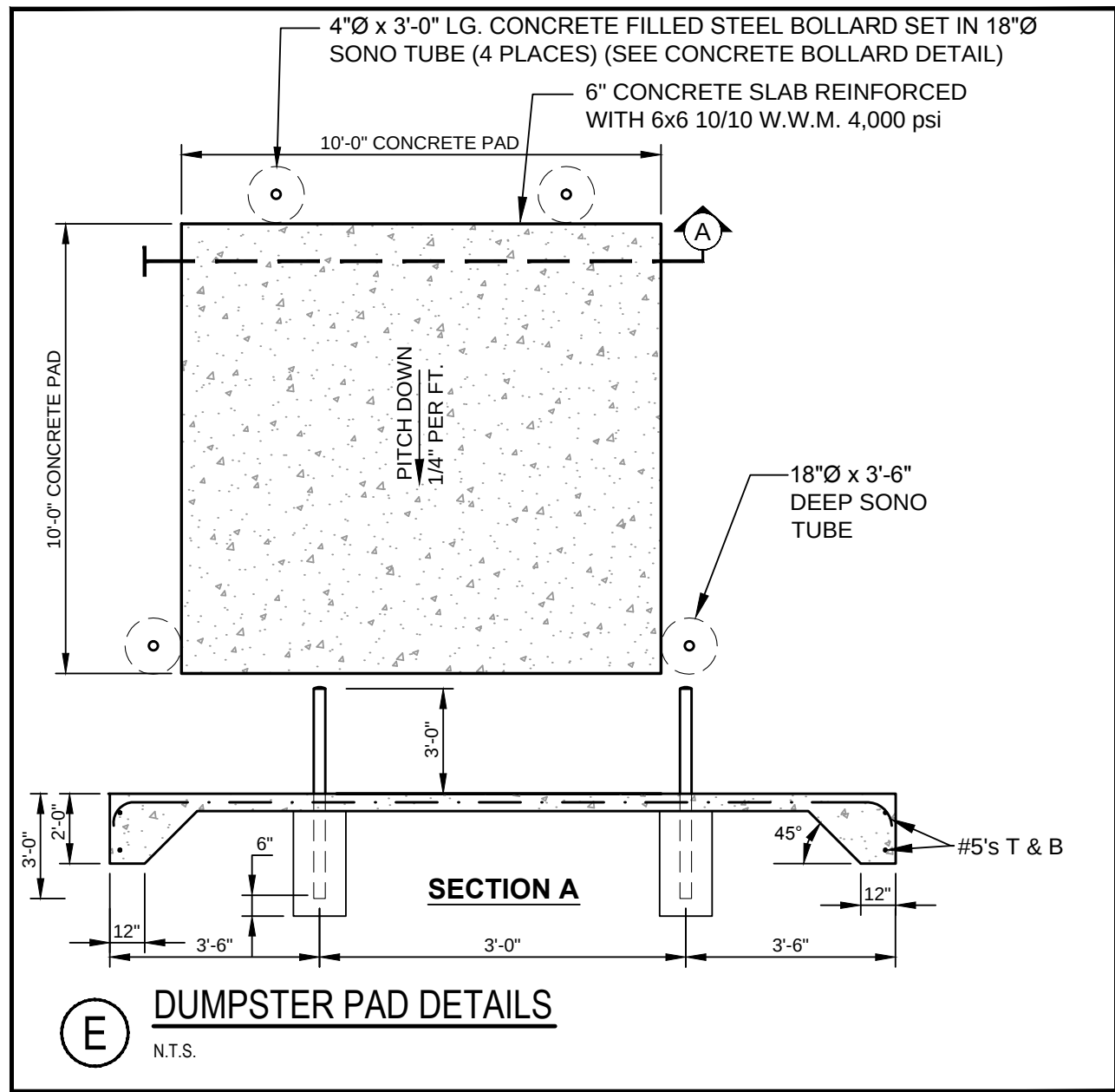
B EXTRUDED SLIPFORM SLOPED CONCRETE CURB DETAIL - SLOPED
N.T.S.



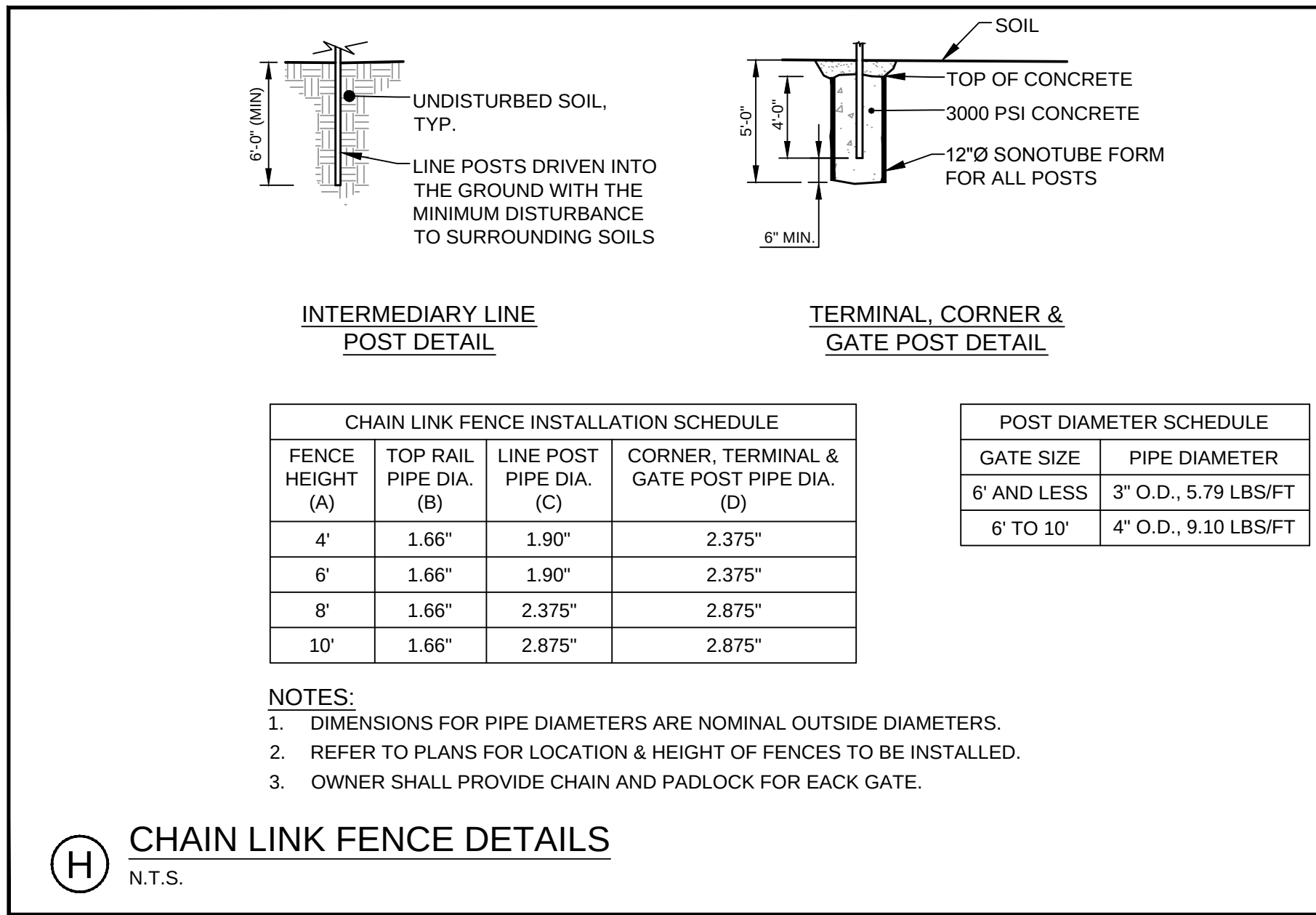
C EXTRUDED SLIPFORM VERTICAL CONCRETE CURB DETAIL
N.T.S.



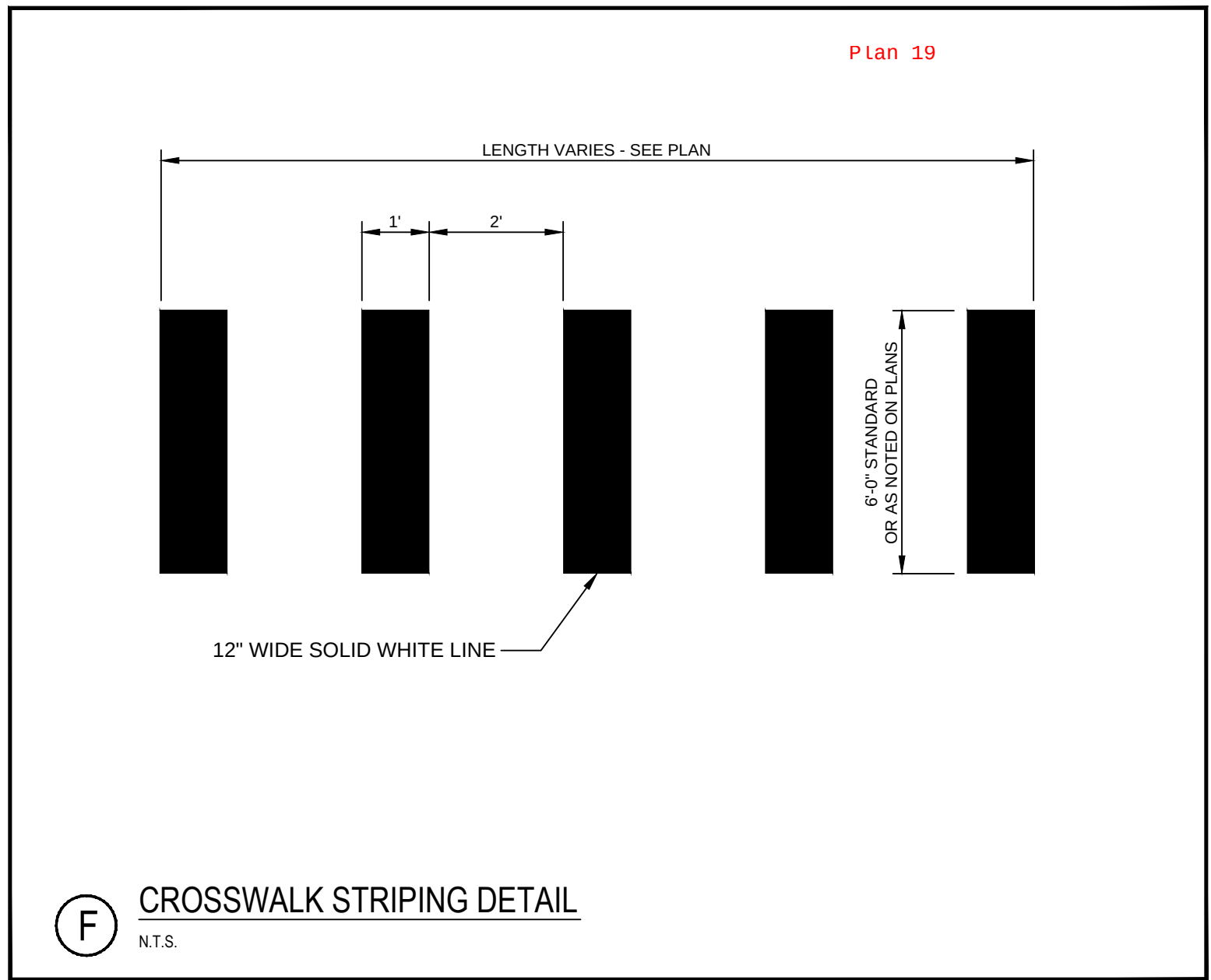
D BARRIER FREE RAMP DETAILS
N.T.S.



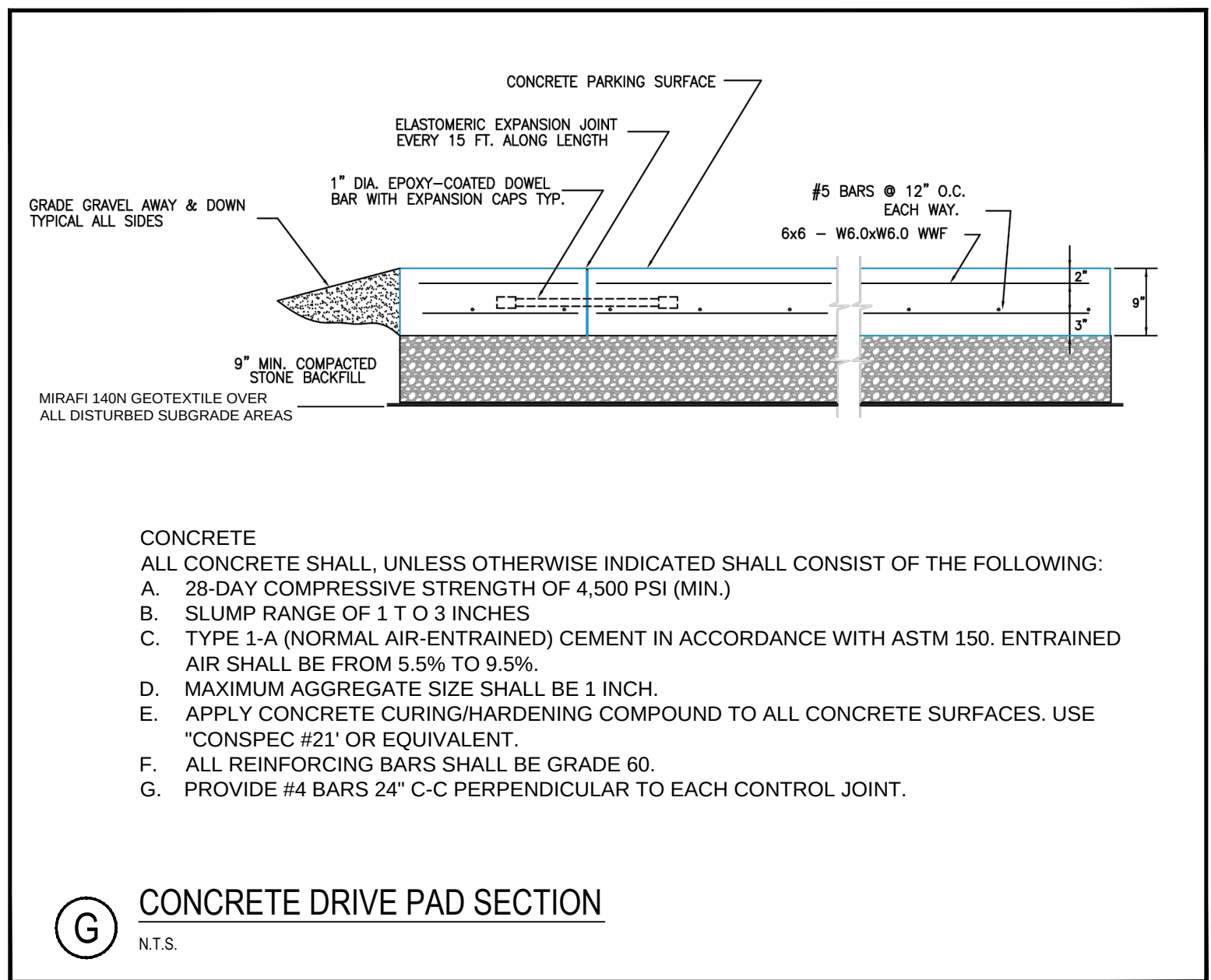
E DUMPSTER PAD DETAILS
N.T.S.



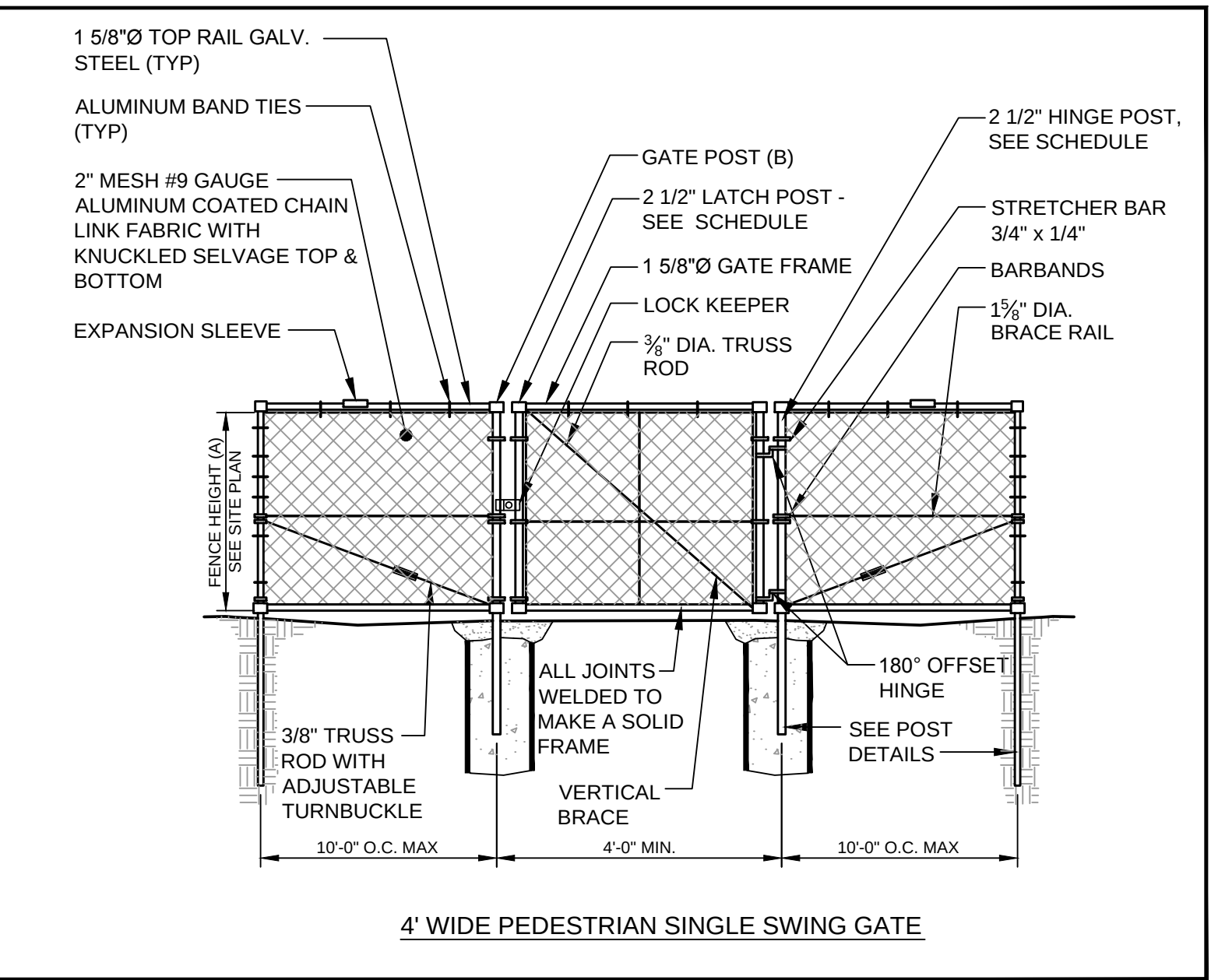
H CHAIN LINK FENCE DETAILS
N.T.S.



F CROSSWALK STRIPING DETAIL
N.T.S.



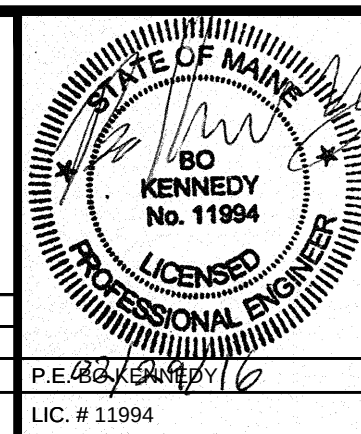
G CONCRETE DRIVE PAD SECTION
N.T.S.



I 4' WIDE PEDESTRIAN SINGLE SWING GATE
N.T.S.

PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW

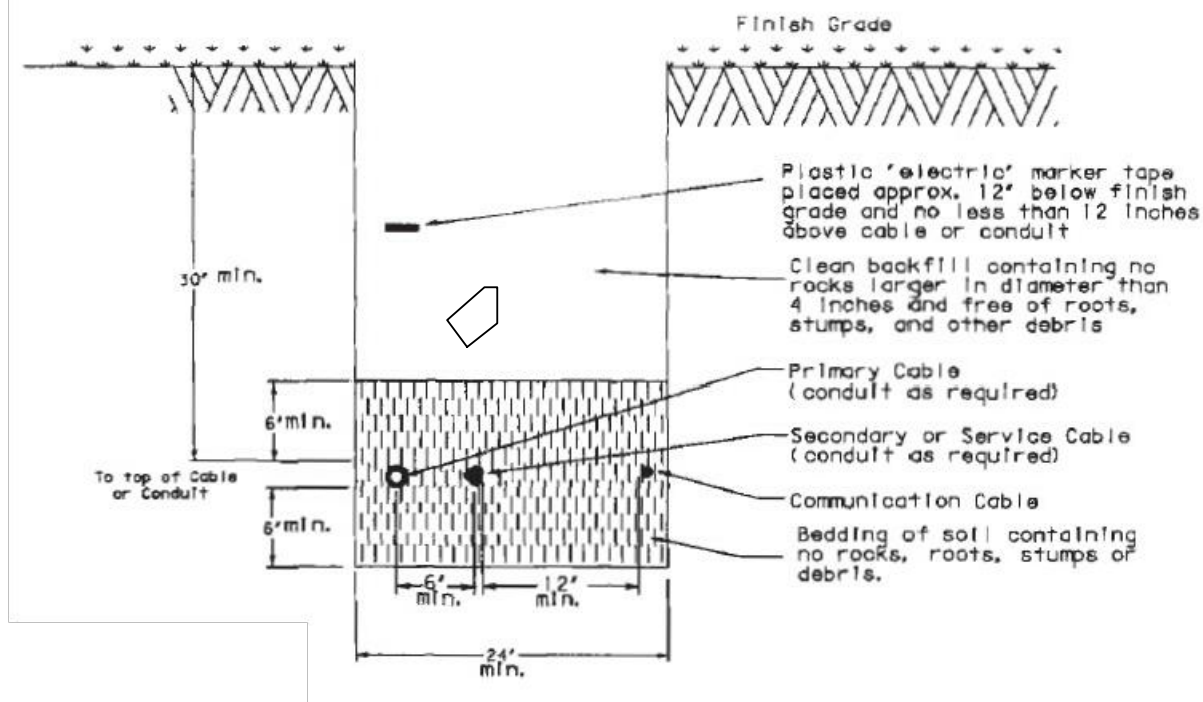


PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	SITE DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

STANTEC CONSULTING SERVICES INC.	
778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.3

UNDERGROUND CABLE INSTALLATION
JOINTLY USED TRENCH - HORIZONTAL SEPARATION
IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED
AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

Trench shall be a minimum of 24" wide



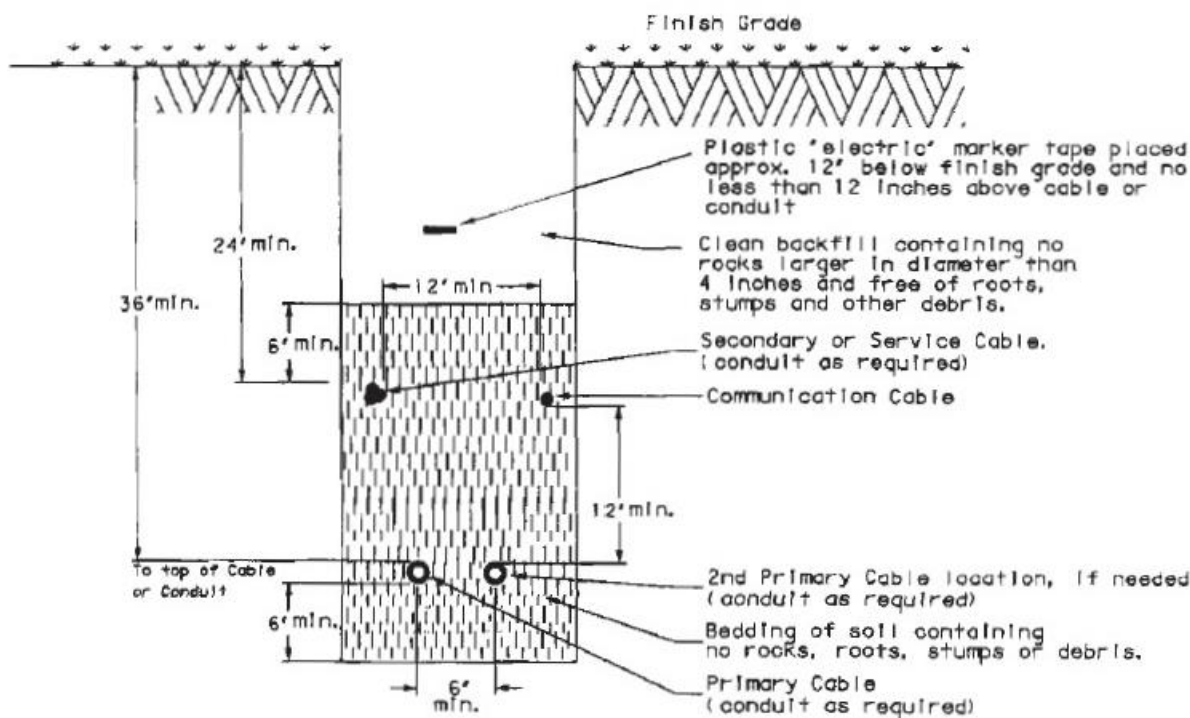
UNDERGROUND CABLE INSTALLATION JOINTLY
USED TRENCH HORIZONTAL SEPARATION

(A)
N.T.S.

UNDERGROUND CABLE INSTALLATION
JOINTLY USED TRENCH - VERTICAL SEPARATION
IN SITUATIONS WHERE THE TRENCH IS TO BE SHARED
AGREEMENT MUST BE OBTAINED BETWEEN JOINT USERS

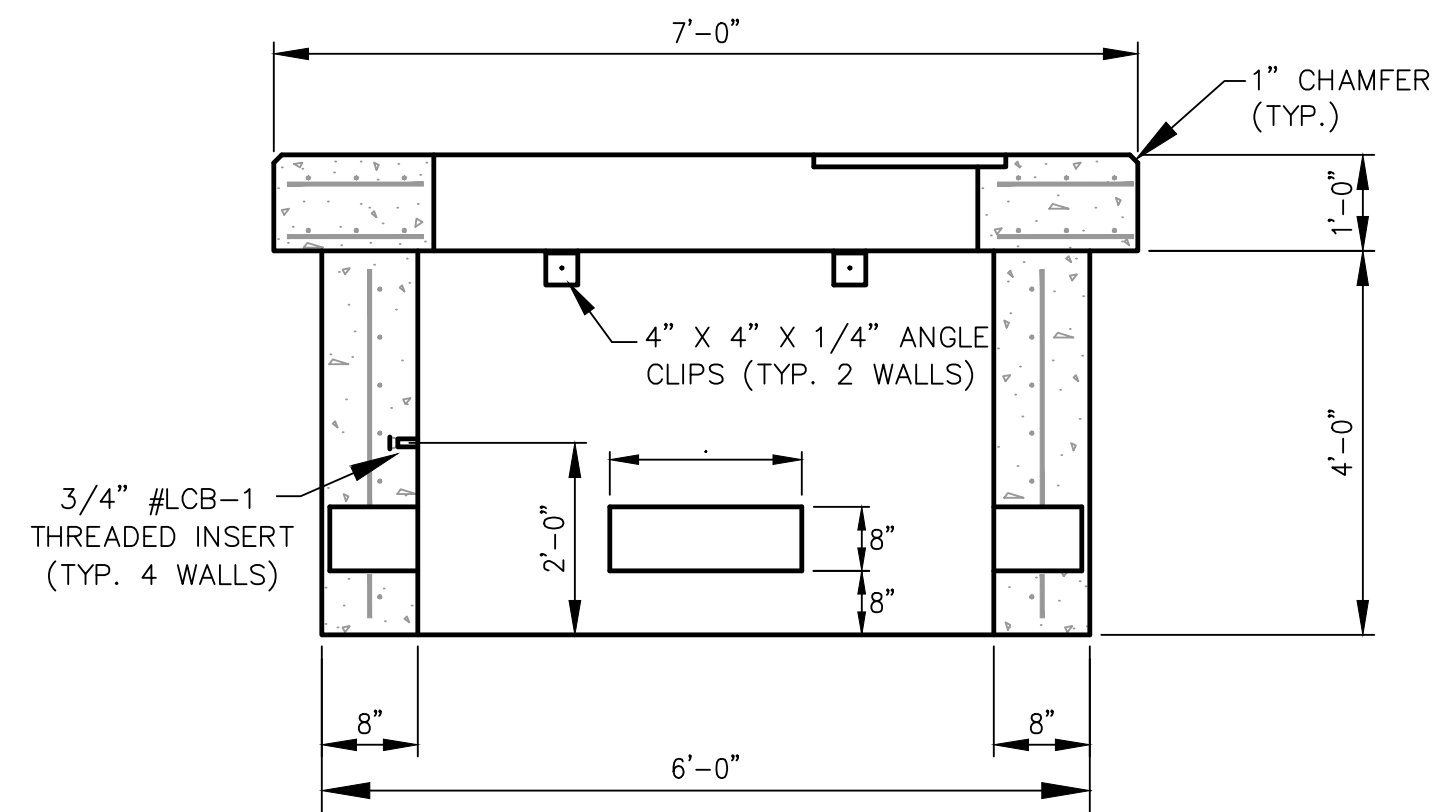
NOTES:

1. Installation should not allow the inter-twining of cables.
2. Bedding and backfill shall be free of roots, stumps and other debris.
3. Communication cable and power cable shall have no less than 12 inches of radial separation.



UNDERGROUND CABLE INSTALLATION JOINTLY
USED TRENCH VERTICAL SEPARATION

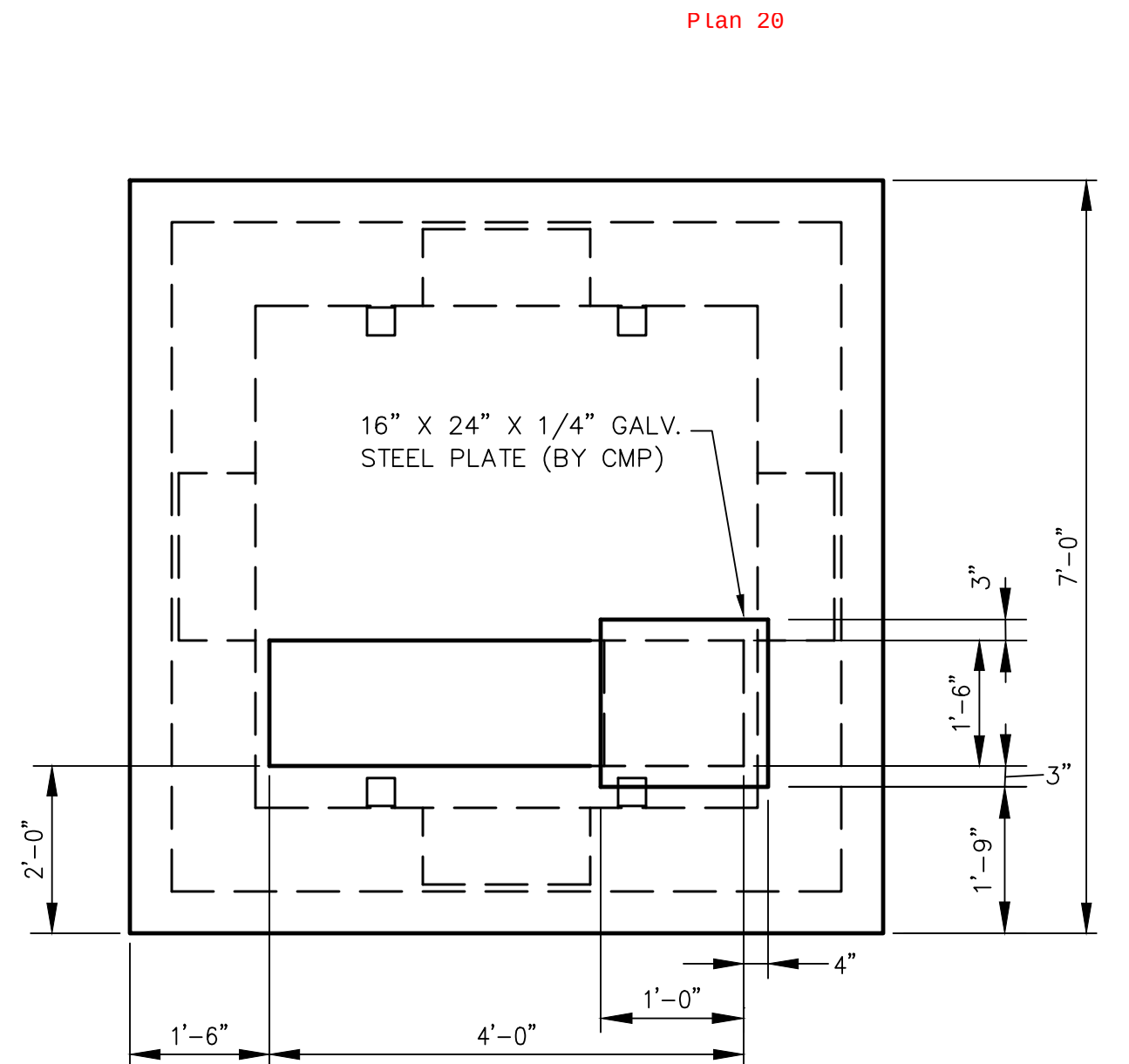
(C)
N.T.S.



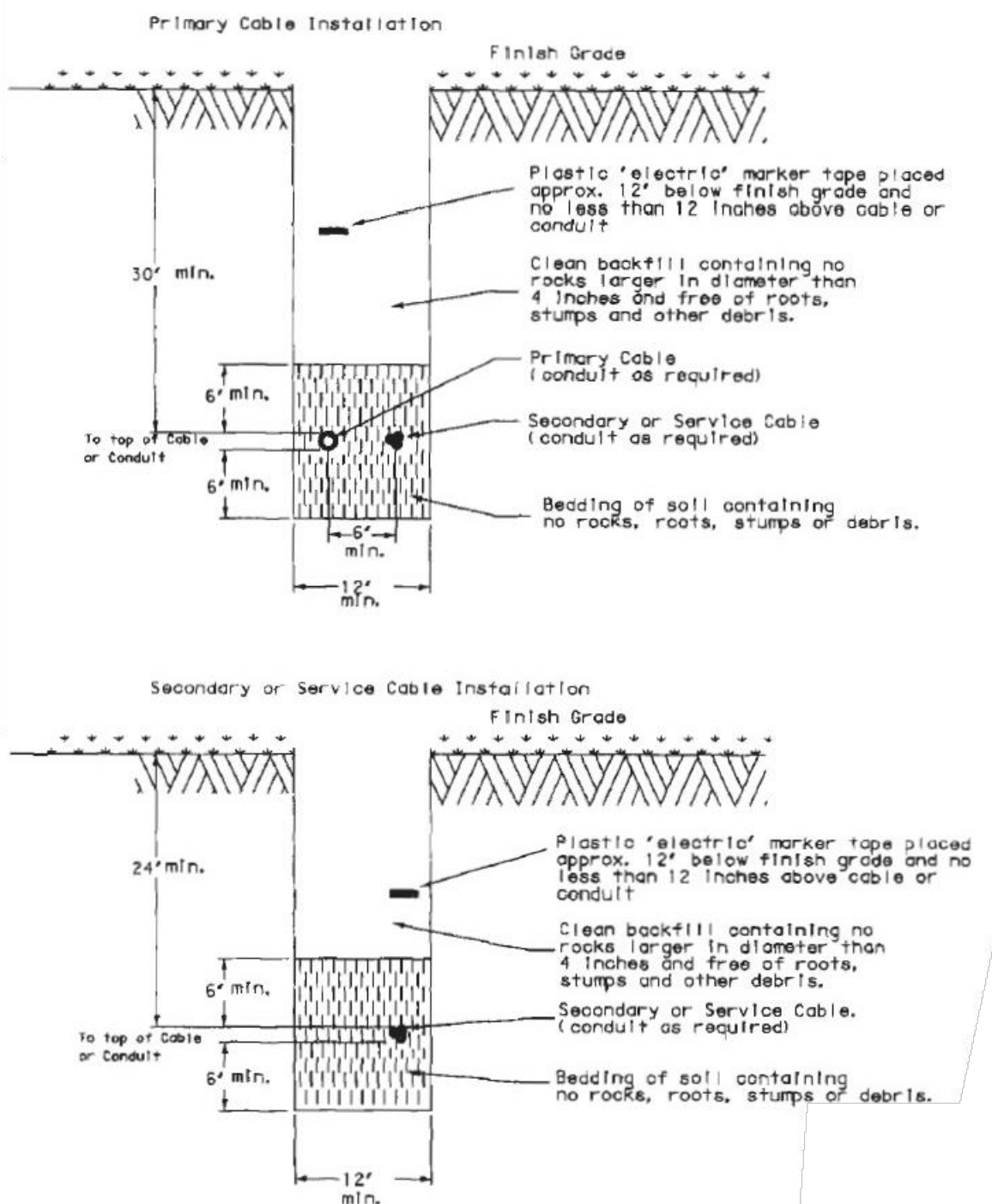
NOTES:

1. CONCRETE: 4,000 PSI AFTER 28 DAYS.
2. REINFORCING: PAD-#4'S @ 12" O.C. E.W.E.F. BASE-1 MAT OF #4'S @ 12" O.C.
3. AS PER CENTRAL MAINE POWER COMPANY SPECIFICATIONS, AS MANUFACTURED BY SUPERIOR CONCRETE OR EQUAL.

(E)
N.T.S.

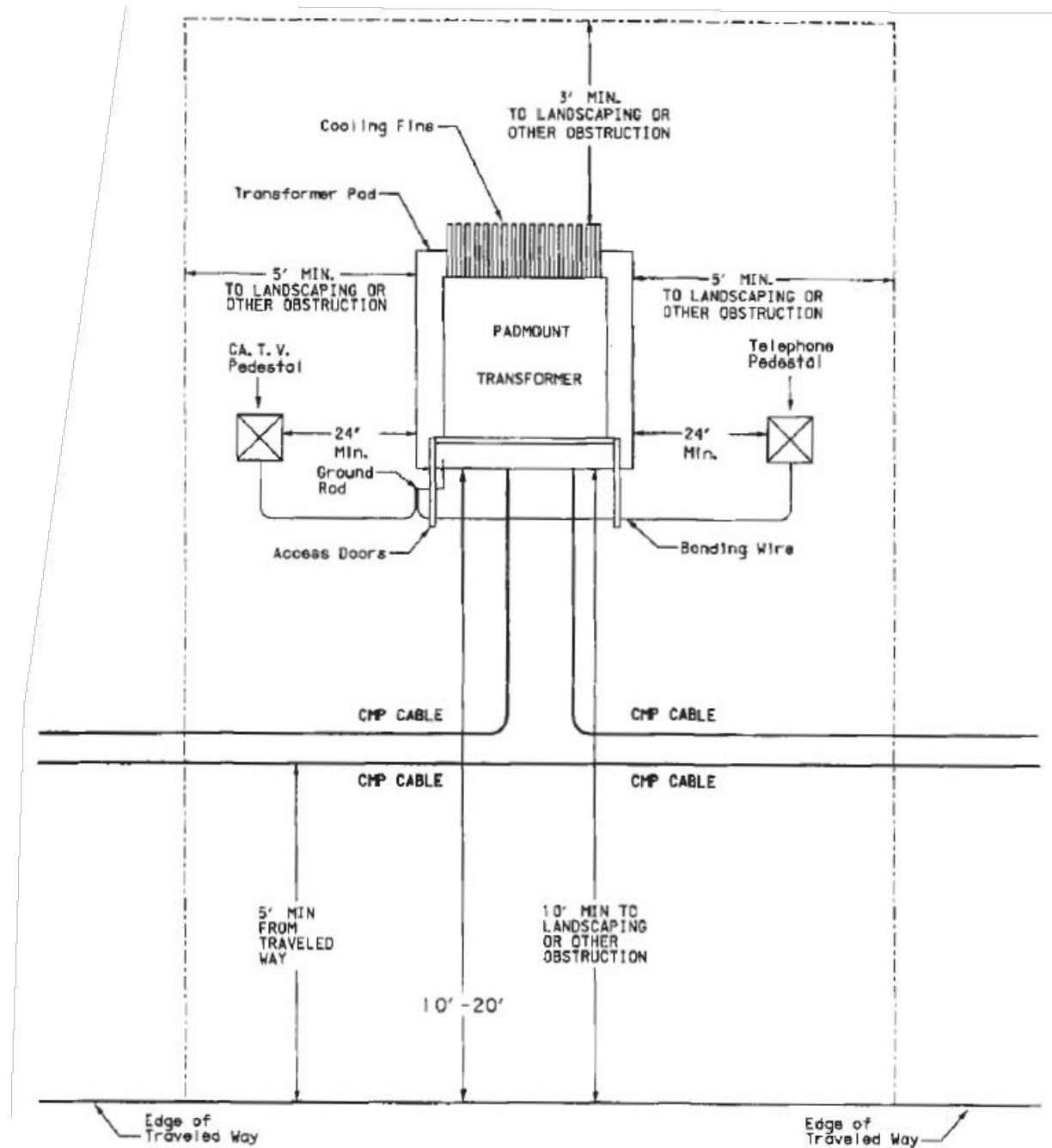


UNDERGROUND CABLE INSTALLATION
TRENCH OCCUPIED BY CENTRAL MAINE POWER COMPANY ONLY



UNDERGROUND CABLE TRENCH FOR POWER ONLY

(B)
N.T.S.



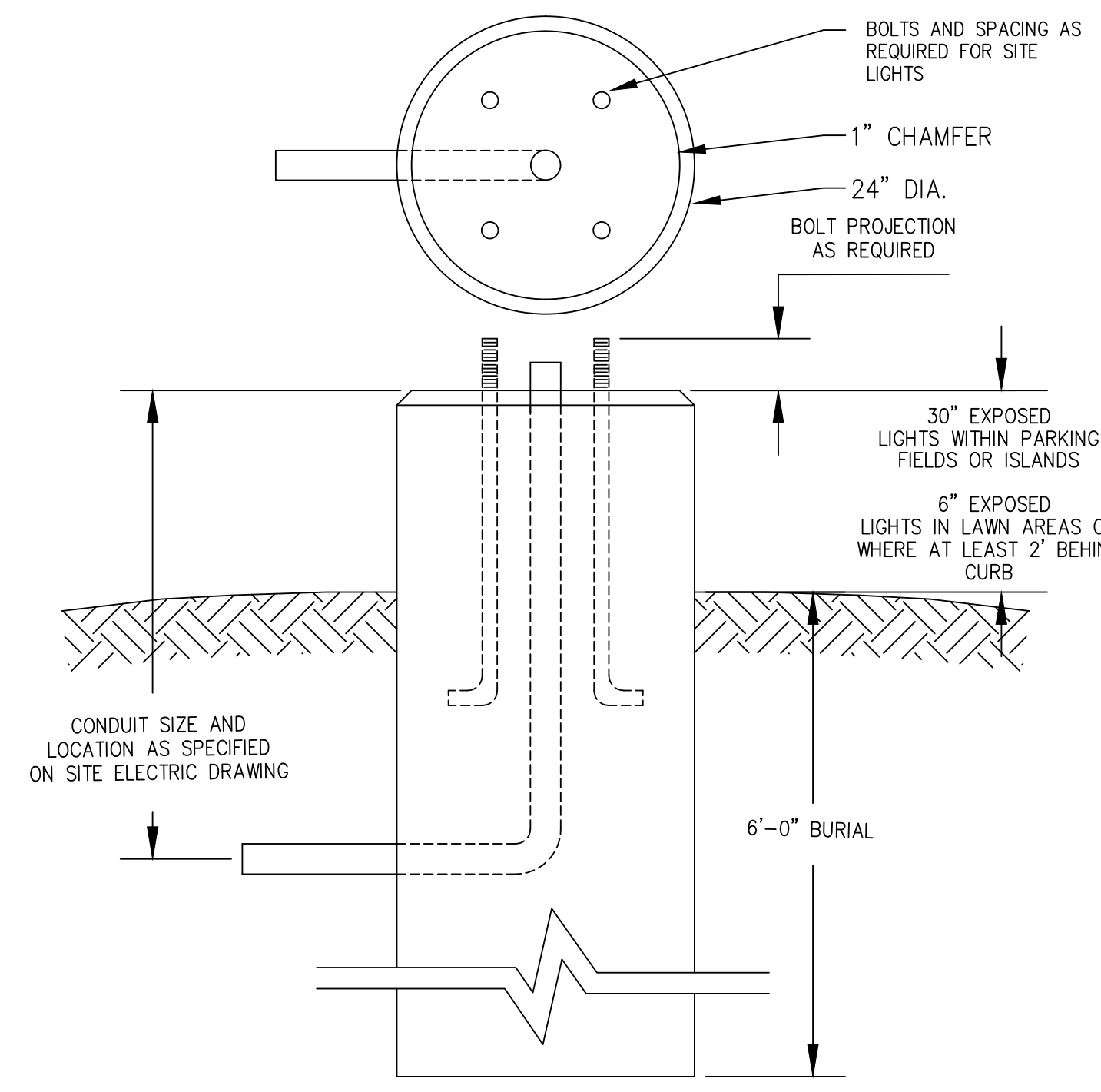
Preferred layout of a padmount transformer and direct buried underground distribution system. Prior CMP approval is required for any deviation from this layout.

At each transformer location a level 10 foot by 10 foot (minimum) area will be provided. The elevation of this area shall be sufficiently high to always be above the highest expected water level and of or above the top of any nearby ditch slope. The transformer foundation shall be installed so the top of the foundation is 6 inches above this elevation. The transformer foundation shall be installed no more than 20 feet from a road surface.

CMP PADMOUNT TRANSFORMER LAYOUT

(D)
N.T.S.

NOTE: ANCHOR BOLTS TO BE PROVIDED TO CONTRACTOR BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING ALL LIGHT POLE FOUNDATIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR TRENCHING AND BACKFILLING ALL CONDUITS. THE OWNER WILL BE RESPONSIBLE FOR SETTING OF LIGHT POLES AND ALL WIRING AND LIGHTING ASSEMBLIES.

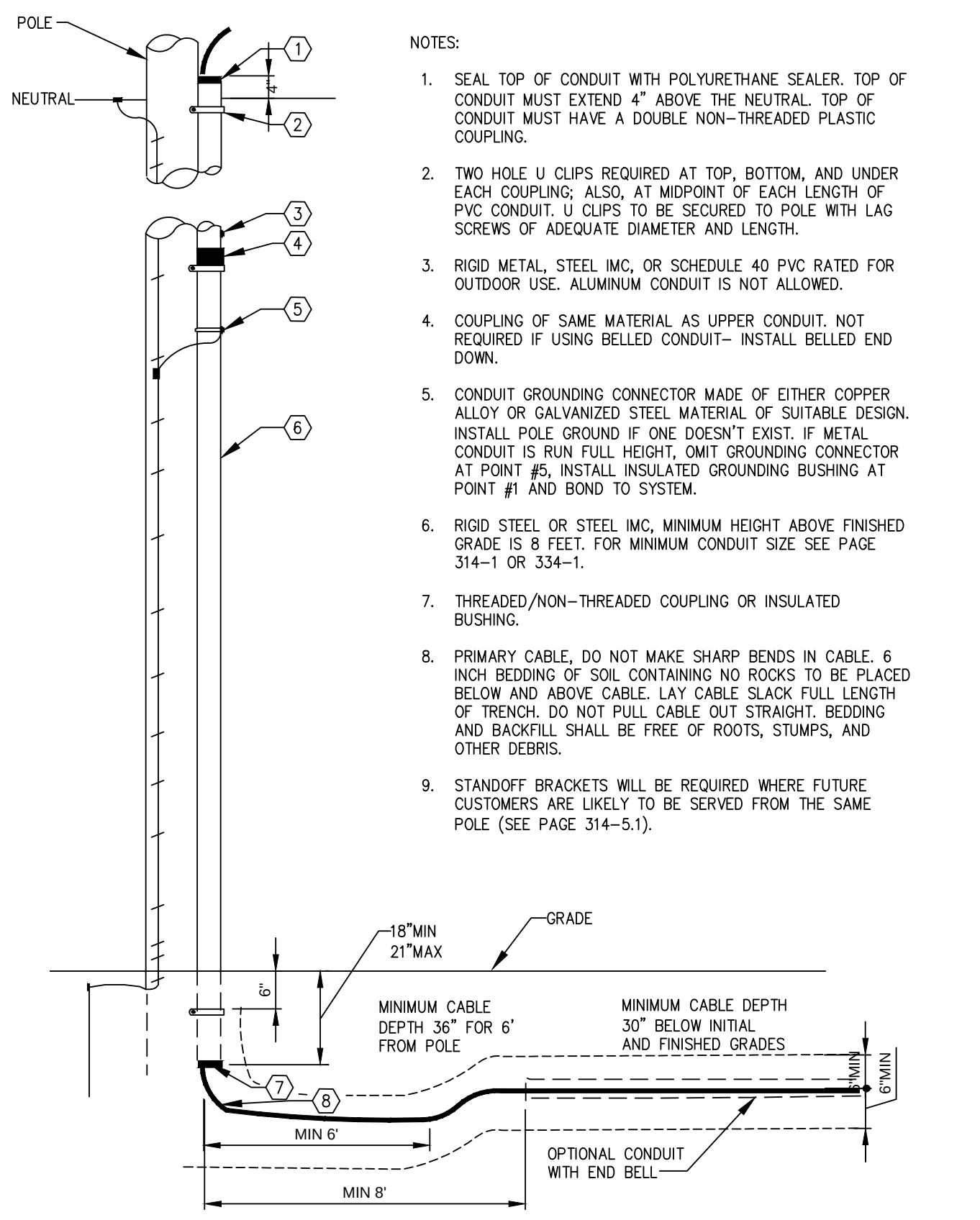


DESIGN NOTES:

1. CONCRETE 4,000 PSI AT 28 DAYS
2. REINFORCING IS AS SPECIFIED. (TYP. 4 - #4 VERTICALLY AND #3 STIRRUPS 12" O.C. HORIZONTALLY)
3. ANCHOR BOLTS AND GROUNDING AS SPECIFIED AND REQUIRED BY SUPPLIER.
4. EXPOSED PORTION OF CONCRETE FOUNDATION TO BE PAINTED WITH 2 COATS OF ACRYLIC PAINT. COLOR TO MATCH POLE COLOR.
5. FOR POLE HEIGHTS EQUAL TO OR LESS THAN 25' TALL.

24" ROUND PRECAST CONCRETE LIGHT POLE FOUNDATION

(F)
N.T.S.

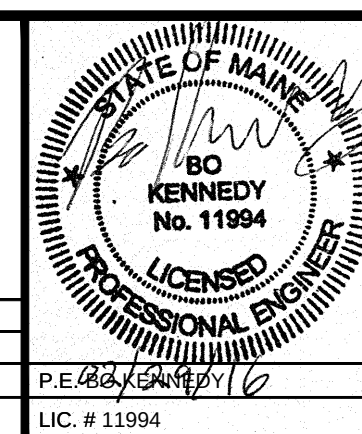


PRIMARY URD RISER CONDUIT DETAIL

(G)
N.T.S.

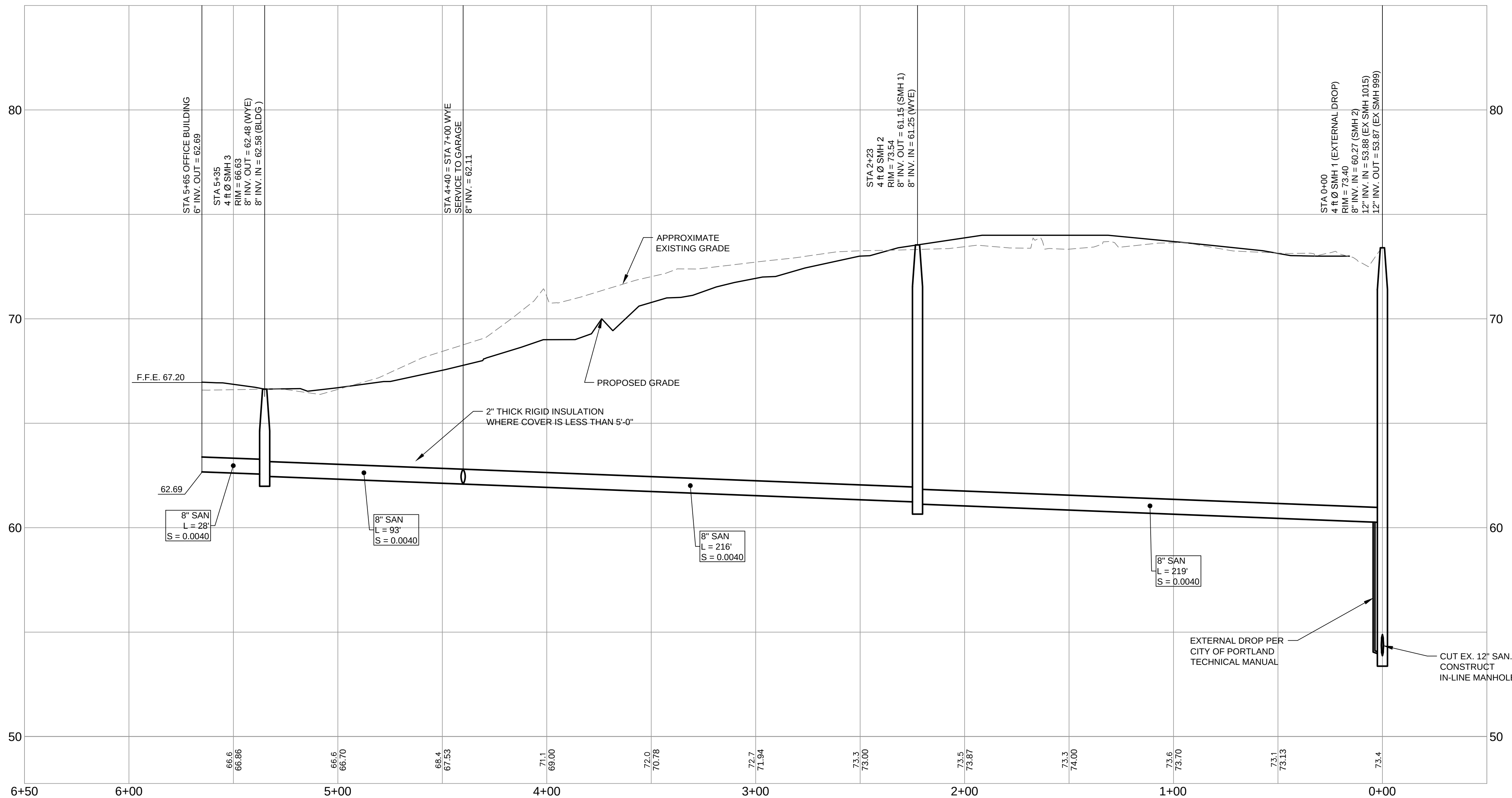
PRELIMINARY - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW
REV	DATE	DESCRIPTION
REVISIONS		

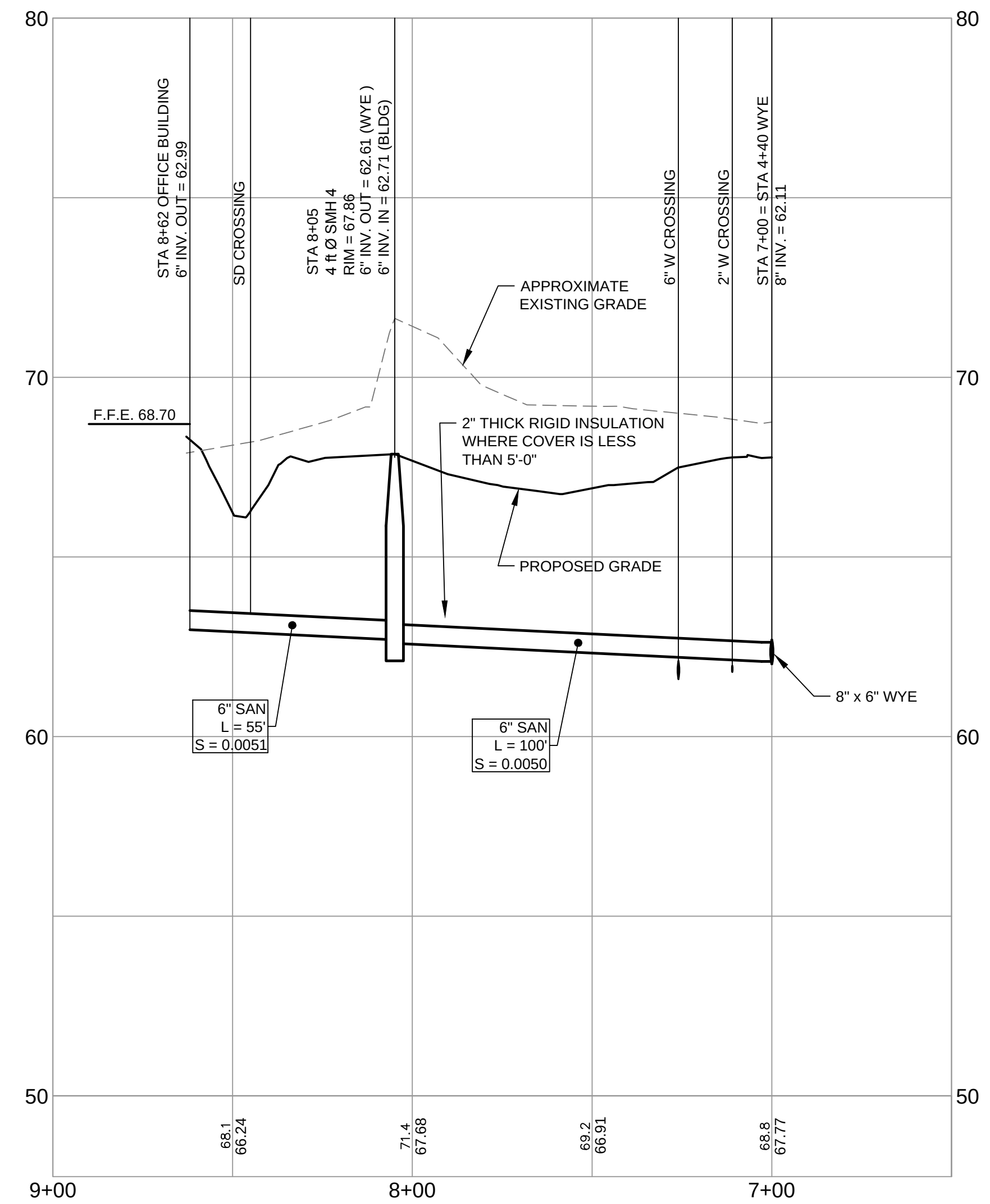


PROJECT	SUBURBAN PROPANE RELOCATION
SHEET TITLE	ELECTRICAL AND LIGHTING DETAILS
CLIENT	THOMPSON'S POINT DEVELOPMENT CO. INC.

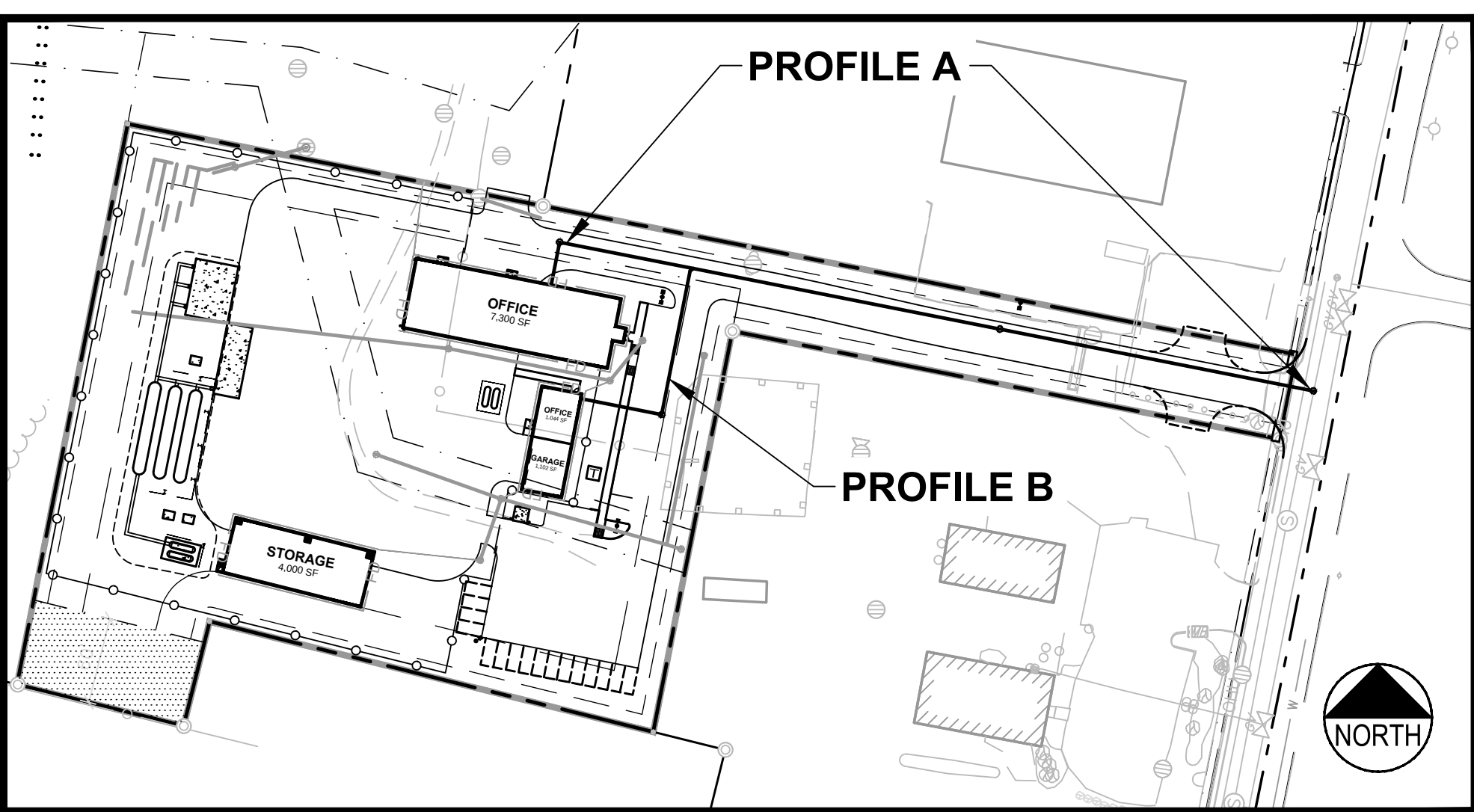
STANTEC CONSULTING SERVICES INC.	
778 MAIN ST. SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
DRAWN: DED	DATE: JAN 2016
DESIGNED: BEK	SCALE: AS NOTED
CHECKED: BEK	JOB NO. 195350142
FILE NAME: SP-M157 DETAILS	
SHEET	C-8.4



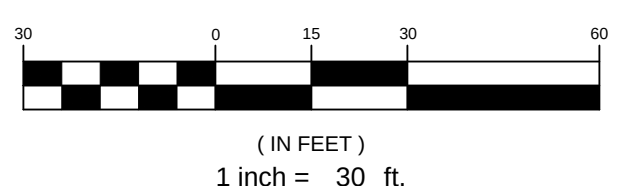
SANITARY SEWER PROFILE A
SCALE: 1" = 30' HORZ.
1" = 3' VERT.



SANITARY SEWER PROFILE B
SCALE: 1" = 30' HORZ.
1" = 3' VERT.

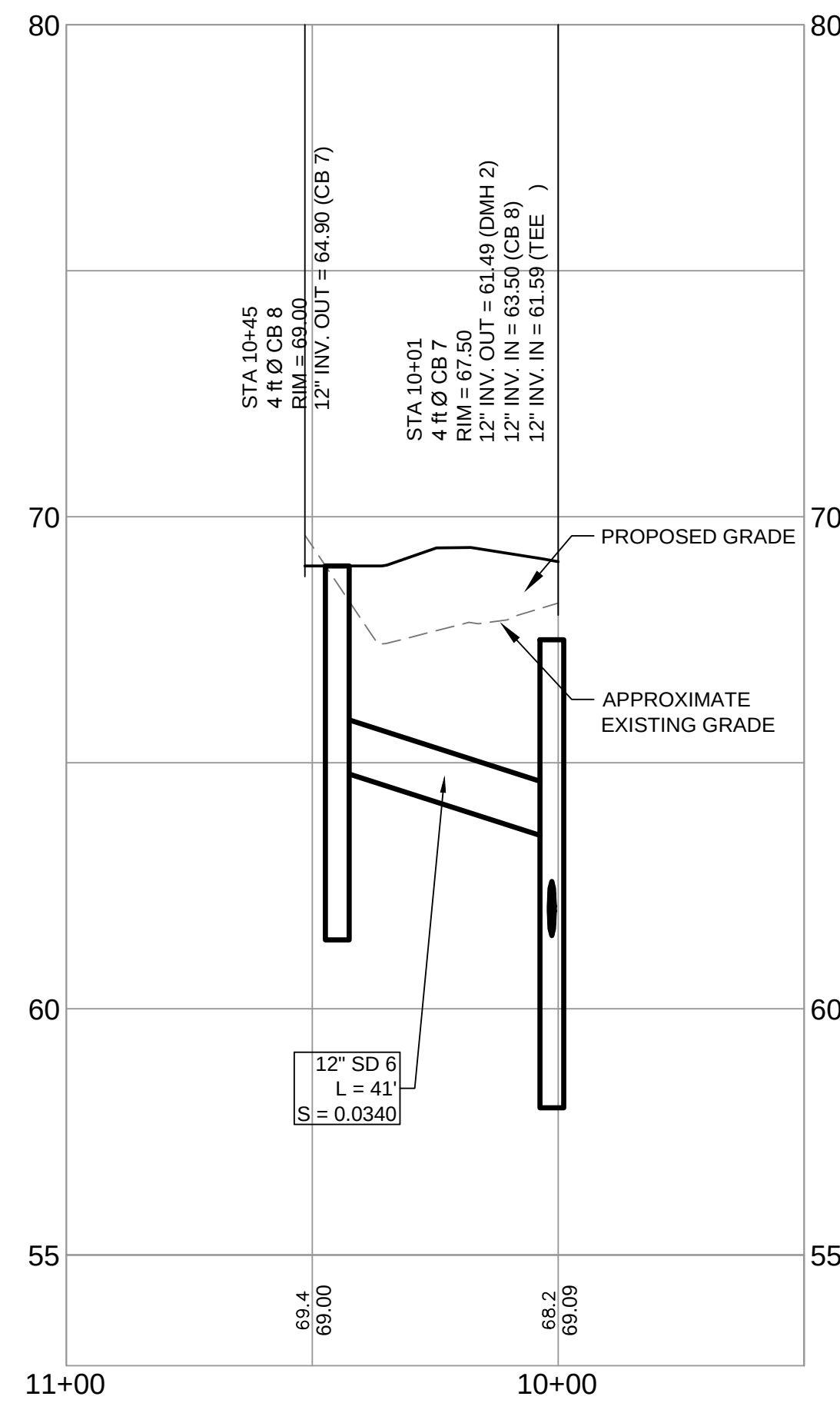


KEY MAP
SCALE: 1" = 100'

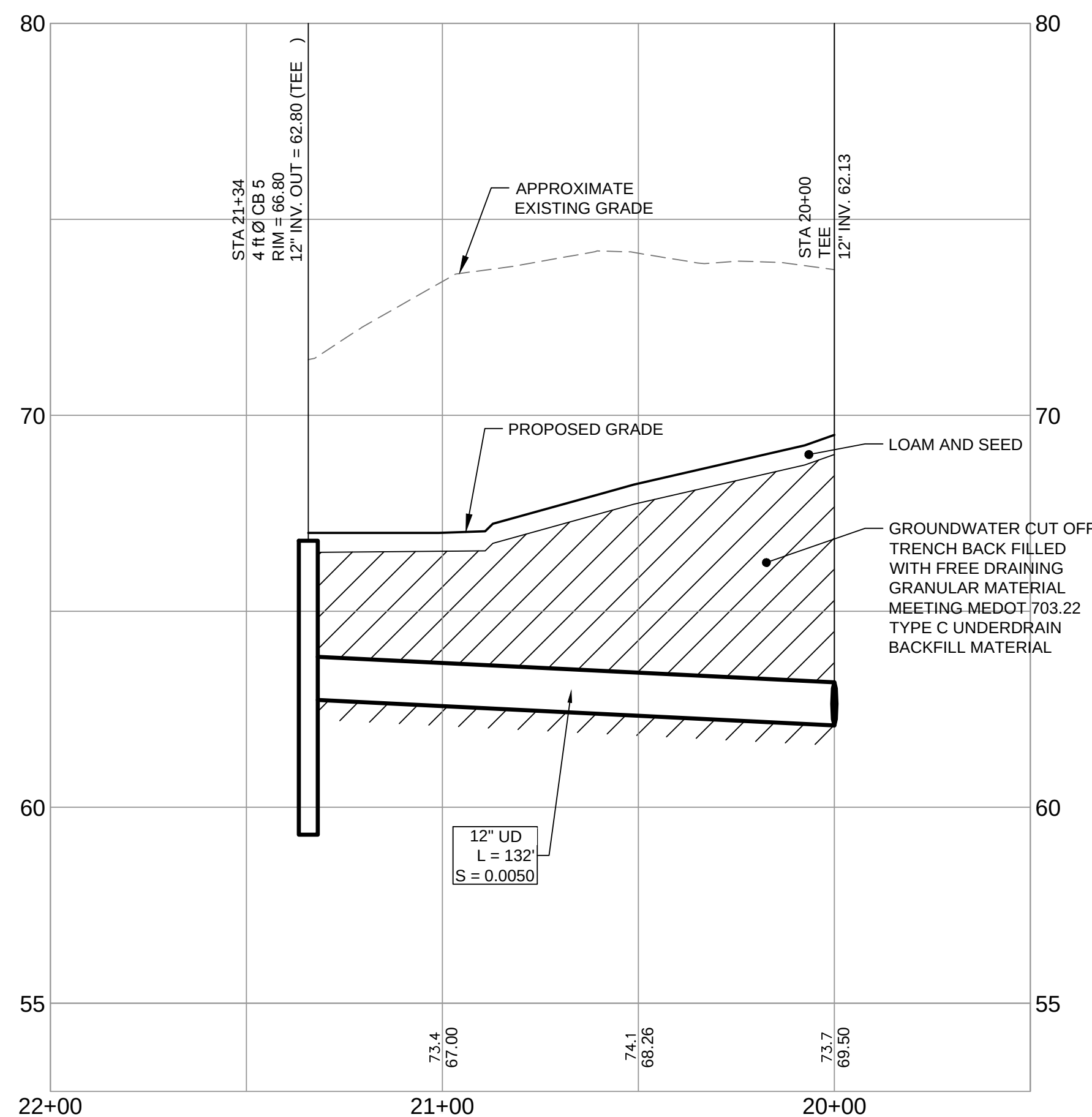


PRELIMINARY - NOT FOR CONSTRUCTION

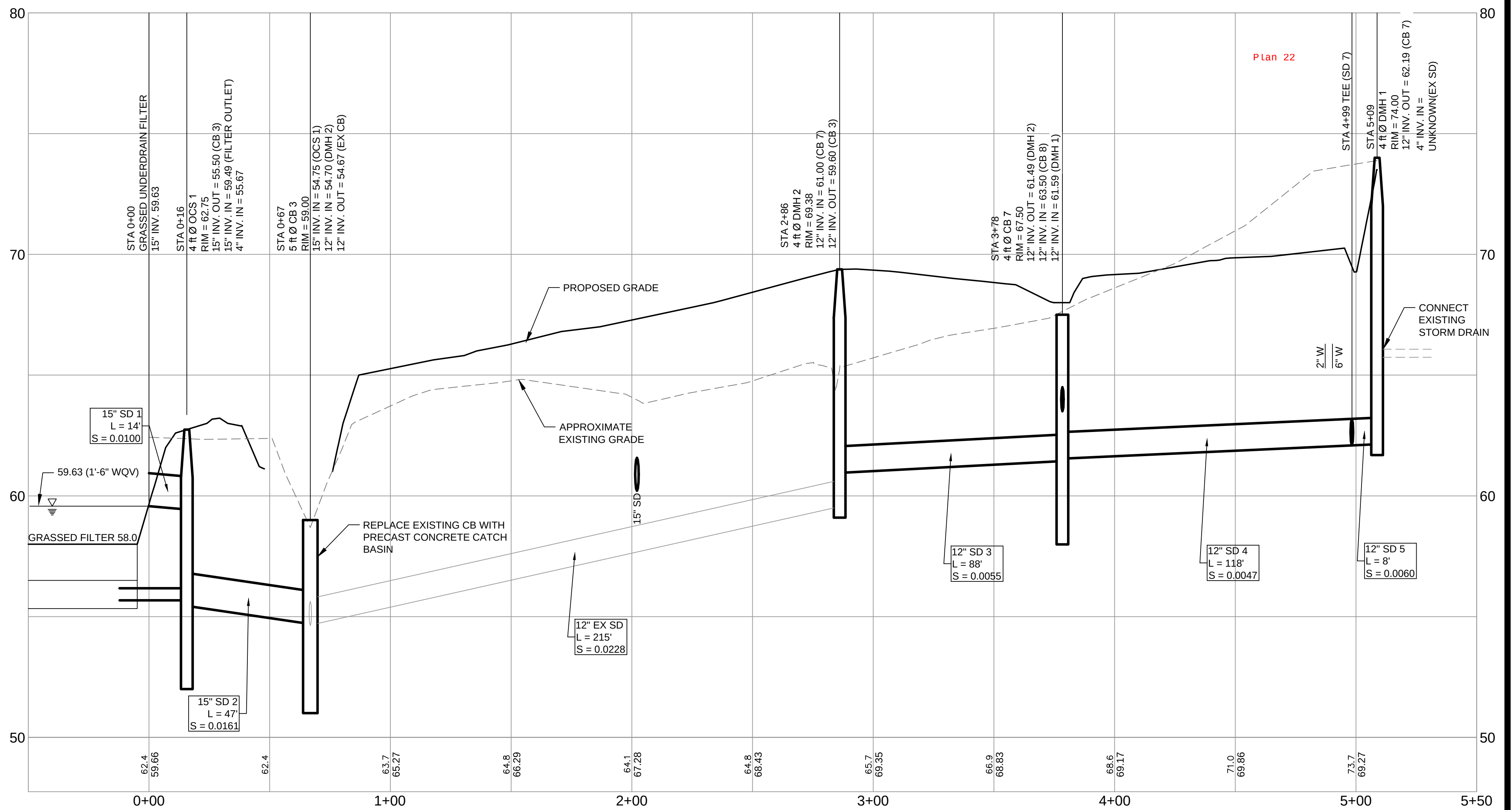
				 P.E. BO KENNEDY LIC. # 11994	PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM 	
					SHEET TITLE SANITARY SEWER PROFILES		DRAWN: DED DATE: JAN. 2016	
					CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DESIGNED: BEK SCALE: 1" = 30'	
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY					CHECKED: BEK JOB NO. 195350142	
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW					FILE NAME: SP-M157 UTILITY	
REV	DATE	DESCRIPTION					SHEET C-9.0	
REVISIONS								



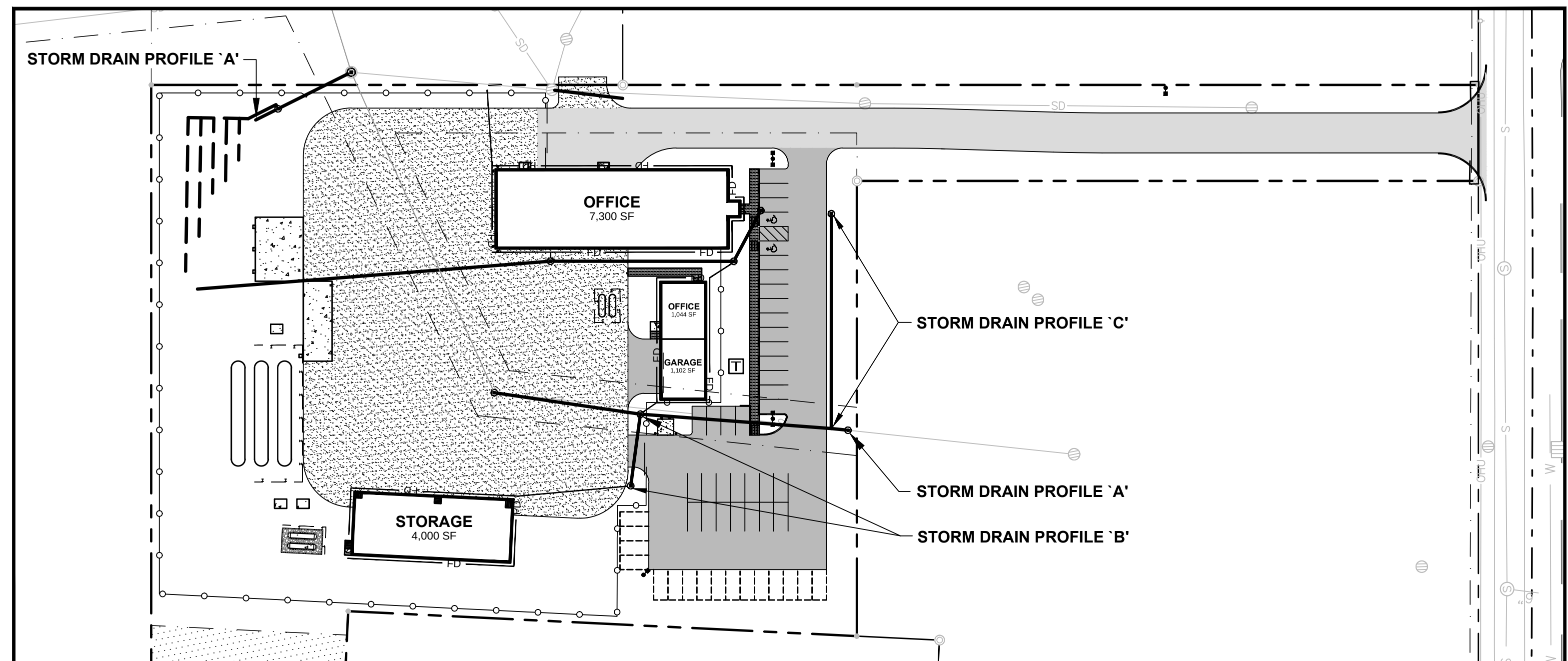
STORM DRAIN PROFILE 'B'
SCALE: H 1" = 30'
V = 3'



STORM DRAIN PROFILE 'C'
SCALE: H 1" = 30'
V = 3'

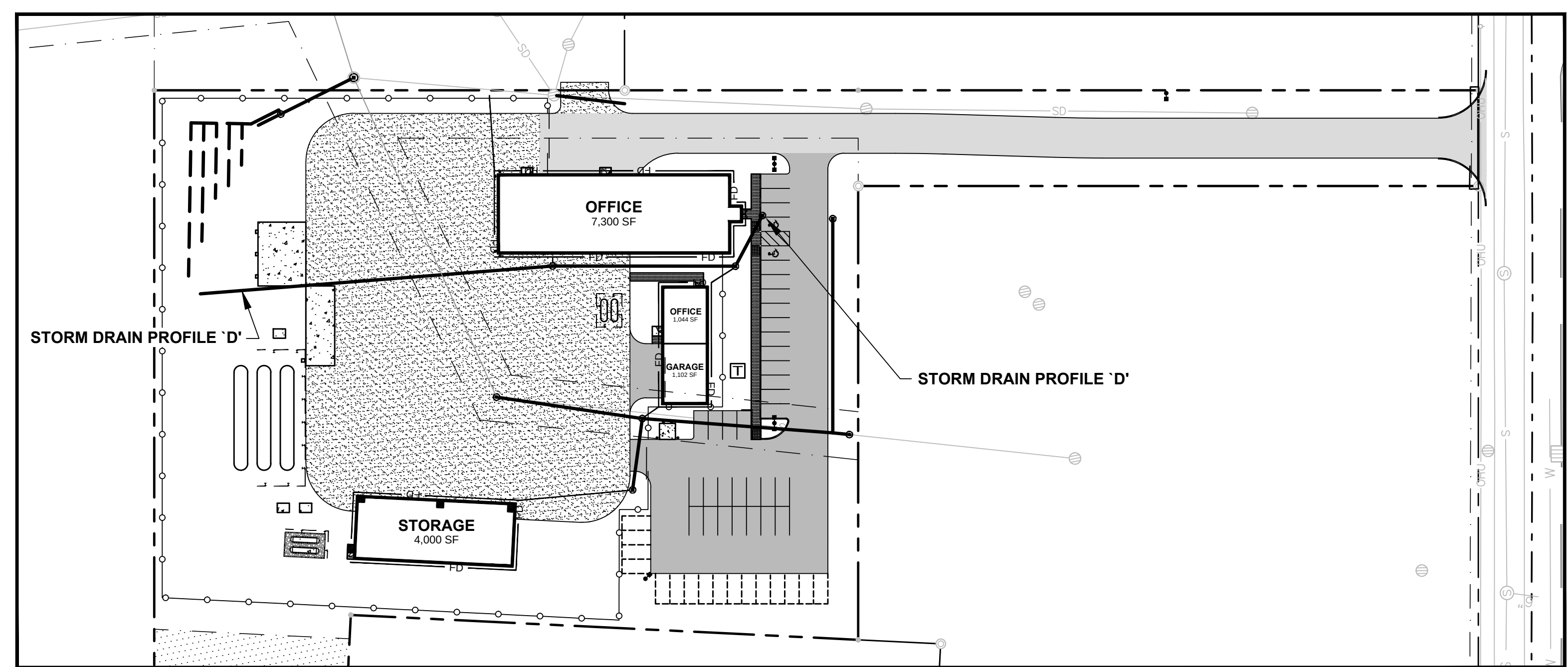
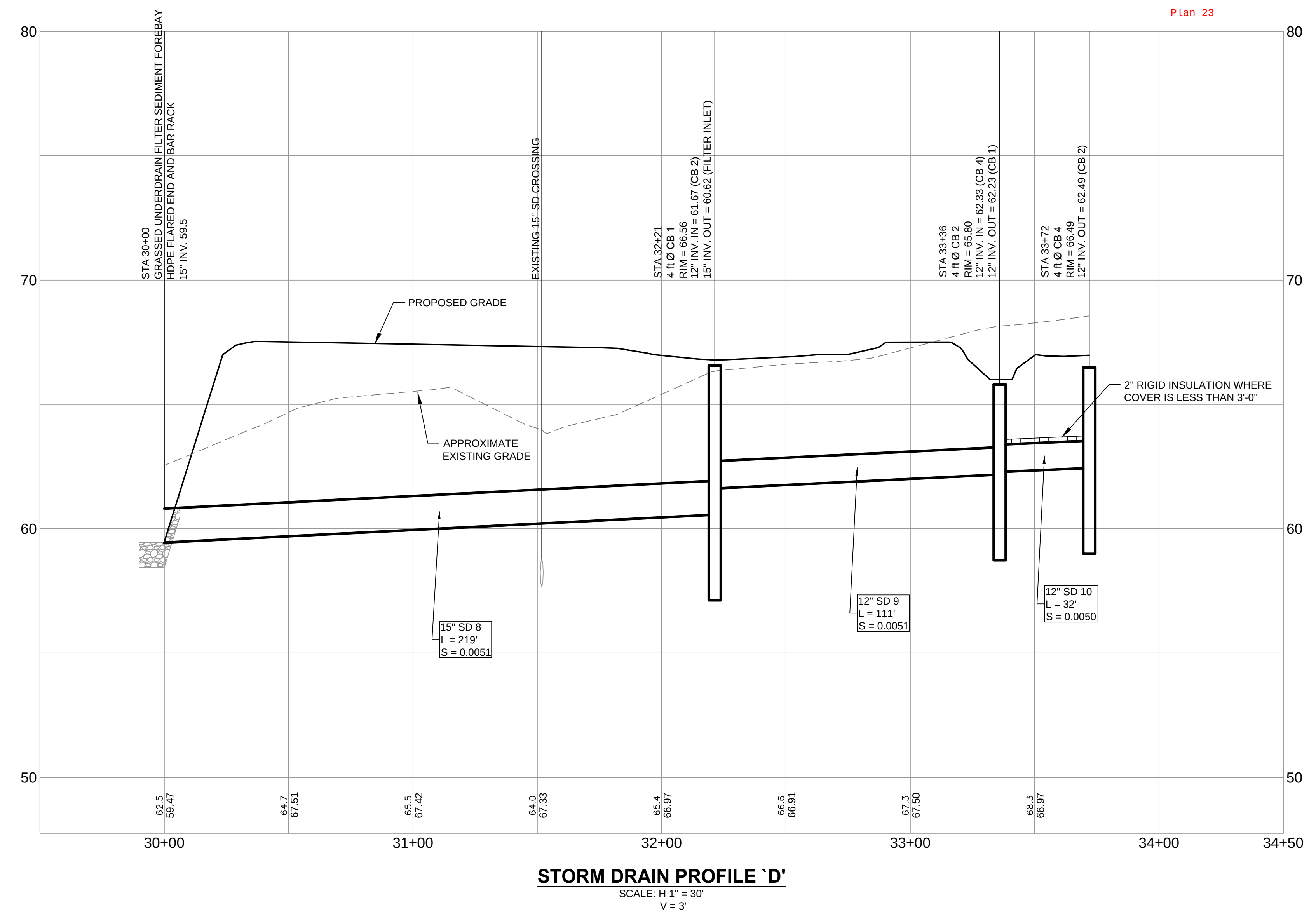


STORM DRAIN PROFILE 'A'
SCALE: H 1" = 30'
V = 3'

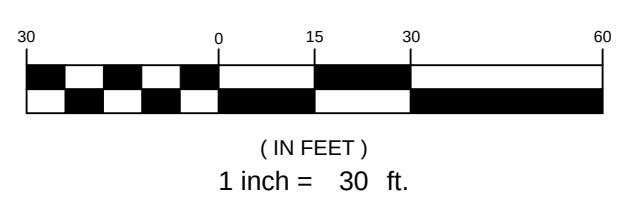


PRELIMINARY - NOT FOR CONSTRUCTION

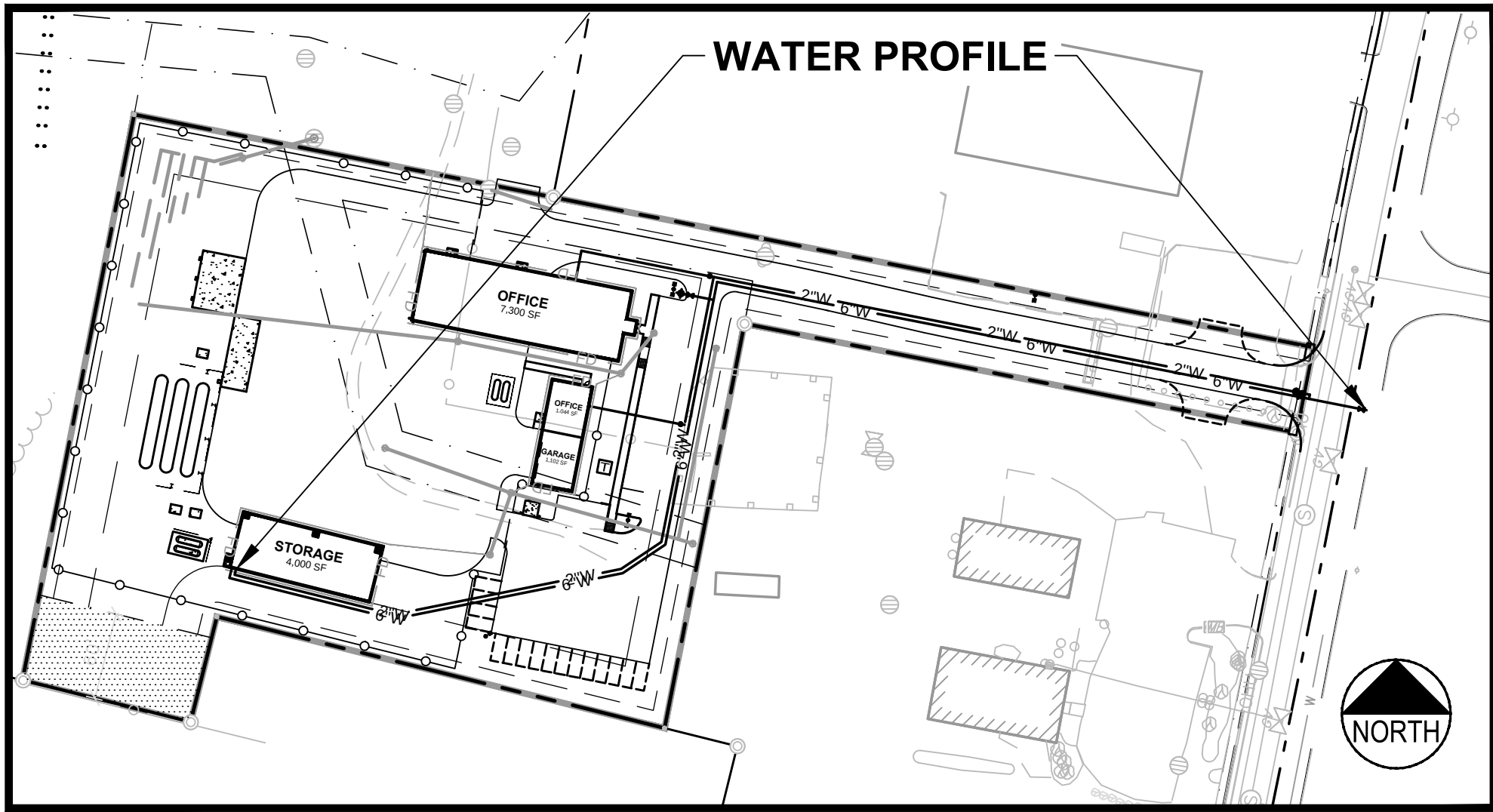
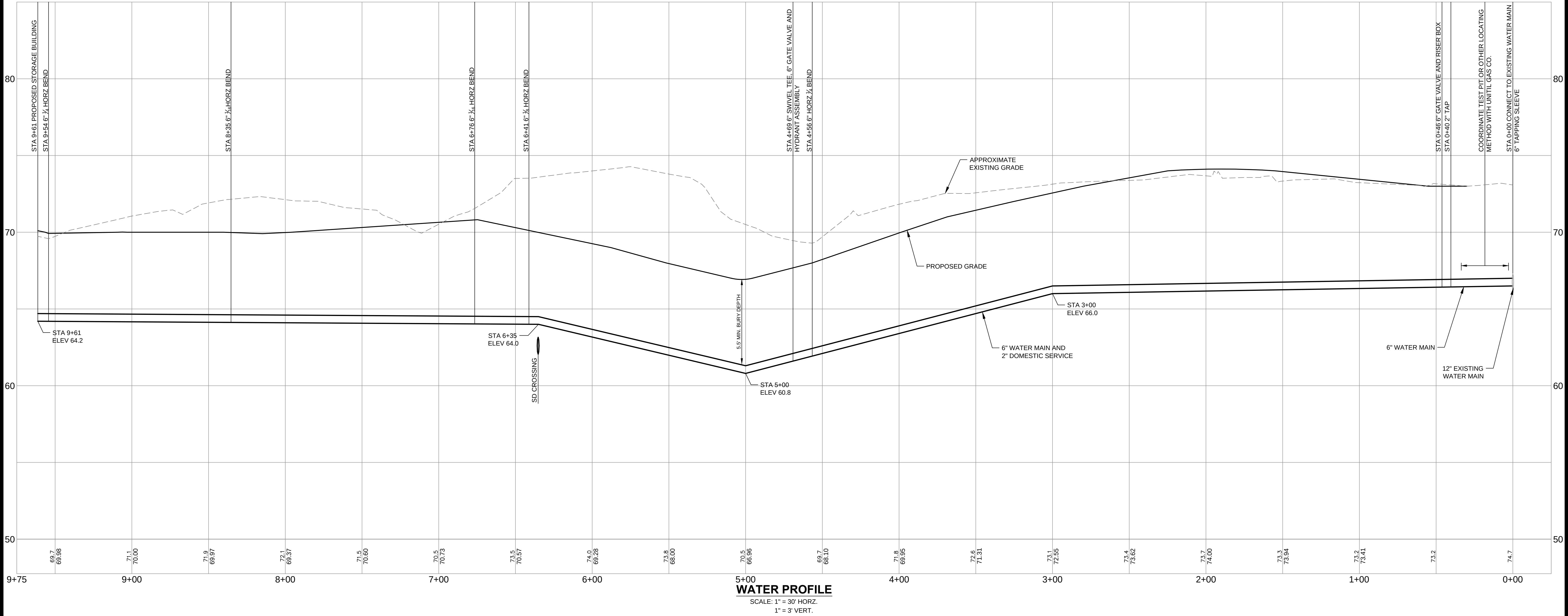
				PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
				SHEET TITLE STORM DRAIN PROFILES			
				CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.	DRAWN: DED		DATE: SEPT 2014
					DESIGNED: BEK		SCALE: 1" = 30'
				CHECKED: BEK		JOB NO. 195350142	
				FILE NAME: SP-M157 GRADING			
				SHEET		C-9.1	
1	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	P.E. ROBERT KENNEDY				
REV	DATE	DESCRIPTION	LIC. # 11994				
REVISIONS							



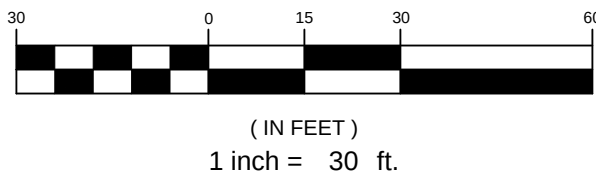
PRELIMINARY - NOT FOR CONSTRUCTION



10 KENNEDY No. 11994 LICENSED PROFESSIONAL ENGINEER			PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
1 02.29.16 FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY			SHEET TITLE STORM DRAIN PROFILES		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 GRADING	
REVISIONS			CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DATE: SEPT 2014 SCALE: 1" = 30' JOB NO. 195350142 SHEET C-9.2	



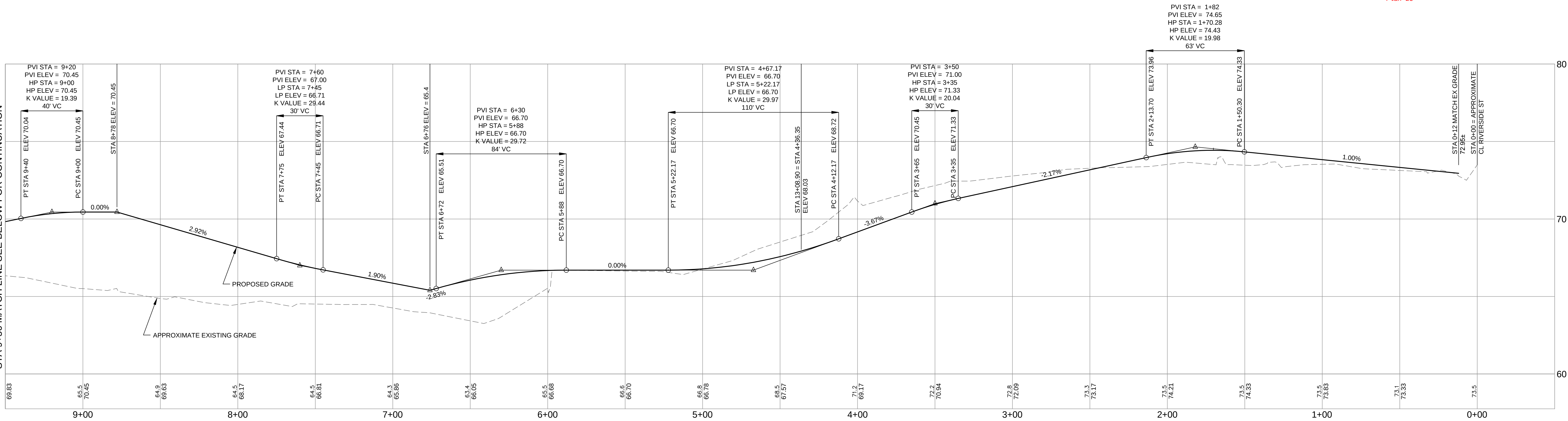
KEY MAP
SCALE: 1" = 100'



PRELIMINARY - NOT FOR CONSTRUCTION

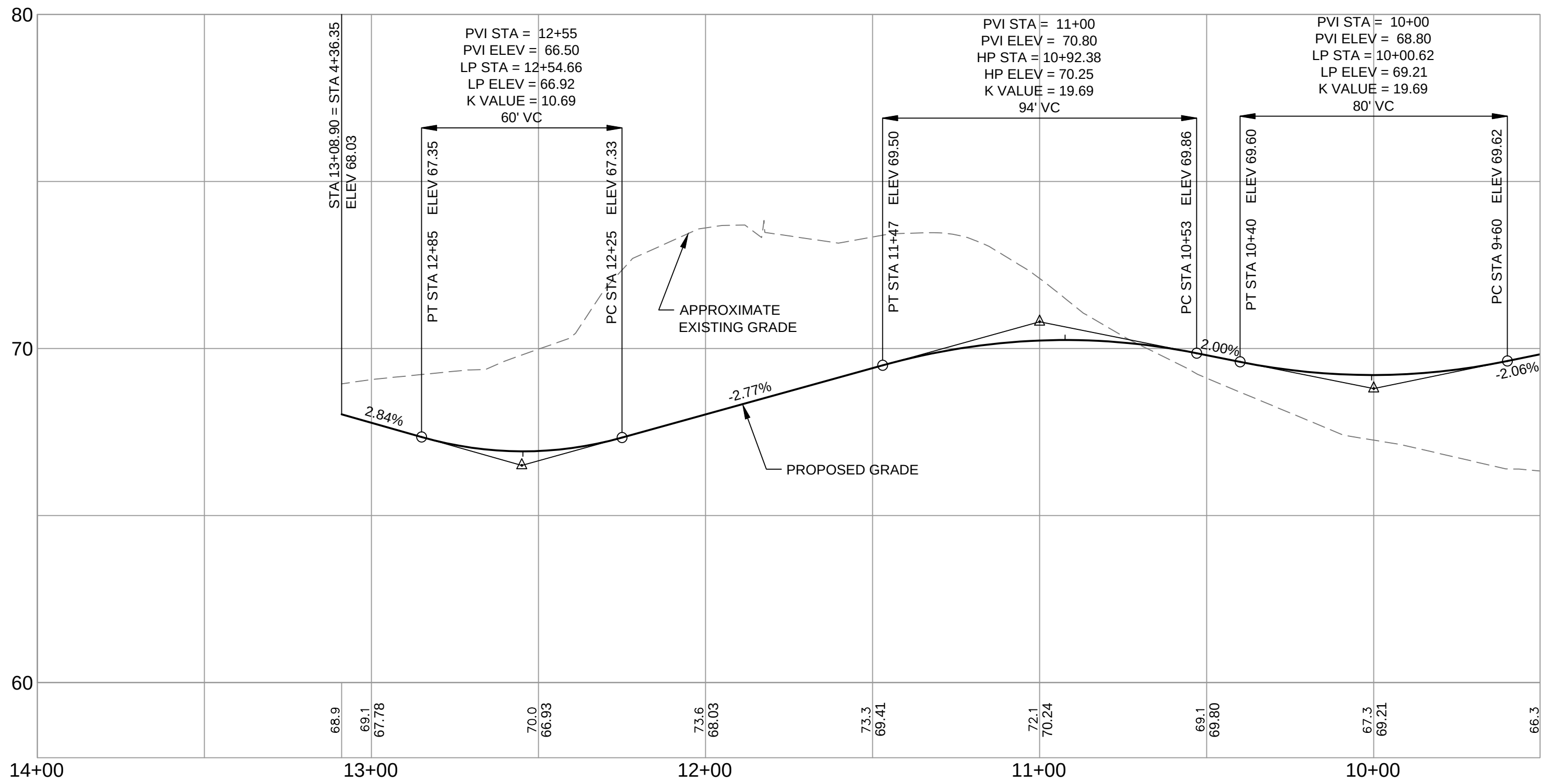
				PROJECT SUBURBAN PROPANE RELOCATION	STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM		
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY		SHEET TITLE WATER PROFILE	DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 UTILITY		DATE: JAN. 2016 SCALE: 1" = 30' JOB NO. 195350142
1	01.22.16	SUBMITTED TO CLIENT FOR REVIEW		CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.			
REV	DATE	DESCRIPTION	P.E. BO KENNEDY LIC. # 11994				
REVISIONS							

STA 9+50 MATCH LINE SEE BELOW FOR CONTINUATION



ACCESS DRIVE / CONSTRUCTION BASELINE PROFILE

SCALE: H 1" = 30'
V = 3'

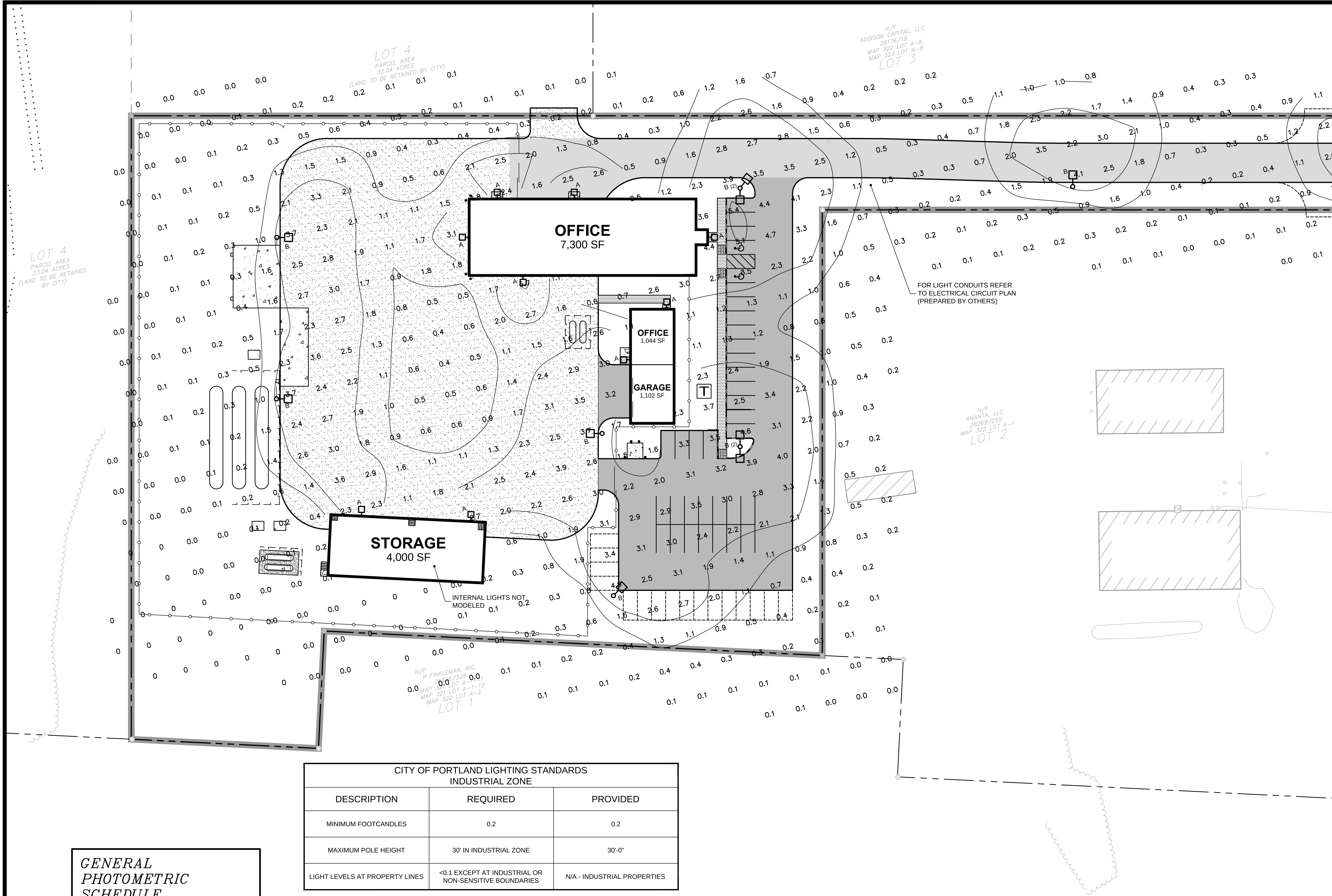


ACCESS DRIVE / CONSTRUCTION BASELINE PROFILE

SCALE: H 1" = 30'
V = 3'

PRELIMINARY - NOT FOR CONSTRUCTION

			PROJECT SUBURBAN PROPANE RELOCATION		STANTEC CONSULTING SERVICES INC. 778 MAIN ST, SUITE 8 SOUTH PORTLAND, ME 04106 WWW.STANTEC.COM	
			SHEET TITLE ACCESS DRIVE PROFILE			
			CLIENT THOMPSON'S POINT DEVELOPMENT CO. INC.		DRAWN: DED DESIGNED: BEK CHECKED: BEK FILE NAME: SP-M157 PROFILE ACCESS DRIVE	
					DATE: JAN 2016 SCALE: 1" = 30' JOB NO. 195350142	
2	02.29.16	FINAL SITE AND SUBDIVISION PLANS SUBMITTED TO CITY	REVISIONS			
1	02.11.15	SUBMITTED TO CONTRACTOR FOR PRICING				
REV	DATE	DESCRIPTION				
			P.E. Robert Kennedy LIC. # 11994			



CIMARRON LED

SPULDING LIGHTING

SPECIFICATIONS

- Solid vertically finned die-cast solid top housing for maximum heat dissipation. Dependence on the LED quality from the manufacturer.
- Rugged lower die-cast aluminum heat sink accommodates thermal management and extends LED and optical life.
- Separate optical and electrical compartment for optimum component operation.
- One piece die-cast aluminum gasket ensures weather proof seal around each individual LED for IP60 rating.
- Highbright Control (HC) option available for 80% wall light conditions, clean energy fixture appearance or IFA, recommended for Type B and Type IV distribution.
- Stamped bezel provides mechanical compression to seal the optical assembly.
- Complies with the National Electrical Code (NEC) and UL 1598.
- Weighs: 4.50 pounds, CPA - 1.3 ft.
- Suitable for applications requiring 30' being prescribed by ANSI C136.31.
- Choice of 72 high brightness LED configurations with individual LED's, 30' or 60' spacing, designed for E5, Type II, III, IV and V distribution.
- Auto cut-off designed for heat over 144 and temperature 30 degree Celsius under maximum 30 degree Celsius under maximum 30 degree Celsius.
- CRI: 90+ (CRI 90, 95, 98, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000, 1005, 1010, 1015, 1020, 1025, 1030, 1035, 1040, 1045, 1050, 1055, 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Memorandum
Planning and Urban Development Department
Planning Division

To: Elizabeth Boepple, Chair and Members of the Portland Planning Board
From: Caitlin Cameron, Urban Designerell Donaldson, Planner
Date: May 10, 2016
RE: 62 India Street, India Newbury Residences, LLC., Applicant.

At the request of the Applicant, India Newbury Residences, LLC., this item has been tabled.



Memorandum
Planning and Urban Development Department
Planning Division

To: Elizabeth Boepple , Chair and Members of the Portland Planning Board

From: Jean Fraser, Planner

Date: May 9th, 2016

Re: 40 O’Brion Street, 3-unit Condominium Development
215 Foreside Road, LLC Applicant

Project #: 2016-067

Meeting Date: May 10th, 2016

At the request of the applicant, 215 Foreside Road LLC, this item has been tabled.



PLANNING BOARD REPORT PORTLAND, MAINE

Unitil Gas Facility Relocation
74 West Commercial Street
Amended Site Plan; Conditional Use
Unitil/Maine Department of Transportation

Submitted to: Portland Planning Board Public Hearing Date: May 10, 2016	Prepared by: Richard Knowland, Senior Planner Date: May 6, 2016 Planning Board Report #: 2016-085
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I. INTRODUCTION

A public hearing has been scheduled to consider a proposal to relocate Unitil gas facilities at the International Marine Terminal (IMT) in the vicinity of 74 West Commercial Street. This proposal facilitates future expansion of IMT related facilities while providing a new site for Unitil's gas regulator substation. Unitil and the Maine Department of Transportation (MDOT) are co-applicants since MDOT owns the IMT. This proposal amends the IMT site plan approved by the Planning Board in 2014. See Attachment A.

The application requests Planning Board site plan review to amend the previously approved IMT site plan and a conditional use review for a utility structure in the WPDZ zone. Shoreland regulations also apply.

This item was scheduled for a public hearing without a workshop given the small building size of the project and its location within a previously approved site plan.

In addition to a newspaper ad appearing in the Portland Press Herald on May 2, 2016 and May 3, 2016, 97 notices were sent to area property owners.

II. FINDINGS

Zone: Waterfront Port Development Zone (WPDZ)

Land Area: 11 Acres

Use: Gas Utility Substation

Substation Site: 11,200 SF (fenced in area)

Total Disturbed Area of the Site: 16,638 SF

Building Footprint: 1,400 SF (regulatory building); 120 SF (control building)

Building Height: 11'4" (regulatory building); 9'10" (control building)

Parking Spaces: 6

In addition to local reviews, other regulatory reviews apply:

Maine DEP Permit-by-Rule for improvements within 75 feet of the shore.

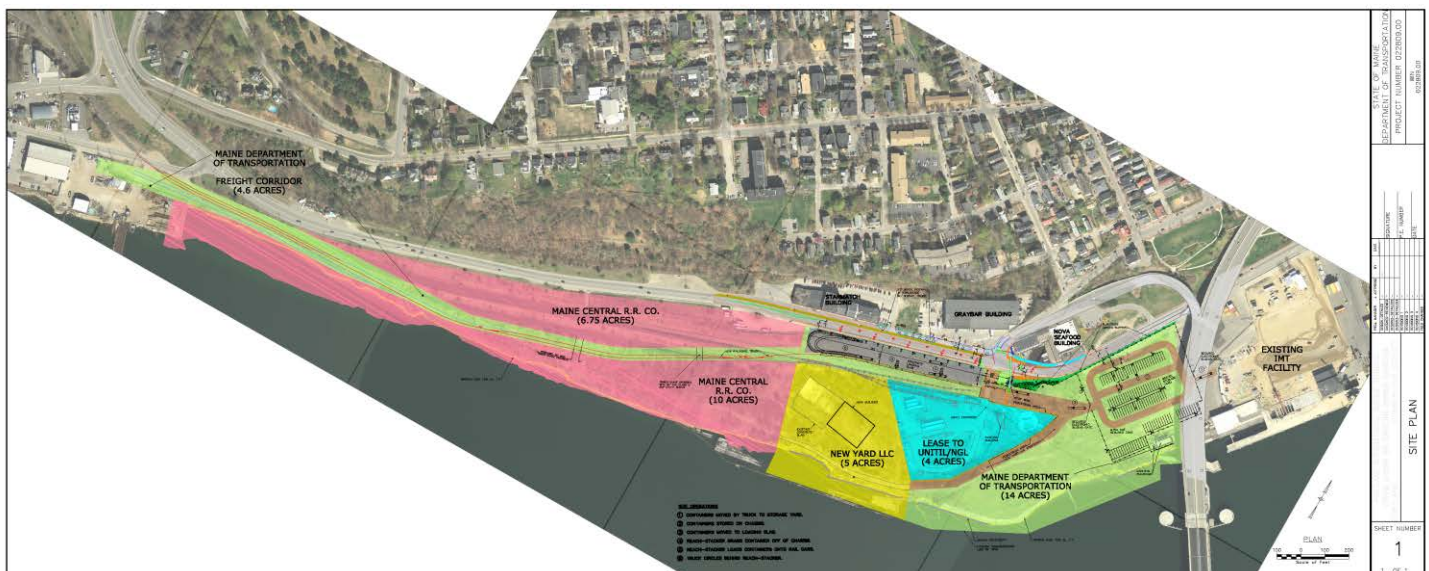
Maine DEP Site Location of Development amending the previously approved IMT site plan.

III. BACKGROUND INFORMATION

This project is a joint effort by Unitil and MDOT to relocate Unitil's existing gas facilities at the IMT to a more appropriate location within the site. The relocation facilitates future development opportunities on the IMT property.

Over the last several years MDOT has sought to expand the IMT facility by acquiring additional land and construct infrastructure improvements west of the Casco Bay Bridge. In 2014 the IMT received Planning Board site plan approval for a "laydown and connecting corridor" project. The improvements helped integrate sea, truck, and rail freight into one facility. Specific project improvements include new intersection improvements at Commercial Street/Beach Street including a traffic signal; a 750 foot long concrete pad parallel with Commercial Street for loading freight containers; a truck chassis storage lot; a new rail line from Cassidy Point to the concrete loading pad; ornamental fence and landscaping along the Commercial Street edge as well as numerous other improvements.

To accomplish the 2014 expansion and address future development needs, MDOT acquired land west of the bridge from several property owners. The color coded aerial below provides some context to the 2014 expansion (shaded green) and the property acquisition program.



IMT Facility and Surrounding Parcels West of Casco Bay Bridge

Green...Land area acquired by MDOT showing 2014 site improvements including concrete loading pad (gray), truck chassis storage area, land contiguous to the Fore River and a rail corridor to Cassidy Point. Much of this land was acquired from New Yard. This area has a black ornamental fence along the Commercial Street edge.

Blue ...Land previously owned by in part by Unitil now by owned by MDOT showing existing Unitil facilities.

Yellow...Land owned by New Yard which includes the large red building visible from Commercial Street. New Yard also acquired the red shaded area from the rail road. Map does not show the 2016 Planning Board approved New Yard expansion along Commercial Street which has not been built to date.

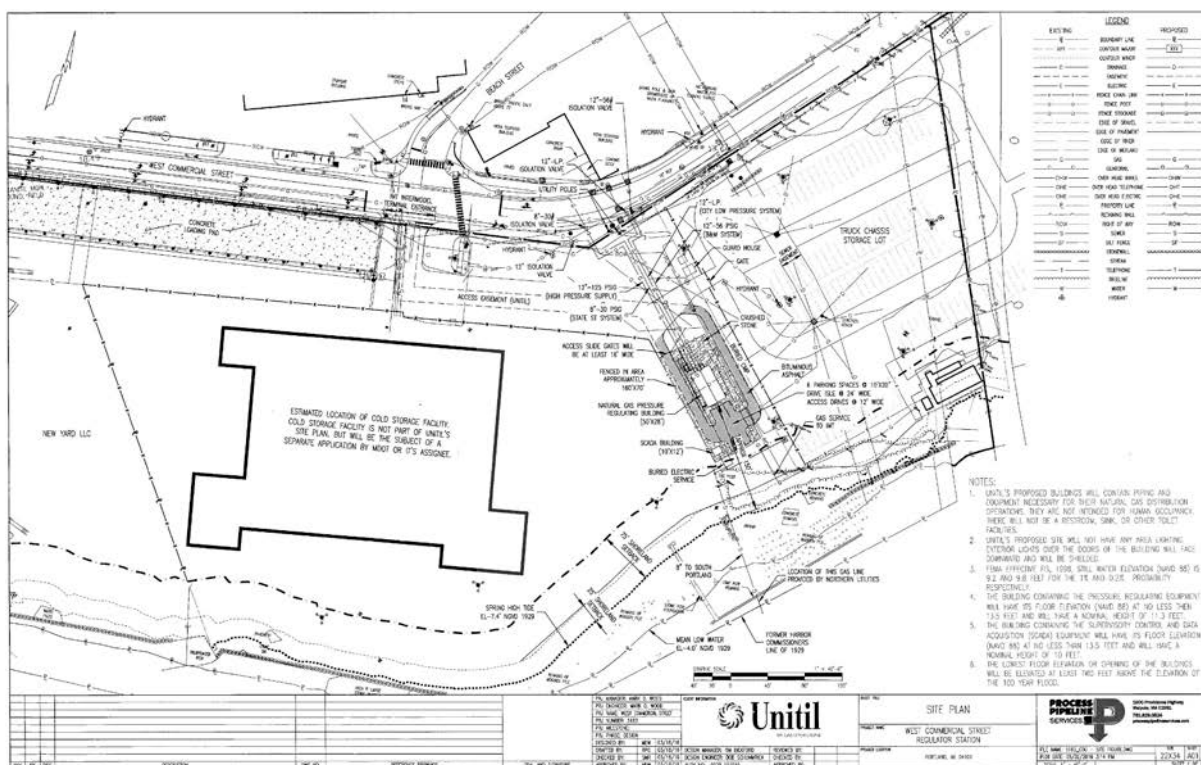
The blue area is a key parcel in the future development of the IMT facility. Since Unitil's gas facilities

are still on the site, they need to be relocated to another location which is the purpose of the present development application. Unutil's facilities will be moved to an area close to the truck chassis storage fence line as further described in the site plan submission. The site plan does show a conceptual footprint of a future building on the former Unutil site but that will be the subject of a future and separate approval.

The MDOT/Unutil agreement to relocate the gas facilities to another area of the IMT site is shown on Attachment 3. The agreement calls for Unutil's facilities to be located within easements on the site.

IV. PROPOSED DEVELOPMENT

The development proposal shifts Unutil's gas facilities to an area near the truck chassis storage fence line. The new Unutil development footprint is significantly less than the present one. Aside from underground pipes, the above ground development is sited in a fenced-in area approximately 160' by 70' or 11,200 SF. Within the fenced-in area, a 1,400 SF natural gas pressure regulating building is proposed along with a 120 SF control building (monitors and controls the gas line). Both buildings have a concrete exterior. The two new buildings will have a combined footprint of 1,520 SF in contrast to the combined 2,270 SF footprint of the existing 2 buildings.



A photo of the new regulating building is shown on Attachment 11.

Vehicle access to the Unutil site will be from the main IMT entrance at Commercial St and Beach St. An easement provides access from the main entrance to the Unutil site. An interior driveway within Unutil's site circles the regulating building and includes 6 parking spaces.

Below grade improvements include new 3 gas lines to Commercial Street and a new gas line from the

edge of the Fore River.

The existing Unitil buildings on the site will be removed. The site plan does show a conceptual footprint of a future building on the former Unitil site but that will be the subject of a future and separate approval.

V. STAFF REVIEW

The proposed development has been reviewed for conformance with the applicable standards for WPDZ Conditional Use, Site Plan and Shoreland regulations.

A. CONDITIONAL USE REVIEW

1. Waterfront Port Development Zone

Use: The project is located in a WPD Zone.

No Adverse Impact on Marine Use: The WPDZ includes a provision for protecting access function of water dependent uses in the form of “Sec. 14-318.5. No adverse impact on marine uses.”

Sec. 14-318.5

- (a) *The proposed nonwater-dependent use will displace an existing water-dependent use;*

The proposed use will not displace an existing water dependent use. The project involves relocating existing utilities on the site but in a smaller footprint which conserves land for other purposes.

- (b) *The proposed use will reduce existing commercial vessel berthing space;*

The proposed use does not impact any existing commercial berthing site since there is no existing commercial berthing along this particular section of the property shore frontage.

- (c) *The proposed nonwater-dependent use, structure or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses; or*

The Unitil project site has been designed, integrated and located to avoid conflicts with the IMT facility and related activities. The use is self-contained within a 160’ by 70’ fenced in area except for underground pipes. Access to the water for existing uses and water dependent uses will not be impacted by this use.

- (d) *The siting of a proposed nonwater-dependent use will substantially reduce or*

inhibit existing public access to marine or tidal waters.

Public access to this site (including the shore) does not presently exist within IMT's industrial type operations.

II. Conditional Use Review for Utility Substations

Utility substations are a conditional use the WPDZ and must meet the standards of sec. 14-320, sec 14-320 (4) and 14-474 as shown below.

Sec. 14-320. Conditional Uses.

...such uses will not impede or preclude existing or potential water-dependent development on other lots, will allow for adequate right-of-way access to the water, are compatible with marine uses, and are physically adaptable or relocatable to make way for future development for water-dependent uses, and meet any additional standards set forth below:

The utility sub-station occupies a very small area of the site (11,200 SF) which mitigates any impact on marine or water-dependent uses. Given the small area of the substation it will not impede or preclude existing or potential water-dependent uses on other lots. The relatively small footprint of this development and location preserves adequate access to the water. The substation is located a minimum of 150 feet from the shore and with limited vehicle traffic, this use is compatible with marine uses. Just as the existing substation facility is being relocated, the proposed facility is physically adaptable or relocatable.

In the context of the existing substation facility which has operated for many years without interfering or harming water dependent and marine uses, the proposed substation is smaller than the existing one.

Sec. 14-320 (4) Public Utilities

...provided such structures are located more than one hundred from the water.

The site plan indicates that the substation building is located approximately 150 feet from the shore.

Sec. 14-474. All conditional uses are subject to the provisions of Section 14-474, Conditional Use:

Standards. The Board shall, after review of required materials, authorize issuance of a conditional use permit, upon a showing that the proposed use, at the size and intensity contemplated at the proposed location, will not have substantially greater negative impacts than would normally occur from surrounding uses or other allowable uses in the same zoning district. The Board shall find that this standard is satisfied if it finds that:

- a. *The volume and type of vehicle traffic to be generated, hours of operation, expanse of pavement, and the number of parking spaces required are not substantially greater than would normally occur at surrounding uses or other allowable uses in the same zone; and*

Staff Comment: This project will have less of an impact in terms of vehicle traffic and number of parking spaces than other types of uses in this zone. The facility is not open

to the public and is not staffed on a daily basis so impacts are very limited. Vehicle traffic is limited to staff visits one or twice a week. The amount of pavement is minimal compared to other sites in this zone.

- b. *The proposed use will not create unsanitary or harmful conditions by reason of noise, glare, dust, sewage disposal, emissions to the air, odor, lighting, or litter; and*

Responses from the applicant submission are summarized below.

Noise: There is an existing gas regulator building onsite. The proposed facilities will not result in an increase in noise. The proposed facilities will utilize the current industry standards for sound abatement. Any sound generated will be in keeping with the Waterfront Port Development Zone.

Glare: There will be no glare generated from the proposed project.

Dust: No dust generated except during construction.

Sewage disposal: Not applicable.

Emissions to the air: Proposed project will not result in air emissions.

Odor: The regulator infrastructure is housed within the regulator building and does not generate an odor. Mercaptan is added to natural gas for safety; as a result a slight odor may be emitted from the above ground gas lines. This will not result in a significant odor impact to the site.

Lighting: Project will utilize existing IMT lighting except that a total of 5 lights will be mounted on the 2 buildings which will be faced downward and shielded.

- c. *The design and operation of the proposed use, including but not limited to landscaping, screening, signs, loading, deliveries, trash or waste generation, arrangement of structures, and materials storage will not have a substantially greater effect/impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone.*

the design and operation of the substation will not have a substantially greater impact on surrounding properties than those associated with surrounding uses or other allowable uses in the zone. The substation is a very “quiet” use with no daily deliveries or traffic except for Unitol staff visits one or two times a week. Since this is not a facility open to the public and is not staffed, the use does not have the facilities or impacts normally associated with commercial or industrial uses such as deliveries, loading, materials storage, trash or waste disposal. Landscaping and screening issues are discussed in the site plan review section of this report.

B. SITE PLAN REVIEW (Sec. 14-526)

(1) Transportation Standards

Impact on Surrounding Street System

As part of the 2014 IMT Planning Board site plan review, a traffic light was installed at the Commercial St./Beach intersection which lines up with the IMT driveway. The traffic light and related street improvements represent a significant traffic safety and circulation upgrade over pre-development conditions. Unitil will use the existing IMT driveway at this location. Although the IMT has other entrances east of the bridge, the shared driveway with Unitil is the lone driveway they have west of the bridge which provides appropriate access management.

The proposed project will have a minimal impact on the surrounding street system since Unitil indicates there will only be a couple of employee trips a week to the site.

Site Access and Circulation

As discussed, access to the site will be from the existing site driveway at the Commercial and Beach Street intersection. Unitil's interior access within the site is defined by an access easement that runs from the Commercial Street driveway to a circular driveway around the substation including a 6 space parking lot. A 16 foot wide gate provides access for vehicles since the substation is enclosed with a fence.

Circulation for service trucks or other vehicles is appropriate.

No interior walkways are proposed since the Unitil site by its nature is not open to the public. As part of the 2014 IMT site plan review, sidewalks were built on the northerly side of Commercial Street while sidewalks on the southerly side of the project frontage were waived because of the industrial nature of the IMT and the long term plan for a pedestrian/bike trail on the northerly side of Commercial Street.

Six parking spaces are proposed although there is no parking requirement for this use. Given the limited number of employee trips, site parking is more than adequate.

(2) Environmental Quality Standards

Preservation of Natural Features

There are no significant natural features on the substation site since it was previously disturbed by a long history of industrial uses including more recently the IMT.

Landscaping

The interior of the IMT site is void of any vegetation given the "working yard" character of the site. During the 2014 IMT site plan review landscaping and screening was focused along the public view of the site along Commercial Street rather than interior landscaping. The executed landscaping plan included an ornamental fence and landscaping along the Commercial Street frontage (bridge side from the main driveway) while an ornamental fence on top of a concrete wall with graphics was proposed east of the main driveway.

The substation is located in excess of 200 feet from Commercial Street. The primary view shed from Commercial Street for the substation would be through the fence and landscaping area. Attachment 11 includes photos from 4 different angle views (fence, landscaping and interior yard area) from Commercial Street. A copy of the approved 2014 landscaping plan is also shown (Attachment 13).

Jeff Tarling, City Arborist, has reviewed the plan and is recommending that 5 Red Cedar (5'-6' high) be planted along Commercial Street to address "holes" in the existing site landscaping to

appropriately address screening issues associated with the use. Siting of the trees will need to take into account existing utility lines.

Water quality, Stormwater Management and Erosion Control

The Unitil site utilizes the existing IMT stormwater management system approved by the Planning Board in 2014. The IMT stormwater strategy uses the site's pervious soils in providing water quality treatment and water quality control which filters into the soil thus black top was not proposed for the site. This is unusual for surface treatment for an extended surface area in Portland but the site's well drained underlayment soils (primarily cut and fill) combined with a 20 inch layer of aggregate and 4 inches of crushed stone installed by MDOT provided an appropriate stormwater plan for this site.

The original stormwater report indicated that a majority of surface run-off will infiltrate into the surrounding soil. The site plan indicated only 4 catch basins were proposed, the closest one to the Unitil site being in the chassis storage lot.

An erosion and sedimentation control plan has been submitted. The primary erosion concern is the site's proximity to the Fore River and the installation of a new gas main between the shore and the substation.

Stormwater related comments from Lauren Swett (Development Review Engineer Consultant) are shown below:

- The Applicant has provided a plan, notes and details to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B & C of Maine DEP Chapter 500.
- The project will result in an increase in impervious stormwater treatment from what was previously approved for the site. No other changes to the previously approved stormwater management plan are proposed. The Applicant has demonstrated that the amount of porous crushed stone yard remaining is sufficient to provide the necessary treatment for the amended site in compliance with the General Standard.

(3) Public Infrastructure and Community Safety Standards

Consistency with City Master Plans

The proposal is consistent with applicable City master plans.

Public Safety and Fire Prevention

CEPTED

The site is totally enclosed with a chainlink fence and has a locked gate. Visual surveillance is easily accomplished from the surrounding IMT property given the openness of the site.

Fire

Assistant Chief Keith Goutreau has reviewed the site plan and finds it acceptable. There are several IMT fire hydrants in close proximity to the site. The submission did include information on a fire safety plan. See Attachment 10.

Public Utilities

Electric power to the site will be underground. There are no bathrooms in the facility thus public sewer or water is not required. Water service for nearby hydrants on the IMT site and elsewhere were previously installed.

(4) Site Design Standards

The bulk, location, or height of proposed buildings and structures...

Given the relatively small size of the primary building (1,400 SF and 11 feet high), the location and absence of other nearby buildings, there are no known health or safety problems associated with ventilation issues impacting abutting structures as well as changes to existing wind climate. There are also no known impacts in regard to the diminution in the value or utility to neighboring structures given Unitil's location in the middle of an existing industrial property. The nearest off-site building is in excess of 250 feet from the Unitil building.

Shadows

Not applicable.

Snow and Ice Loading

Not applicable

View Corridors

Not applicable

Historic Resources

Not applicable. The site is not located within a Historic District. Historic archeology issues were addressed in prior development applications.

Exterior Lighting

Unitil is relying on the existing site lighting previously approved for the IMT site but is proposing to supplement it with additional lighting. According to the submitted narrative, 4 lights will be mounted above the building regulator doorways and 1 light for the control building. A catalog cut of the light fixture has been submitted (Attachment 5) indicating a glare cut-off feature. There are also 2 red LED lights on the regulator building which will illuminate if a certain level of gas accumulates within the building.

For the record the plan should be revised to indicate the location of the building light fixtures.

Noise and Vibration

According to the submission vibration will not be generated by the use. Noise will occur only during site construction.

Signs

Submission indicates a steel 24" by 24" Unitil sign will be mounted on the fence. A photo is

shown on Attachment 11.

Zoning Design Standards

Not applicable.

Financial and Technical Capability

Information on financial and technical capability is shown as Attachment 7.

C. SHORELAND ZONE (Sec. 14-449)

The Planning Board or planning authority shall approve a site plan located within a shoreland zone if it finds that the following standards, in addition to the standards set forth in section 14-526, are met:

1. *The proposal will maintain safe and healthful conditions;*
There are no known safety or health issues associated with this project.
2. *The proposal will not result in water pollution, erosion, or sedimentation to surface waters;*
See Stormwater Management section of this report.
3. *The proposal will adequately provide for the disposal of all wastewater;*
Wastewater facilities are not required for the Unitil site.
4. *The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;*
The property is a previously disturbed industrial site with no documented bird or wildlife habitat.
5. *The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters;*
The IMT is a former industrial site which has been redeveloped for marine industrial and transportation use. Due to the industrial nature of the property there is no active existing public access to the shoreline. The treatment of ground cover within the shoreland zone will be stable to avoid erosion and sedimentation issues.
6. *The proposal will protect archaeological and historic resources;*
See site plan section.
7. *The proposal will not adversely affect existing commercial fishing or maritime activities;*
There are no existing commercial fishing activities presently taking place on this site. The Unitil facility given its location, size and activities does not adversely impact the operation and activities of maritime activities associated with the IMT.
8. *The proposal will avoid problems associated with flood plain development and use; and*
A note on the site plan indicates “the lowest floor elevation or opening of the buildings will be elevated at least two feet above the elevation of the 100 year flood”.
9. *The proposal is in conformance with the standards set forth in this section.*
The proposal is in conformance with the standards of this section.

VI. MOTIONS FOR THE BOARD TO CONSIDER

A. Conditional Use in the WPDZ

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report #2016-085, relevant to the Conditional Use Standards of the Waterfront Port Development Zone for public utilities, and Section 14-474 of the Land Use Code and other regulations, and the testimony presented at the public hearing, the Planning Board finds that the plan **(is/is not)** in conformance with conditional use standards of the Land Use Code.

B. Site Plan

On the basis of the application plan, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for application #2016-085 relevant to the Site Plan Ordinance and other regulations, and the testimony presented at the public hearing, the Planning Board finds that the plan (is /is not) in conformance with Site Plan standards of the Land Use Code, subject to the following conditions of approval.

1. That the applicant shall submit a copy of approval letters from the Maine DEP confirming approval of proposed site amendments to the IMT Site Location of Development Permit and Natural Resource Protection Act (Permit-by-Rule) to the Planning Authority. A copy of both applications shall also be submitted.
2. That the final site plan shall be re-submitted bearing the stamp of a professional engineer.
3. That the site plan shall be revised for City Arborist review and approval reflecting the planting of 5 additional Red Cedar trees (5' to 6' high) along the Commercial Street side of the fence (east of the main driveway) to improve the screening of the site. The final location of the trees shall consider the presence of utilities.
4. That the final site plan shall be updated for Planning Authority review and approval reflecting the location of new exterior lighting.
5. Applicant shall confirm in writing to the Planning Authority whether the regrading in the VRAP area (gas work site) is coordinated with the approved VRAP plan for the site.

C. Shoreland Regulations

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for application #2016-085 relevant to Shoreland Regulations, and other regulations, and the testimony presented at the public hearing, the Planning Board finds that the plan **(is/is not)** in conformance with shoreland regulations of the land use code

ATTACHMENTS

Staff Attachments

- A. Planning Board IMT Site Plan Approval Letter and Planning Board Report (2014)
- B. Lauren Swett (Development Review Engineer Memo dated 5-4-16)

Applicants Submittal

- 1. Development Application
- 2. Project Description
- 3. Right, Title or Interest
- 4. Evidence of State and Federal Permits
- 5. Summary of Compliance with Zoning Requirement
- 6. Summary of Proposed and Existing Easement
- 7. Evidence of Financial and Technical Capacity
- 8. Coastal Management Plan
- 9. Stormwater Mangement Plan
- 10. Fire Safety Plan
- 11. Photos
- 12. Manufacturers Verification of Equipment Meeting Emission Standard
- 13. MEDEP Permit-by-Rule (dated 5-5-16)

Plans

- 1. General Site Plan
- 2. Site Plan A Easements
- 3. Site Plan B Easements
- 4. Site Plan C Easements
- 5. Gas Regulator Station Easement Area
- 6. Shoreland Corridor Easement Area
- 7. IMT Service Line Easement Area
- 8. Access Easement Area
- 9. Electric Easement Area
- 10. Regulator Station Area
- 11. Land Acquisition Plan
- 12. Original IMT Fencing, Hydrant, Light Pole Plan
- 13. Original IMT Landscaping Plan
- 14. Original IMT Landscaping Plan Detail
- 15. Erosion Control Plan

CITY OF PORTLAND, MAINE

PLANNING BOARD

Stuart O'Brien, Chair
Timothy Dean, Vice Chair
Elizabeth Boepple
Sean Dundon
Bill Hall
Carol Morrisette
Jack Soley

August 12, 2014

Mr. Joel Kittredge, Project Manager
Maine Department of Transportation
16 State House Station
Augusta, Maine 04333-0016

Mr. Pat Carroll
Carroll Associates
217 Commercial Street, #200
Portland, Maine 04101

Project Name: Portland International Marine
Address: 460 Commercial Street

Project ID: 2014-038
CBL: 59-A-1-3-4-7-8-11;
59-A-2-5-6-9-10 (leased)

Applicant: Maine Department of Transportation
Planner: Richard Knowland

Dear Mr. Kittredge:

On June 24, 2014 and July 8, 2014, the Planning Board considered the Portland International Marine Terminal facility expansion for the existing laydown and connecting corridor connection project. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance and Shoreland Zoning Regulations. The Planning Board voted to approve the application with the following waiver(s) and condition(s) as presented below.

WAIVERS

The Planning Board voted (5-0; Hall and Soley absent) to waive the following Technical Standards.

1. The Planning Board finds that two or more criteria for sidewalk waiver, specifically criteria 2 and 3, as provided under Sec. 14-506(b), are met and therefore waives the requirement for sidewalks along the southerly sideline of Commercial Street.
2. The Planning Board finds that two or more criteria for granite curbing waiver, specifically criteria 4 and 5, as provided under Sec. 14-506(b), are met and therefore waives the requirement for granite curbing along the southerly sideline of Commercial Street.
3. The Planning Board waives the Technical Standard for Driveway Design: Maximum driveway width, Section 1.7.1.4. for IMT, Nova Seafood and Graybar as specified on the plan due to the existing constrained circulation conditions for large trucks.

4. The Planning Board waives Technical Standard for flooding as provided under Section 5.III.4.E(2) due to the capacity of the receiving water (Fore River).
5. The Planning Board waives Technical Standard for Soil Infiltration Testing, Sec V, Appendix D.4.(a) based on known conditions on the site and controlled materials to be installed with construction.
6. The Planning Board waives Technical Standard for Landscape and Landscape Preservation for the following sections: Sec. 4.2 and 4.3 – Preservation of Significant Site Features and Existing Vegetation; Sec. 4.5 – Site Landscaping: Screening and Buffers, Industrial and Commercial and Sec. 4.6 – Street Trees. Commercial, industrial and industrial developments shall provide street trees 35 to 45 feet on center along City right-of- way.
7. The Planning Board waives Technical Standard for boundary survey under Sec. 13.2 Level I Site Alteration, II and III General Standards regarding incomplete utility information, incomplete topographic information, and scale drawn to no less than 1 inch to 50 feet.
8. The Planning Board waives Technical Standard for light fixture height under Sec. 12.2.7 of 30 feet by providing fixture heights of 34 feet for the concrete pad area and 35 feet for the container storage area.

SITE PLAN REVIEW

The Planning Board voted (6 to 0; Morrisette absent) that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following condition(s) of approval:

1. That the applicant shall submit a revised site plan and other related material addressing the review comments of Tom Errico (Traffic Review Consultant) memo dated July 2, 2014.
2. That the applicant shall submit a snow storage plan to allow the City to use the IMT snow storage area for snow plowed by the City adjacent to the Commercial Street concrete wall so long as it does not interfere with IMT operations.
3. That the applicant shall submit a revised plan for Planning Staff review and Planning Board approval of the concrete wall and barrier along Commercial Street.
4. City Staff shall review and approve the submitted agreements (including cross agreements), easements, a revised site plan and other relevant documents confirming appropriate cross agreements and easements for access and utilities to service the New Yard property through the IMT site or evidence of rights of access over the additional land to be acquired from the rail road for City Staff review and approval.
5. That the applicant shall submit a revised site plan with sufficient details and dimensions to clarify design intent for Planning Staff review and approval.
6. That the lighting illumination levels shall not exceed the levels shown on the submitted plan and shall meet IESNA (Lighting for Exterior Environments RP-33-99) for the

proposed use. Lighting levels within the container area (S2 and S3 light poles) and security lights within the pad area (S1A and S1B light poles) shall operate at 50% light output levels unless the yard is actively being used. The remaining type S1A light poles within the concrete pad shall only be turned on when the pad area is actively being used.

SHORELAND REGULATIONS REVIEW

The Planning Board voted (6 to 0; Morrisette absent) that the plan is in conformance with the shoreland standards of the Land Use Code.

The approval is based on the submitted plans and the findings related to site plan and subdivision review standards as contained in Planning Report for application #2014-038 which is attached.

STANDARD CONDITIONS OF APPROVAL

Please note the following standard conditions of approval and requirements for all approved site plans:

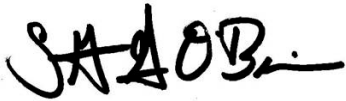
1. **Develop Site According to Plan** The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
2. **Separate Building Permits Are Required** This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.
3. **Site Plan Expiration** The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
4. **Final Sets of Plans** Seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Services Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.
5. **Preconstruction Meeting** Prior to the release of a building permit or site construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Service's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting. (If applicable)
6. **Department of Public Services Permits** If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

7. **As-Built Final Plans** Final sets of as-built plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Richard Knowland at (207) 874-8725.

Sincerely,



Stuart G. O'Brien, Chair
Portland Planning Board

Attachments:

2. Review Memo of Tom Errico (Traffic Review Engineer) dated July 2, 2014
3. Planning Board Report
4. City Code: Chapter 32
5. Sample Stormwater Maintenance Agreement [if applicable]
6. Performance Guarantee Packet

Electronic Distribution:

CC: Jeff Levine, AICP, Director of Planning and Urban Development
Alexander Jaegerman, FAICP, Planning Division Director
Barbara Barhydt, Development Review Services Manager
Richard Knowland, Senior Planner
Philip DiPierro, Development Review Coordinator, Planning
Marge Schmuckal, Zoning Administrator, Inspections Division
Tammy Munson, Inspection Division Director
Lannie Dobson, Administration, Inspections Division
Michael Bobinsky, Public Services Director
Katherine Earley, Engineering Services Manager, Public Services
Bill Clark, Project Engineer, Public Services
David Margolis-Pineo, Deputy City Engineer, Public Services
Doug Roncarati, Stormwater Coordinator, Public Services
Greg Vining, Associate Engineer, Public Services
Michelle Sweeney, Associate Engineer
John Low, Associate Engineer, Public Services
Rhonda Zazzara, Field Inspection Coordinator, Public Services
Mike Farmer, Project Engineer, Public Services
Jane Ward, Administration, Public Services
Jeff Tarling, City Arborist, Public Services
Jeremiah Bartlett, Public Services
Captain Chris Pirone, Fire Department
Danielle West-Chuhta, Corporation Counsel
Thomas Errico, P.E., TY Lin Associates
David Senus, P.E., Woodard and Curran
Rick Blackburn, Assessor's Department
Approval Letter File



PLANNING BOARD REPORT PORTLAND, MAINE

Portland International Marine Terminal
460 Commercial Street
Level III Site Plan Review
2014-038
Maine Department of Transportation, Applicant

Submitted to: Portland Planning Board: Public Hearing Date: June 24, 2014	Prepared by: Richard Knowland Date: June 20, 2014 CBL: 59-A-1-3-4-7-8-11; 59-A-2-5-6-9-10 (leased)
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I. INTRODUCTION

A public hearing has been scheduled to consider a proposal by the Maine Department of Transportation (MDOT) to expand the International Maritime Terminal (IMT) facility in the vicinity of 460 Commercial Street. The proposal expands the existing IMT west of the Casco Bay Bridge by providing improvements to accommodate intermodal rail freight service and related truck chassis storage. The facility integrates sea, truck and rail freight services in one facility. The application describes this as an “existing laydown and connecting corridor connection project”.

Attachment 1 includes the initial comprehensive IMT submitted on April 4, 2014. Attachments 2, 3 and 4 include updated supplemental material submitted on April 24, 2014, May 6, 2014 and June 6, 2014, respectively. The site plan sheets are shown as Attachment P.

The Board had an initial workshop on this item at the Board’s May 13th meeting. A follow-up workshop scheduled for the Board’s June 10th meeting was cancelled at the request of MDOT and the staff memo prepared for the workshop was discussed as a communication to the Board.

The issue of infrastructure coordination with the New Yard parcel appears to be nearing resolution. Based on progress staff has seen over the last week we feel comfortable with the progress that has been made in securing appropriate infrastructure and access for the New Yard parcel. The documentation of this agreement (including corresponding related site plans) will likely be a condition of approval because not all final legal documents and easements will have been completed or in place by Tuesday’s public hearing. The immediate concern of both parties is drafting a memorandum of understanding that would form the framework for addressing outstanding access and infrastructure issues. See page 6 of this report for more information

Notice of the public hearing consisted of 454 notices being mailed to neighbors as well as the Legal Ad which ran in the June 16 and June 17 editions of the Portland Press Herald.

II. FINDINGS

Zoning:	Waterfront Port Development Zone and Shoreland Overlay Zone
Land Area (existing):	14 acres (existing facility)
Land Area (proposed):	14 acres
	New Yard, LLC – 9.82 acres
	Unitil (New Yard leasehold interest) – 3.96 acres
	Unitil (New Yard leasehold interest) - 4.17 acres
	Pan Am parcel – 5.0 acres
Proposed Use:	Marine container, chassis storage yard and marine/freight transportation operation facility
New Building Footprint:	None
Total Disturbed Site Area:	11.2 acres
Impervious Area (existing):	3.05 acres
Impervious Area (proposed):	11.12 acres
Street Frontage:	1,600 feet
Parking:	None except for 144 truck chassis spaces. Parking on existing IMT site
Bicycle Spaces:	4 on two racks
Estimated Project Cost:	\$12.2 million

III. BACKGROUND

Back in December 2012 the Planning Board approved the site plan for the “New Yard at Canal Landing” for a boat and ship repair and maintenance facility on 22 acres. Later in August 2013 the Board approved an amendment to that plan which provided for a phasing of site improvements. In the August 27, 2013 Planning Staff Report the rationale for the phasing plan was explained.

“The applicant makes this phasing plan to allow time for continuing negotiations with the MDOT and the tenants of the adjacent IMT. As has been reported in local news media, the operators and tenants of the IMT are contemplating a westerly expansion of freight operations onto New Yard property. Mr. Phineas Sprague, Principal of New Yard, LLC, would like to move forward with the boatyard project, while not making higher value improvements that may need to change to accommodate expansion of the IMT operations.”

The IMT project is moving forward and MDOT has acquired a portion of the New Yard landholdings as well as several other properties by eminent domain. According to the submission New Yard will be left with a 5 acre parcel which contains New Yard’s newly constructed warehouse building. Access to this parcel will be from the existing New Yard driveway which is connected into the new IMT entrance on Commercial Street.

A copy of the Planning Board approval letter and Staff Report for the New Yard development review is shown on Attachment A.

IV. PROJECT DESCRIPTION

A. Overview

The proposed project expands the size and scope of the existing IMT facility on Commercial Street. MDOT will be acquiring 19 additional acres west of the Casco Bay Bridge with 14 of those acres contiguous and integrated with the existing facility. The additional 5 acres is just east of Cassidy Point Drive. The new improvements will complement the existing facility by providing rail service, a concrete loading pad to process rail shipments and a large staging area for truck chassis.

Key improvements include the following:

- A gravel storage lot for 144 truck chassis spaces.
- Extending a new 2,600 foot long mainline railroad track from Cassidy Point into the site. A 750 foot long siding track and a 750 loading track (adjacent to a concrete loading ramp) will be provided.
- A concrete pad that facilitates the loading and unloading of railroad cars. The pad is 752 feet long and 74 feet wide or about 55,000 sf in size. A four foot high concrete wall will be placed along the entire length of the pad at the edge of Commercial Street. Thirty foot high light poles will be placed on the pad along the edge of Commercial Street.
- Access to the facility will be from a new entrance on Commercial Street across from the Beach Street on-ramp at the present location of the Unitil driveway.
- A traffic light and intersection improvements are proposed at the project entrance/ Commercial Street intersection. Roadway realignment improvements along Commercial Street are proposed in the vicinity of the site.

While the core of the site improvements including the truck chassis parking area, concrete loading ramp, entrance and intersection improvements are near the Casco Bay Bridge, the project area extends to Cassidy Point with the track improvements.

The surface treatment of the facility will be gravel although the train loading ramp will be concrete and the front entrance area will have a black top surface.

B. Property Acquisition

The IMT expansion is made possible by MDOT acquiring a number of privately owned properties. These include the following parcels.

New Yard, LLC: This 9.9 parcel (a portion of New Yard's landholdings) was the subject of a 2012 Planning Board site plan approval for a ship repair facility. New Yard will be retaining a 5 yard parcel that contains the newly constructed warehouse type building.

Unitil: Waterfront parcel containing 4.17 acres

Unitil: Inland parcel containing 3.96 acres (2.19 acres which is encumbered by a lease to Osterman Propane, LLC which will be extinguished upon condemnation).

Pan Am : 5.0 parcel

When MDOT filed the initial site plan application they indicated the properties would be acquired through an eminent domain process. In a letter dated 3-24-2014 from MDOT attorney Toni Kemmerle to Marge Schmuckal (Zoning Administrator) states:

We have also been asked to provide evidence that MaineDOT will have the right, title and interest in and to the property that is the subject of its site development permit application. Maine Dot will be filing its condemnation notice against the railroad property by the end of March. While Maine DOT cannot predict the exact date upon which the other condemnation notices will be filed, MaineDOT is proceeding with the full intention of filing these notices in the immediate future, contingent on the continued appropriation of the necessary funding. As soon as these notices are filed, MaineDOT will possess.

MDOT formally filed the condemnation notice on April 28, 2014 and therefore has established right, title and interest to the properties. Jennifer Thompson, Associate Corporation Counsel, has confirmed MDOT has established right, title and interest in the property. See Attachment B.

C. Development Reviews

The project is subject to City of Portland site plan and shoreland review.

State of Maine permits include Site Location of Development Act and Natural Resources Protection Act (NRPA). A copy of the approved DEP Site Location of Development permit (dated May 27, 2014) has been provided. The letter references that a NRPA permit-by-rule was also approved on May 21, 2014.

D. Waivers

Applicant has requested a number of waivers. The request along with supporting information is shown as part of Attachment 3 (Subattachment I). City staff recommendations on the waiver requests may be found on Attachments D (Tom Errico memo) and Attachment F (David Margolis-Pineo memo).

Waiver	Code Reference	Comment
Sidewalks and Granite Curbing	Site Plan Standard 14-526(a)(2)c.1 (and 14-448 and 14-449, by reference)	<i>Sidewalk waiver is recommended by staff based on sidewalk criteria 1 (safe route across the street, and criteria 2 (no sidewalk within 1,000 feet along southerly side of Commercial St.). Curbing waiver is recommended based on</i>

		<i>criteria 4 (loss of significant site features of a greater public value,) and criteria 5 (runoff from the development site or within the street does not require curbing for stormwater management.)</i>
Driveway Width	Tech Standards, Sec. 1.7. Maximum driveway width of 30 for industrial uses.	<i>IMT: Proposed driveway width of 100 feet to accommodate large trucks. Nova Seafood: Oversized driveway width (100 plus feet) to accommodate existing tight site and maneuvering area for tractor trailers. Graybar: Proposed driveway widths of 50 feet and 65 feet. Similar to existing width. Tight site and maneuvering area for tractor trailers.</i>
Flooding	Tech Standards, Sec.V E, Flooding	<i>Waiver requested due to the capacity of the receiving body (the Fore River)</i>
Boundary Survey	Technical Standard, Sec. 13.2	<i>Waiver requested regarding incomplete info on rims/inverts and underground utilities. A portion of the site has incomplete topo info. Survey plans are less than 1 inch to 50 feet due to size and shape of subject parcels.</i>
Soil Infiltration Testing	Tech Standards, Sec. V, Appendix D.4.(a)	<i>Based on known conditions on the site and controlled materials to be installed with construction.</i>
Landscape and Preservation	Tech Standards Sec 4.2 & 4.3 (Preservation of Significant Site Features and Existing Vegetation) Site Landscaping: Screening and Buffers, Industrial and Commercial Developments Street Trees, Commercial, Industrial and institutional developments shall provide street trees 30 to 45 feet apart along project frontage.	<i>Regardless of waiver applicant must demonstrate compliance with Shoreland tree clearance standards. See landscaping section of this report. Applicant cites concrete wall, overhead and underground utilities as constraints to achieve this standard.</i>

E. Coordination With Adjacent Development Parcels

The narrative that follows came from the June 10th staff workshop memo regarding the coordination of access and utilities between the IMT proposal and the New Yard property. An agreement to resolve access and utility issues has not been received as of the writing of this report, but appears to be close to resolution. See Attachment X for letters submitted to the Planning Office on this issue.

As the Board may recall, Robert Flite of Portland Yacht Services (New Yard), testified at the workshop that the IMT should coordinate infrastructure and access with the New Yard site otherwise they will be “landlocked”. The New Yard landholdings (22 acres) originally received Planning Board site plan approval for a boat repair and storage facility in December 2012. Recently MDOT acquired all the New Yard landholdings for the IMT expansion except for 5 acres where the newly constructed New Yard building is located.

In a letter dated May 20, 2014, Stephen Bushey of FST consultant engineers, (representing New Yard), offered a number of suggestions regarding the IMT site plan to improve coordination of access, utilities and infrastructure between the two properties. See Attachment C-1. This letter covers improvements related to access, sanitary sewer, power, communication and cable lines and gas service.

At a meeting on May 20, 2014 with MDOT and their consultants, City staff requested a response to Mr. Bushey’s letter since these issues would undoubtedly be topics of discussion at the next Planning Board meeting.

In a letter dated May 23, 2013, Toni Kemmerle, Chief Counsel for MDOT, provided a response to Mr. Bushey’s letter. See Attachment 1.

Ms. Kemmerle states that an agreement between MDOT and New Yard “addresses such items as vehicular access for New Yard, utilities for New Yard, and drainage. Most of Mr. Bushey’s comments relate to these items, which are covered by that agreement”.

The next logical question would be whether the City could review a copy of the agreement to confirm how access, utilities and easements are addressed. We have asked both parties for a copy of the agreement but have not received one since the agreement includes a non-disclosure clause.

In a follow-up letter dated June 3, 2014, Stephen Bushey of FST, lists specific items that New Yard desires the IMT site plan to address including utility, infrastructure and access needs. See Attachment C-2 which includes a plan showing the location of requested utility easements.

- A 4” domestic water supply line and a 8” fire supply line from Commercial to the NW corner of the existing tension fabric building.
- A 6” sanitary sewer service to connect to the 48” sewer interceptor, located on the south side of Commercial Street.
- Power, communications and cable services to remain currently serving the site or as may be relocated in coordination with IMT Expansion activities.

- Vehicle access that supports routine large trailer and vessel movements from Gowen Marine and by New Yard patrons.

Mr. Bushey states: “From a practical standpoint, unless the retained parcel is afforded utility and vehicular easements a land locked parcel will have been created by the taking. We anticipate that as a matter of law, utility and vehicle access suitable for our immediate needs will be identified in the course of the IMT design process and we are working towards these solutions in advance of the upcoming Planning Board workshop.”

Summary: New Yard originally received Planning Board site plan approval in December 2012 for a boat yard and storage facility on 22 acres. Subsequently MDOT acquired approximately 14 acres of the site to accommodate an expansion of the IMT which is presently before the Planning Board for site plan review. The IMT proposal represents a revision or amendment to that approved site plan. In reviewing the IMT site plan, staff finds that the application has not met all of the site plan submission requirements of sec. 14-527(d), in particular, the following items of this section.

- (4) Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways.
- (22) Location, sizing, and directional flows of all existing and proposed utilities within the project site and on all abutting streets.
- (31) Location; dimensions and ownership of easements public or private rights of way, both existing or proposed.

Submission of this material should clarify the provision of access and utilities for New Yard and the IMT expansion since both sites are inextricably linked as a larger parcel (original New Yard parcel) which received Planning Board site plan approval. IMT now seeks to revise the originally approved site plan. Complete information on the above items needs to be addressed by the applicant to meet the submission requirements of the site plan ordinance.

V. STAFF SITE REVIEW

The site plan has been reviewed by City Staff including Planning Staff, the Zoning Administrator, Public Services (and review consultants), City Arborist and the Fire Department for conformance with the review standards of the Site plan Standards (sec. 14-526) and Shoreland Regulations.

Zoning

Marge Schmuckal, Zoning Administrator, has reviewed the plan and offers the following comments. See also Attachment C.

Comments dated May 6, 2014

The project is located in the WPDZ zone with a shoreland overlay zone. The proposed use for intermodal transportation facilities is listed as a permitted use. However the applicant explains that “there may be times where there will be truck to truck..”exchanges, I would want the applicant to explain in more detail outlining how this is an accessory use and not a principle use. The zone does not permit trucking terminals per se. I want to be sure that the truck to truck component is not more than the other proposed intermodal uses. I note that the same section of permitted uses allow intermodal transportation for railroad transportation services.

I also reviewed the submission concerning shoreland regulations. There is information concerning the clearing of vegetation. The verbage goes on to say “see enclosed plans for specifics”. I did not find an enclosed plan to what was written.

Comments dated June 18, 2014

I have reviewed the responses to my comments dated May 6, 2014. The response did not address my questions concerning truck to truck activities. I wanted more detail on that specific activity. Will that activity be less than 20% of the total activities there? Please give me more of a specific idea as to the details concerning the truck to truck activities.

My second comment regarded meeting the shoreland requirements of clearing vegetation. The response was that the final construction site plans will show what is to be removed. I could not find a plan with sufficient detail that responds to my request. As offered, I would like backup calculations to be provided so that I can determine compliance with ordinances. Please let me know the specific number on which the information is provided.

Site Plan Standards Review (Sec 14-526)

The site plan standards are summarized below in italics, with planning staff comment and analysis in regular font.

(a) TRANSPORTATION STANDARDS

A discussion of general circulation is shown below.

The previously approved New Yard site plan featured two driveways along Commercial Street. The primary street access for New Yard was an existing driveway adjacent to the Casco Bay Bridge. A second driveway provided across from Beach Street to serve the Unutil property. Under the new plan, the New Yard driveway by the bridge will be eliminated and all site access will take place at a newly configured driveway across from Beach Street. Note that the main entrance for the IMT east of the bridge remains unchanged.

The existing site conditions in this vicinity of Commercial Street are a challenge for vehicles, bicycles and pedestrians especially the tight curve between the bridge and the Beach Street on-ramp. The development proposes significant improvements to help improve this situation.

Perhaps the most important improvement is the addition of a traffic light at the project entrance/Beach Street/Commercial Street intersection. This will control all traffic movements in this intersection. Advanced warning signals will also be provided.

Compounding the complexity of circulation issues are the existing truck turning movements across the street at Nova Seafood. Nova has a limited area for internal truck maneuvering on its site and therefore is reliant on such turning movements taking place within the street. Turning movement diagrams are shown on Attachment 1-28. The diagram shows a truck entering the site as well as exiting the site. Currently these movements take place with the assistance of a flagger in the middle of Commercial Street. With a traffic light in place, the intersection will be frozen when a Nova truck needs to maneuver in and out of the site. Sensors will detect the presence of a truck and activate the traffic light.

Given the logistics of truck maneuvering, the Nova site retains a wide driveway opening. The driveway apron is recommended to be concrete (colored) since a brick apron is likely to be damaged by tractor trailers. The short sections of sidewalk between the driveway openings and outside the driveway openings will be brick. A cobblestone strip will also be provided as a signal to bicyclists and vehicles to stay in their lane and not take a short-cut to the Beach Street ramp. This design helps mitigate the oversized driveway width while accommodating Nova truck movements and providing defined zones for pedestrians, bicycles and vehicles. On the opposite side of the street (just east of the IMT driveway) a cobblestone inlay strip has been provided for trucks exiting the Nova site so trucks can swing around and complete their maneuver and head east on Commercial Street.

The traffic signal and related improvements results in a reorganization of the Commercial Street intersection in the vicinity of the site. At the intersection heading east bound, there will be a left hand turn lane to the Beach Street on-ramp and a combined straight/turn lane to the IMT entrance. (This double lane starts about 750 feet from the IMT entrance). Heading westbound, a left turn lane into IMT is provided while a combined straight/right turn lane (for the Beach Street ramp) is provided.

Along Commercial Street an on-street parking area is being provided between the concrete wall and the bike lane (see below). This area has traditionally been a short term parking area for tractor trailers.

The Commercial Street intersection improvements require modifications along the frontage of the Graybar building. This will result in oversized driveway widths but it reflects the reality of truck maneuvering involving a constrained site. The two driveways serving this property will be 50 and 65 feet wide.

Tom Errico Comments

Vehicle, pedestrian and bicycle circulation have been important elements in the planning process of this project. Final review comments from Tom Errico, Traffic Review Consultant, are shown on Attachment D. For brevity sake we are not including all 37 of his comments in this section of the report. Comments highlighted below represent discussion of waiver requests, additional information needed or outstanding issues.

1. The traffic signal plan includes special phasing for Nova Seafood. I would suggest that a City agreement with Nova Seafood be crafted related to traffic operations and a memorandum of understanding and for traffic control.

Status: The applicant shall be required to provide a draft agreement that specifies maintenance, traffic signal, pavement marking and signage requirements for review and approval. The City suggests that this be a three-party agreement (City/State/Property Owner).

2. The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.

Status: The City supports a waiver from their technical standards for driveway apron material given pedestrian and truck movement conflicts. DPS requests that the driveway apron material be concrete with a color tint (to be determined in the future prior to construction) and be designed to accommodate heavy truck loads.

3. Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.

Status: For the IMT Driveway, which is proposed to be 100 feet wide, the applicant has provided a "auto-turn" graphic for a WB-67 truck. Reviewing the graphic, I believe the driveway can be narrowed, although not substantially. I would also like to understand more about the truck characteristics before rendering a final decision on the driveway width. Additionally, understanding right and left-turning movements for these large trucks will be helpful. If most are turning left and destined to the Fore River Parkway and the Veterans Bridge, there may be an opportunity to narrow the driveway on the easterly edge, which may also have a positive impact on the design of the crosswalk.

I have reviewed the "auto-turn" graphics for the Nova Seafood site and I support a waiver for driveway width given site operations and that it is an existing business with unique truck access/egress requirements.

The applicant has provided an "auto-turn" analysis for one of the Graybar Driveways. The applicant shall provide a similar analysis for the second driveway and provide specific truck delivery information before approval of the widths can be provided.

4. Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.

Status: Both the Nova Seafood and Graybar driveways currently do not meet corner clearance standards and conditions will not worsen with the proposed project. Given site constraints and access and egress needs for large trucks, I support a waiver from the City's Technical standard.

5. The City is requesting that truck parking on in-bound Commercial Street be prohibited for to be specified distance in advance of the Beach Street intersection. The City will provide this restriction length.

Status: Trucks shall be prohibited from parking along Commercial Street from the new STOP bar at the signalized intersection to a point westerly of 200 feet. The applicant shall provide recommendations on how this prohibition will be regulated via signs or other measures for review and approval.

7. I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.

Status: Specific information needs to be provided by the applicant that helps the City understanding specific constraints to implementing time-of-day restrictions.

8. A sidewalk waiver has been requested and a review of the supporting information will be performed.

Status: The applicant has documented that two sidewalk waiver criteria are met for the project and are based on prior IMT and New Yard applications. Given these prior decisions, specifically that an alternative route on the opposite side of Commercial Street will serve pedestrian activity in this area and that a signalized crossing will be provided at the IMT Site Driveway/Beach Street intersection, I support a waiver from providing a sidewalk along the property frontage.

9. A granite curbing waiver has been requested and a review of the supporting information will be performed.

Status: DPS is reviewing this waiver request.

10. The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.

Status: I understand the security constraints, as noted by the applicant, but I would suggest that the applicant provide an overview of the entire site and whether the layout could be modified to allow for an internal driveway connecting the existing IMT facility and the new signalized entrance that avoids going through the fenced area of the chassis yard.

11. A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.

Status: The applicant has noted that the contractor will be responsible for development of a construction management plan. Site plan standards require applicants to prepare a plan in conjunction with site plan approval. The applicant is required to develop a conceptual management plan that should indicate how construction will occur on Commercial Street. The plan should note how vehicular traffic, pedestrians and bicyclists will be maintained during construction and should note any peak time period restrictions for construction activity (The City has arterial time restrictions). It may be necessary that some construction activities occur at night to avoid impacts to traffic flow.

24. It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway a exit only driveway. The plans do not reflect this.

Status: The applicant should include signs and pavement markings that support the one-way access/egress conditions for review and approval.

25. There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.

Status: The applicant shall provide a draft maintenance agreement for review and comment.

30. The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.

Status: Within the project limits along Commercial Street, a formal bicycle lane should be continuously marked and signed as appropriate. The plans should be revised to reflect this.

31. The direction sign that note Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.

Status: A condition of approval shall be included that notes signage for the project is subject to change with final recommendations from the City to be provided prior to construction.

32. The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.

Status: The applicant has agreed to make this change and revised plans will be reviewed for approval.

35. The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.

Status: A condition of approval shall be included that notes signage for the project is subject to change with final recommendations from the City to be provided prior to construction.

36. It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.

Status: Enhanced pavements markings shall be provided in the subject area and final approval of the details shall be provided prior to construction.

Additional Comment

* DPS requests that the shared use path along Commercial Street within the project limits consist of brick material meeting city standards and the width be reduced to 8-feet. A revised plan that meets this directive shall be reviewed and approved by DPS.

1. Impact on Surrounding Street Systems

See above description of traffic circulation and improvements. The project is anticipated to generate 31 trip ends in the peak hour according to the HNTB traffic analysis. This analysis assumes that 15% of trip ends occur during peak hour.

Given the existing field conditions in the vicinity of the site, the placement of the driveway with a proposed traffic light, the bike lane, intersection and related improvements, this project represents a positive impact on the nearby street system.

2. Access and Circulation

a. Site Access and Circulation

- (i) *The development shall provide safe and reasonable access and internal circulation for the entire site for all users of the site.*
- (ii) *Points of access and egress shall be located to avoid conflicts with existing turning movements and traffic flows.*

Comments for both standards have been consolidated below

3. Pedestrians

Internal - Pedestrian circulation includes people walking between New Yard and Commercial Street. The original site plan anticipated this by designating a “pedestrian area” along the edge of the internal roadway. However with the introduction of the IMT facility near the Commercial Street entrance and an increase in truck traffic, an improved pedestrian circulation plan is in order.

The submitted plan indicates a walkway has been provided along the front driveway to Commercial Street. This pedestrian zone is defined by a landscaped strip on both sides of the sidewalk. A curb will be placed on the driveway side of the landscaping strip. The sidewalk is about 60 feet long but the width of the sidewalk is not labeled.

The plan shows a stop sign for trucks coming from the chassis storage lot or from New Yard. This would assist pedestrians attempting to get to the sidewalk by the main entrance.

External-Sidewalks are not proposed along the southerly side of the facility since there are already sidewalks on the northerly side of the street that lead to the Old Port and Harbor View Park. The proposed West Commercial Street Trail is also on that side of the street. A sidewalk waiver was previously granted for the New Yard development given the above circumstances and the highly industrial character of this section of Commercial Street.

In terms of pedestrians leaving or entering the site, the new traffic light will provide a designated crosswalk from the IMT driveway to the sidewalk on the northerly side of Commercial Street. A crosswalk is also provided across the Beach Street ramp. The traffic signals will be pedestrian activated for both crosswalks.

Brick sidewalks will be installed along the Graybar frontage. A new sidewalk will be provided along the Nova Seafood property but the driveway apron will be concrete to withstand the weight of tractor trailers. Granite pavers along the edge of the roadway by Nova further enhances pedestrian safety.

4. Vehicles

As discussed above the new traffic light improves vehicle and circulation issues near the site. The driveway entrance is wide reflecting the large size trucks that will be using the facility. The plan indicates the driveway entrance has a total width of 100 feet. An incoming truck will have a 45 foot wide lane within the driveway to swing into the site.

An exiting truck has a 15 foot lane with a 40 foot swing zone designated as a striped zone.

Trucks from Commercial Street will enter the site and presumably circulate between the chassis storage lot or the rail concrete loading ramp.

Access between the existing IMT and the proposed facility occurs through the new chassis storage lot. There are 24 foot long gates at both ends of the storage yard which allow east to west circulation between both ends of the facility although we have been told there are security limitations on the this movement.

5. *Bicycle Circulation*

A 5 foot wide bike lane is provided on both sides of Commercial Street. The bike lane on the IMT side (southerly) starts initially 400 feet west of the IMT frontage and then extends a distance of about 1,300 feet where it is highlighted in a green asphalt material. This treatment is carried along most of the IMT expansion street frontage except for the frontage by the truck chassis storage area.

On the northerly side, the bike lane starts along a portion of the Nova Seafood street frontage and continues west to a point just beyond the Star Match building. Except areas within the vicinity of Beach Street, the bike lane will be striped but not have a green surface.

A photo simulation of the roadway and bikeway improvements is shown on Attachment 2. Two bike stands with a capacity of 4 bicycles are provided near the project entrance.

6. *Loading and Servicing*

The entire site is designed to facilitate loading and servicing.

7. *Sidewalks.*

- (i) *All proposed developments shall provide sidewalks along all frontages in accordance with Sections 14-498 and 14-499 of the City Code.*

The applicants are requesting a waiver of this sidewalk and granite curbing requirements for the entire site frontage. This waiver request is addressed above in Mr. Errico's comment as well as with the applicant's submittal in Attachment A.7. City Staff and the consulting engineers have held lengthy discussions on the sidewalk waiver request and ultimately recommend that the Board grant the waiver. Under most circumstances, leaving a site isolated from the city sidewalk network would be unsupportable; but in this instance several complicating conditions exist:

- There will be very limited pedestrian use generated by the development.
- If a sidewalk were constructed, such a segment would be isolated for the foreseeable future due to rail right of way in West Commercial

Street under the Casco Bay Bridge, the recent waiver of sidewalk for the IMT to the east, and the lack of pedestrian destinations to the west.

Sidewalk construction on West Commercial Street is further complicated by the industrial context of the area and the need for heavy vehicle use of the soft shoulder. Working waterfronts require truck staging areas and with the gentrification of the Central Waterfront, West Commercial Street has become increasingly important as a truck staging area. Within recent years, trucks waiting to load and unload on the piers of the Central Waterfront traditionally staged in Commercial Street at the head of the piers. Increased congestion in the street and transition to other uses on the piers have combined to make in-street staging problematic (many of these trucks are bait trucks and the majority of the congestion occurs in the warmer months.) In response to changes in Commercial Street, West Commercial Street's southerly sideline has increasingly become the de facto truck staging area for many Central Waterfront marine businesses. At this time without a long-term plan for West Commercial Street, it is unclear if there is room for both sidewalk (which would need to be curbed) and truck staging and circulation.

There is a sidewalk on the north side of West Commercial Street and there are plans to extend a multi-use path along the entire length of the northerly right of way from Harborview Park to the Fore River Parkway. Given the industrial context of the site and the planned improvements to signalize the Beach Street intersection, both the DPS and Planning staff recommend waiving sidewalks for the site and asking the applicant to contribute toward pedestrian improvements at the planned traffic signal.

Staff has provided a map of the interim pedestrian route below.

The entire Portland Peninsula is located in a brick material district for sidewalk construction and granite curbing would be required as room for a planted esplanade is not available. For the New Yard application Public Services estimated that a new brick sidewalk would cost +/- \$135,000 and granite curbing could add +/- \$50,000 to \$60,000.

Based on the above discussion, staff recommends waiving both sidewalk and curbing. Sidewalk waivers criteria are provided below. Two criteria must be met to waive for each sidewalk and granite curbing.

Sidewalk Waiver Criteria

1. *There is no reasonable expectation for pedestrian usage coming from, going to and traversing the site.*
2. *There is no sidewalk in existence or expected within 1000 feet and the construction of sidewalks does not contribute to the development of a pedestrian oriented infrastructure.*
3. *A safe alternative-walking route is reasonably and safely available, for example, by way of a sidewalk on the other side of the street that is lightly traveled.*
4. *The reconstruction of the street is specifically identified and approved in the first*

or second year of the current Capital Improvement Program or has been funded through an earlier CIP or through other sources.

5. *The street has been constructed or reconstructed without sidewalks within the last 24 months.*
6. *Strict adherence to the sidewalk requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.*

Criteria 3 is clearly met with the exiting sidewalk located on the northerly side of West Commercial Street. Criteria 2 could also be applied, if considered for only the south side of West Commercial Street.

Curbing Waiver Criteria

1. *The cost to construct the curbing, including any applicable street opening fees, is in excess of 5% of the overall project cost.*
2. *The reconstruction of the street is specifically identified and approved in the first or second year of the current Capital Improvement Program or has been funded through an earlier CIP or through other sources.*
3. *The street has been rehabilitated without curbing in the last 60 months.*
4. *Strict adherence to the curb requirement would result in the loss of significant site features related to landscaping or topography that are deemed to be of a greater public value.*
5. *Runoff from the development site or within the street does not require curbing for stormwater management.*

Staff recommends waiving the requirement for granite curbing based on criteria 4 and criteria 5.

(iii) Continuous internal walkways shall be provided between existing or planned public sidewalks adjacent to the site, transit stops and street crossings and primary building entrances on the site.

See the sidewalk waiver discussion, above.

8. *Public Transit Access:*

Not applicable. No commercial building of 20,000 sf or more is proposed.

9. *Parking:*

- a. *Location and Required Number of Vehicle Parking Spaces:*
Since no new building is being proposed there is no parking requirement. The chassis storage yard provides parking for tractor trailer equipment.
- b. *Bicycle Parking*
Bike stand facilities for 4 bicycles are provided.
- c. *Motorcycle and Scooter Parking*
Not applicable. Staff believes this use does not require motor cycle or scooter parking.
- d. *Snow Storage*
There appears to be no provision for snow storage shown on the submitted plans. The applicant will be subject to MeDEP regulations if they intend to deposit snow in the Fore River.

10. *Transportation Demand Management Plan*

Not applicable. This project does not meet the threshold requiring a TDM.

(b) ENVIRONMENTAL QUALITY STANDARDS

1. *Preservation of Significant Natural Features:*

- a. *Significant natural features by incorporating them into site design. Significant natural features shall be defined as:*
 - (i) *Populations of trees and plants listed on the Official List of Endangered and Threatened Plants in Maine, published by the Maine Natural Areas Program. NA*
 - (ii) *Habitat for species appearing on the official state or federal list of endangered or threatened animal species; NA*
 - (iii) *High and moderate value waterfowl and wading bird habitat including nesting and feeding areas, as defined by the Department of Inland Fisheries and Wildlife; NA*
 - (iv) *Aquifers NA*

(v) *Waterbodies.* See Stormwater Management section of this report.

2. *Landscaping and Landscape Preservation:*

The proposed landscape plan is included in Plan 13.

a. *Landscape Preservation*

The Zoning Administrator has requested additional documentation regarding tree clearance within the Shoreland Zone. See Attachment C.

b. *Site Landscaping.*

Where zoning set backs are not required for development in the WPDZ, the landscaping requirements for buffer areas do not apply.

The applicant is proposing a 750 foot long concrete wall along the edge of Commercial Street so there is no room for street trees along this section short of shifting the wall a few feet to the south which the applicant indicates is not possible because of a potential need for an additional track line in the future.

Street trees are therefore focused on the northerly side of Commercial Street (across the street from the wall). Along the Graybar building frontage 11 red maple trees (3 inch. cal.) will be planted. These trees are shown at approximate 35 foot intervals spread along 375 feet of street frontage.

On-site landscaping efforts are focused near the driveway entrance and an approximate 200 foot long planting area west of the entrance. See Attachment P sheet C-18 and C-19. Landscaping near the entrance is primarily understory while the landscape strip includes 3 river birches (12 to 14 feet high), 4 white spruce (8 to 10 feet high) and 9 eastern red cedar (6 to 7 feet high) as well as a variety of understory material. Further to the west along Commercial Street, 9 swamp white oak (3 inch cal.) are proposed with spacing at a 35 foot interval.

Jeff Tarling has reviewed the final submission and his comments are highlighted below:

1. The Karpick (Red Maple) may not be best tree for the street frontage along Graybar. Mr. Tarling would like to consider another tree species.
2. Stone benches should be relocated elsewhere because of conflicts with snow plowing operations.
3. Vegetation along the concrete such as Boston Ivy might help mitigate the impact of the wall.

Mr. Tarling supports the applicant's waiver requests regarding landscaping except that the project must meet minimum shoreland tree clearance standards.

Concrete Wall

As discussed at a previous workshop applicant is proposing a 752 foot long 4 foot high concrete wall along the edge of Commercial Street. In the project submission, the wall appeared to be integrated with a loading ramp to facilitate loading/unloading of rail road cars. During the workshop it was indicated the ramp was in fact a concrete slab and that the wall didn't necessarily need to be 4 feet high as the pad has internal curb stops to prevent equipment from damaging the wall.

A textured surface was proposed for the wall but the height and length (equivalent to 3 city blocks) and lack of space for landscaping between the wall and the street line, poses significant aesthetic issues in a highly visible gateway location. A textured surface with the proposed dimensions of the wall is unlikely to resolve this issue. Graffiti concerns were also raised at the workshop.

The latest submission indicates a 4 foot high concrete wall with a 4 foot high ornamental fence on top. Staff has suggested the height of the concrete wall be reduced with a proportionate increase in height of the ornamental fence to address the IMT goal of an 8 foot high security barrier. There appear to be a number of alternatives to a 4 foot high concrete wall that would address IMT operational and security needs.

MDOT's rationale for a 4 foot high concrete wall includes the following: A wall of a lower height could be an attractive nuisance as MDOT doesn't want pedestrians loitering along the IMT street frontage.

Staff Response: There is no sidewalk along the IMT street frontage. A new sidewalk is proposed on the opposite side of the street and the West Commercial Street Trail will be constructed on that side of the street so pedestrian travel will take place on the northerly side of the street away from the IMT.

A 4 foot high concrete wall will not block the street view of the IMT facility. If the wall is lowered a foot or so it will have no bearing on the visibility of the site or the desirability of people to loiter outside the fence. The MDOT goal of an 8 foot high security fence can be met by a lower concrete wall with a correspondingly higher ornamental fence. An example of a more appropriate concrete wall height is the Spring Street concrete barrier (20 to 22 inches high) and the Casco Bay Bridge concrete barrier (32 inches high).

Summary: A four high concrete wall that is 750 feet long is a questionable design solution in a gateway location. The higher the concrete wall the greater the concern about graffiti. A high wall also raises concerns about graffiti. There are a number of options in achieving an eight foot high security fence without using a 4 foot high concrete wall.

The proposed metal ornamental fence (Impasse H Steel Palisade) is of high quality and an appropriate design. The ornamental fence will also be used along the remainder of the street frontage of the IMT street frontage east of the driveway entrance.

3. *Water Quality, Stormwater Management and Erosion Control:*

The subject parcels are relatively flat and grade generally south from West Commercial Street to the Fore River. The grade and soils appear to allow sufficient infiltration to avoid ponding and the site does not show evidence of channelized flow nor impacts to off-site properties.

Applicant has submitted a stormwater management plan with related stormwater calculations. The IMT yard will have a mostly gravel surface which results in an impervious surface increase of approximately 8 acres. Non-gravel impervious surfaces include a concrete loading ramp (55,000 sf) and the paved area of the project entrance (7,000 sf). A commentary on site stormwater management is shown on Attachment 1-17.

The site's location along the Fore River obviates the need for stormwater volume controls, as the receiving body will not be negatively impacted by increased water volume or rate of discharge. The applicants have requested a waiver of the Technical Standards for Stormwater Flooding, as is typical for coastal shoreline projects. The stormwater quality standards, therefore, are the primary design concern.

Typically parking lots and circulation areas for site plan review have a bituminous surface. In the case of the New Yard development, a gravel surface was proposed and approved which MDOT would like to do as well.

Soils

The soils on the site are described as cut and fill lands with moderately drainage class. Presently the existing site consists of well drained silty sand which allows stormwater runoff to enter into the Commercial Street closed drainage system or to infiltrate into granular soils. The applicant is attempting to take advantage of these infiltration qualities by having a gravel surface for most of the site.

There are no wetlands on the site.

Stormwater Quantity

The report states the drainage patterns for the Post-Development condition remain essentially unchanged from Pre-Development conditions although technically the amount of impervious surface is increasing. The report indicates that due to the nature of existing subgrade soils and the ability to infiltrate into the granular soils, the majority of surface runoff from the proposed development will infiltrate into the underlying soil. Presumably in areas subject to "hard packing" from heavy vehicles, there will be an appropriate base and surface treatment of gravel and crushed stone for infiltration.

The plan should clarify where new gravel will be installed on the site including a cross section of the depth and type of material.

Stormwater Related Improvements

The basic premise of the site plan is due to the nature of existing subgrade soils and the ability of runoff to infiltrate into the granular soils, the majority of surface runoff from the proposed development will be allowed to infiltrate. Aside from regrading there are a number of stormwater related improvements associated with this project.

Along Commercial Street the proposed widened shoulder along the eastbound travel lane will be graded such that surface water runoff sheds to the edge of pavement and is channelized along the concrete barrier (there is no curb along this section of Commercial Street presently). The gutter lane includes a porous concrete section along the entire barrier face. Runoff is collected in a proposed underdrain system located in the widened eastbound travel lanes of Commercial Street. The underdrain acts to collect and convey runoff to the catch basin located at the intersection of Beach Street. As this system ultimately discharges into the Fore River via an existing 24 inch CSO that crosses the site (just west of the bridge), a waiver from the flooding standard is being requested.

A review of the site plan indicates there are four proposed catch basins proposed for the site.

CB one is located near the paved driveway entrance. It runs into a 15 inch storm drain in the chase storage yard.

CB two is connected into the 15 inch line and a 24 inch CSO within the chassis storage yard.

CB three is also within the chassis storage yard and connected into the 24 inch CSO which empties into the Fore River. Submission seems to emphasize soil infiltration but the storage chassis area has two catch basins.

CB four is located on the far westerly end of the concrete ramp. Stormwater from the concrete ramp is channeled into drainage scuppers which are connected into a pipe that runs into the catchbasin. Stormwater from the catch basin then finds its way to a nearby 30 inch CSO to the west.

The new rail line will have an underdrain system connecting into an existing CSO's. Field inlets have been provided at low points along the north side underdrain so that ponding does not occur along the track during larger storm events.

Review comments have been provided by David Senus, Consulting Review Engineer. His latest comments are dated June 17, 2014 and are shown as Attachment E.

Review comments that remain open and that need to be addressed by the Applicant are as follows:

1. Provide an updated stormwater treatment area plan that better identifies treated vs. untreated areas of the site in plan view (via hatching or some other means).
2. Provide an updated Stormwater Management Plan and Calculations that reflect the final design approach.

3. Provide an updated Stormwater Inspection & Maintenance Plan (or Stormwater Pollution Prevention Plan) that addresses the previous review comment: “The Stormwater Management Plan will need to include a stormwater inspection and maintenance plan for the proposed stormwater measures, such as the porous crushed stone yard surface and the porous concrete, developed in accordance with and in reference to MaineDEP Chapter 500 guidelines and Chapter 32 of the City of Portland Code of Ordinances”. Specific guidance will need to be included for both the inspection and maintenance of the porous concrete panels and the crushed stone yard surface.

(c) PUBLIC INFRASTRUCTURE AND COMMUNITY SAFETY STANDARDS.

1. *Consistency with City Master Plans:*

- a. The proposal appears consistent with applicable approved master plans. Review of pedestrian related improvements along Commercial Street have been informed by the West Commercial Street Trail Plan.

2. *Public Safety and Fire Prevention:*

- (a) *Natural surveillance that promotes visibility of public spaces and areas.*
All of the principle open spaces on the development are visible with clear lines of site from multiple vantage points and/or buildings with windows.
- (b) *Access control that promotes authorized and/or appropriate access to the site.*

The site appears to sufficient access control through fencing, entry gates, and its location on the water.

- (c) *Territorial reinforcement that promotes a sense of ownership and responsibility through environmental design.*

The use and maintenance of the facility as designed should sufficiently reinforce the site’s identity as a transportation facility.

- (d) *Provide adequate emergency vehicle access to the site in accordance with City standards for street widths and turning radii, as described in Section 1 of the Technical Manual.*

Captain Chris Pirone has reviewed the plan and finds it acceptable. This approval assumes there is appropriate access to the New Yard facility from the proposed IMT entrance on Commercial Street.

- (e) *Be consistent with City public safety standards, Section 3 of the City of Portland Technical Manual, including but not limited to availability and adequacy of water supply and proximity of fire hydrants to structures.*

The site will be served by 5 hydrants and 3 standpipes which are proposed on the concrete loading pad. There are also 4 hydrants in the vicinity of the site along the northerly side of Commercial Street. The Portland Water District has provided a letter indicating adequate capacity to serve the fire suppression needs of the development.

A Fire Safety Assessment and a Fire Safety Plan for the IMT has been prepared by Fire Risk Management, Inc. which is part of the submission. See Attachment 1-21, Attachment 3 and P, C-17

Chris Pirone has verbally indicated that that the submitted plan is acceptable.

3. *Availability and Adequate Capacity of Public Utilities:*

The site will be served by water and electricity. A letter confirming water capacity has been provided from the Portland Water District. A letter from CMP should also be provided for power service. All power will be underground except for temporary power for New Yard. An existing 1 ½ inch gas line will be near the southerly edge of the property.

The issue of providing access and utility service for the New Yard property is discussed in Section IV of this report.

(d) SITE DESIGN STANDARDS

1. *Massing, Ventilation and Wind Impact: NA*
2. *Shadows: NA*

3. *Snow and Ice Loading: NA*
4. *View corridors: NA*
5. *Historic Resources:*
 - a. *Developments affecting designated landmarks or within designated historic districts or historic landscape districts: NA*
 - b. *Preservation and/or Documentation of Archaeological Resources.*

The site plan standard references the landforms associated with the Cumberland and Oxford Canal is recognized as a local archeological resource.

Applicant has submitted a letter from the Maine Historic Preservation Commission dated May 1, 2014 regarding archeological resources on the IMT site. Primary archeological resources of the site include the remnant of the Cumberland Oxford Canal and the Glass Works site..

MHPC indicates there will be no adverse effect to the canal site, if its preserved by minimal re-grading and placing porous, granular material in preparation of the area labeled “yard 8” and the area adjacent to Casco Bay Bridge.

MHPC concludes that the excavation for the proposed 730 foot long concrete slab loading area has the potential to encounter and destroy a section of the Canal. To mitigate this potential damage MHPC staff will be present during excavation, monitoring the excavation and record features of the canal if/as they are exposed.

MCPC concludes there will be minimal or no adverse effect to the former Glass Works site from the construction of the rail line on fill but it not known how deep the Glass Works site is. MHPC staff will be allowed to hand dig test pits to determine this.

6. Lighting

A site lighting and photometric plan has been submitted. See Attachment P-24 to 29.

Fifteen light poles are proposed at 50 foot intervals along the edge of the concrete ramp adjacent to Commercial Street. The mounting height of the light fixtures is 34 feet.

Eight light poles are proposed for the chassis yard. The mounting height is 35 feet.

Three light poles are shown near the water edge which will be 35 feet high.

The luminaire wattage for these fixtures is 284 watts. All light fixtures will have a cut-off feature.

It appears all the lighting poles will be served by underground power.

A summary of lighting use is shown below:

The proposed luminaires in the container area will operate at 50% light output until the yard is actively used, whereupon the light level will be increase to 100% output. The proposed luminaires at the concrete ramp will be divided into two groups for operational control. Type S1A light poles will only be turned on when the ramp is in use and will operate at 100% light output. Type S1A and Type S1B light poles will serve as security lights. They will operate each night at 50% light output unless the ramp is actively used, whereupon the light level will be increased to 100% output.

A narrative of the lighting plan has been provided including specifications and responses to City standards is shown on Attachment 1-25. The photometric and layout plan are shown on Attachment P-E.

7. Noise and Vibration

Information on generators (if any) was not submitted.

8. Signage and Wayfinding

A specific signage plan was not submitted.

9. Zoning Related Standards

Not applicable.

.ii. Shoreland Zone:

The Planning Board or planning authority shall approve a site plan located within a shoreland zone if it finds that the following standards, in addition to the standards set forth in section 14-526, are met:

1. *The proposal will maintain safe and healthful conditions;*
There are no known safety or health issues associated with this project.
2. *The proposal will not result in water pollution, erosion, or sedimentation to surface waters;*
See Stormwater Management section of this report.
3. *The proposal will adequately provide for the disposal of all wastewater;*
Waste water facilities are not required in this section of the IMT.

- 3 *The proposal will not have an adverse impact on spawning grounds, fish, aquatic life, bird or other wildlife habitat;*
The property is a former industrial site with some overgrown vegetation but no documented bird or wildlife habitat.
- 4 *The proposal will conserve shore cover and visual, as well as actual, points of access to inland and coastal waters;*
The site is a former industrial site that is being redeveloped for marine industrial and transportation use. Due to the industrial nature of the facility active public access to the shoreline is not proposed. The treatment of ground cover within the shoreland zone will be stable to avoid erosion and sedimentation issues. Visually there are no buildings proposed on the site so views from Commercial Street to the water will remain open.
- 5 *The proposal will protect archaeological and historic resources;*
See site plan section
- 6 *The proposal will not adversely affect existing commercial fishing or maritime activities;*
There are no existing commercial fishing or maritime activities presently taking place on this site. The proposed development supports the existing IMT facility which is a maritime use.
- 8 *The proposal will avoid problems associated with flood plain development and use; and*
Applicant proposes no new buildings on the site which avoids potential flood hazard issues.
- 9 *The proposal is in conformance with the standards set forth in this section.*
The proposal is in conformance with the standards of this section.

Site Plan Details

The submitted site plan drawings and related sheets are largely technical in nature and at times difficult to read. While it is understandable certain topics such as lighting, erosion and sedimentation control, profiles and cross sections may contain technical and engineering data, the site plans should be sufficiently detailed with dimensions such that the plan is clear and coherent. We have forwarded this concern to the applicant and they have submitted what is described as an illustrative plan that shows the entire site as well as the surrounding context (Attachment 3-H). While this is helpful, the site plan sheets should be fully dimensioned (along with a scale) and sufficiently clear so that there is a common understanding of what is being proposed as well as what is being approved.

Neighborhood Meeting

The applicant held a neighborhood meeting on April 28, 2014. A meeting notice, minutes of the meeting and the sign-in sheet are provided on Attachment 3.

VI. MOTIONS FOR THE BOARD TO CONSIDER

A. Waivers

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations, contained in the Planning Board Report for application #2014-038 relevant to the Portland's Technical and Design Standards and other regulations, and the testimony presented at the Planning Board hearing:

1. The Planning Board finds that two or more criteria for sidewalk waiver, specifically criteria 2 and 3, as provided under Sec. 14-506(b), (**are/are not**) met and therefore (**waives/does not waive**) the requirement for sidewalks along the southerly sideline of Commercial Street.
2. The Planning Board finds that two or more criteria for granite curbing waiver, specifically criteria 4 and 5, as provided under Sec. 14-506(b), (**are/are not**) met and therefore (**waives/does not waive**) the requirement for granite curbing along the southerly sideline of Commercial Street.
3. The Planning Board (**waives/does not waive**) the Technical Standard for Driveway Design: Maximum driveway width, Section 1.7.1.4. for IMT, Nova Seafood and Graybar as specified on the plan due to the existing constrained circulation conditions for large trucks.
4. The Planning Board (**waives/does not waive**) Technical Standard for flooding as provided under Section 5.III.4.E(2) due to the capacity of the receiving water (Fore River).
5. The Planning Board (**waives/does not waive**) Technical Standard for Soil Infiltration Testing, Sec V, Appendix D.4.(a) based on known conditions on the site and controlled materials to be installed with construction.
6. The Planning Board (**waives/does not waive**) Technical Standard for Landscape and Landscape Preservation:
Sec. 4.2 and 4.3 – Preservation of Significant Site Features and Existing Vegetation.
Except that tree clearance shall not exceed Shoreland Zoning requirements.
Sec. 4.5 – Site Landscaping: Screening and Buffers, Industrial and Commercial and
Sec. 4.6 – Street Trees. Commercial, industrial and industrial developments shall provide street trees 35 to 45 feet on center along City right-of- way.
7. The Planning Board (**waives/does not waive**) Technical Standard for boundary survey under Sec. 13.2 Level I Site Alteration, II and III General Standards regarding incomplete utility information, incomplete topographic information, and scale drawn to no less than 1 inch to 50 feet.

B. Site Plan

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for application#2014-038 relevant to the Site Plan Ordinance and other regulations, and the testimony presented at the Planning Board hearing, the Planning Board finds that the plan (is/is not) in conformance with the site plan standards of the land use code, subject to the following conditions of approval prior to the issuance of a building permit:

1. That the applicant shall submit information addressing the comments of Marge Schmuckal (Zoning Administrator) memo dated June 18, 2014 for review and approval.
2. That the applicant shall submit a revised site plan and other related material addressing the review comments of Tom Errico (Traffic Review Consultant) memo dated June 18, 2014 for review and approval.
3. That the applicant shall submit a revised site plan and other related material addressing the comments of David Senus (Development Review Consultant) memo dated June 17, 2014 for review and approval.
4. That the applicant shall submit a revised site plan and other related material addressing the comments of David Margolis-Pineo memo dated June 17, 2014 for review and approval.
5. That the applicant shall submit a revised site plan removing the proposed benches from the City right-of-way and providing an alternative tree species to the Red Maple for review and approval by Jeff Tarling (City Arborist).
6. That applicant shall submit a revised site plan for Planning Staff review and approval reflecting a lower concrete wall along Commercial Street.
7. That the applicant shall submit agreements, easements, a revised site plan and other relevant documents confirming appropriate easements for access and utilities to service the New Yard property through the IMT site or evidence of rights of access over the additional land to be acquired from the rail road for City Staff review and approval.
8. That the applicant shall submit a revised site plan with sufficient details and dimensions to clarify design intent for Planning Staff review and approval.

C. Shoreland Regulations

On the basis of the application, plans, reports and other information submitted by the applicant, findings and recommendations contained in the Planning Board Report for application #2014-038 relevant to Shoreland Regulations, and other regulations, and the testimony presented at the Planning Board hearing, the Planning Board finds that the plan (is/is not) in conformance with the shoreland regulations standards of the land use code, subject to the following conditions of approval to be met prior to the issuance of a building permit:

1. That a revised plan shall be submitted documenting compliance with shoreland tree clearance standards.

Attachment List

- A. New Yard Approval and Planning Board Report (excerpt)
- B. Jennifer Thompson (Associate Corporation Counsel) Memo dated May 7, 2014
- C. Marge Schmuckal (Zoning Administrator) Memo dated 6-18-2014
- D. Tom Errico (Traffic Engineer Consultant) Memo dated 6-18-2014
- E. David Senus (Development Review Consultant) Memo dated 7-17-2014
- F. David Margolis-Pineo
- X. Written Public Comment

Applicant Submissions

1. Applicant's Submission dated 4-4-14
2. Applicant's Submission dated 4-25-14
3. Applicant's Submission dated 5-6-14
4. Letter from Toni Kemmerle (MDOT Chief Counsel) dated 5-23-2014
5. Email from Joel Kittredge (MDOT Project Manager) dated 6-3-2014
6. Site Plan Addendum Material received 6-6-2014

P – Site Plans and Other Drawings



MEMORANDUM

TO: Rick Knowland, Planner
FROM: Lauren Swett PE
DATE: May 4, 2016
RE: IMT Expansion: Unitol Gas Facility Relocation, Level III Site Plan Application

Woodard & Curran has reviewed the Level III Site Plan Application for the proposed IMT expansion located at 40 West Commercial Street in Portland, Maine. The project involves the relocation of Unitol's natural gas facilities on the Site.

Documents Reviewed by Woodard & Curran

- Level III Site Plan Application and attachments, dated April 8, 2016, prepared by Amec, on behalf of MaineDOT/Unitol.

Comments

- 1) The Applicant has noted that a Permit-by-Rule will be obtained for the portion of the gas line relocation that is located within 75-feet of the high water line and that a copy of the final approval will be provided to the City of Portland upon receipt. The Applicant has also noted that an amendment to the Site's SLOD Permit will be reviewed by the MaineDEP; the Applicant should provide a status update on this review.
- 2) The Applicant has noted that the proposed Gas Facility Relocation Work will require further grading and environmental remediation of the Site's VRAP area. The Applicant should clarify whether this work is being coordinated with the MaineDEP.
- 3) Final plans must be stamped by a professional engineer (Section 14-527, sub-section (f) of the City of Portland Land Use Ordinance). At this time, the Site Plan has not been stamped.
- 4) In accordance with Section 5 of the City of Portland Technical Manual, a Level III Site Plan project is required to submit a stormwater management plan pursuant to the regulations of MaineDEP Chapter 500 Stormwater Management Rules, including conformance with the Basic, General, and Flooding Standards as written in Section 5 of the City of Portland Technical Manual. We offer the following comments:
 - a) Basic Standard: The Applicant has provided a plan, notes, and details to address erosion and sediment control requirements, inspection and maintenance requirements, and good housekeeping practices in general accordance with Appendix A, B, & C of MaineDEP Chapter 500.
 - b) General Standard: The project will result in an increase in impervious area and a reduction in the amount of porous crushed stone yard surface proposed for stormwater treatment from what was previously approved for the Site. No other changes to the previously approved stormwater management plan are proposed. The Applicant has demonstrated that the amount of porous crushed stone yard surface remaining is sufficient to provide the necessary treatment for the amended Site in compliance with the General Standard.
 - c) Flooding Standard: The Applicant was granted a waiver from the Flooding Standard as part of the previous approval for the Site.
- 5) The Applicant has noted that additional lighting is proposed from what was previously approved. An updated photometric plan should be provided.



April 8, 2016

Barbara Barbara Barhydt
Development Review Services Manager
Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

Re: Joint Unitil/MDOT Joint Natural Gas Relocation Application to Amend Site Plan, and Application for Conditional Use Permit, on MDOT's West Commercial Street Property

Dear Ms. Barhydt:

On behalf of Northern Utilities, Inc., d/b/a Unitil, please find enclosed two permit applications to relocate natural gas facilities on West Commercial Street land owned by the State of Maine/Maine Department of Transportation (MDOT) that abuts the International Marine Terminal (Site). Unitil has the right, title and interest to file the applications pursuant to its Gas Facility Relocation Agreement with MDOT, which Agreement specifies easement areas on the Site for Unitil to relocate its existing gas facilities.

Unitil's gas facilities must be relocated to other locations on the Site so MDOT can complete its intermodal transportation Project as previously approved by the City Planning Board. *See* MDOT Site Plan Permit, #2014-038, August 12, 2014, as amended. MDOT therefore joins Unitil in its application to amend MDOT's Site Plan to allow the gas facilities relocation, and joins in its application to obtain a conditional use permit for the same purpose. *See* the enclosed MDOT letter joining in the applications.

The two Unitil/MDOT permit applications are intended to conform to the guidance of the City Planning Department as provided at pre-application meetings held in November 2015 and February 2016. We understand, as to each of the applications, that it is sufficient to cross-reference to MDOT's approved Site Plan application, as amended, for Project features and conditions that will not be changed by the gas facility relocation work, such as the Site's wetland evaluation, boundary survey certification, significant natural features, traffic analysis and utility capacity to serve. With each such cross-reference, the applications represent that there is no material change from the approved Site Plan as to that matter for review.

In preparing and presenting the applications, Unitil is assisted by Rebecca Gabryszewski at the engineering firm of AMEC Foster Wheeler Environment & Infrastructure, with offices on Congress Street, and Peggy McGehee at the law firm of Perkins Thompson, with offices on One Canal Plaza. Both firms are authorized to act on Unitil's and MDOT's behalf for these

application purposes. Bob Schummrick and I, here at Unitil, are also available, as is Rick Paraschak of MDOT.

Please find enclosed with this letter the application fees for the two permit applications in the total amount of \$500.00.

Thank you for your timely consideration of these applications. It is critical to MDOT that the gas facilities be relocated by October 1, 2016 to enable it to commence the next phase of the Project as planned. Further, Unitil must relocate the gas facilities by October 1 because it cannot interrupt gas services to complete the relocation after that date, when the winter heating season officially begins. MDOT and Unitil therefore appreciate anything the City can do to expedite review, and we stand ready to respond quickly to any request for additional information you may have.

Sincerely,



Matt Doughty
Project Manager
Unitil
376 Riverside Industrial Parkway
Portland, Maine 04103

cc. Rick Paraschak, MDOT



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0016

Paul R. LePage
GOVERNOR

David Bernhardt
COMMISSIONER

April 6, 2016

Barbara Barhydt
Development Review Services Manager
Planning Division
389 Congress Street, 4th Floor
Portland, ME 04101

Re: Joint Unitil/MDOT Joint Natural Gas Relocation Application to Amend Site Plan, and Application for Conditional Use Permit, on MDOT's West Commercial Street Property

Dear Ms. Barhydt:

The Maine Department of Transportation (MDOT) joins and supports Unitil's application to amend MDOT's intermodal transportation Site Plan for its West Commercial Street property, Permit #2014-038, and its related application for a Conditional Use Permit, to relocate natural gas facilities on the Site.

The gas facilities need to be relocated to designated easement areas on the Site in order for MDOT to complete its intermodal transportation project.

Unitil's consultants are authorized to act on MDOT's behalf as to the two permit applications, absent any direct participation by MDOT. Rick Paraschak and I are available should there be any matter for the Department to address directly.

We appreciate the City's timely review of the applications, to provide Unitil enough time to complete the gas facility relocation work before the October heating season, and when the Department is scheduled to commence the next phase of its construction project.

Sincerely,

Joel Kittredge
Project Manager
Maine Department of Transportation

cc: Matt Doughty, Unitil

International Marine Terminal Expansion

Unitil Gas Facility Relocation

Level III Amended Site Plan Application

April 8, 2016

Submitted to:

**City of Portland
Planning Department**

Co-Applicants:

**Maine Department of Transportation
16 State House Station
Augusta, Maine 04333**



**Unitil
376 Riverside Industrial Parkway
Portland, Maine 04103**

Prepared by:

**Amec Foster Wheeler
511 Congress Street, Suite 200
Portland, Maine 04101**



Jeff Levine, AICP, Director
Planning & Urban Development Department

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a **legal signature** per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no Site Plan or Historic Preservation Applications can be reviewed until payment of appropriate application fees are ***paid in full*** to the Inspections Office, City of Portland Maine by method noted below:

- ☐ Within 24-48 hours, once my complete application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- ☐ Within 24-48 hours, once my application and corresponding paperwork has been electronically delivered, I intend to **call the Inspections Office** at 207-874-8703 and speak to an administrative representative and provide a credit/debit card over the phone.
- ☐ I intend to deliver a payment method through the U.S. Postal Service mail once my application paperwork has been electronically delivered.
- ☒ Payment made at time of Application submittal

Applicant Signature: _____

Date: _____

I have provided digital copies and sent them on: _____

Date: _____

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means i.e. a thumb drive or CD to the Inspections Office, City Hall, 3rd Floor, Room 315.



Level III – Preliminary and Final Site Plans Development Review Application Portland, Maine

Planning and Urban Development Department
Planning Division

Portland's Planning and Urban Development Department coordinates the development review process for site plan, subdivision and other applications under the City's Land Use Code. Attached is the application form for a Level III: Preliminary or Final Site Plan. Please note that Portland has delegated review from the State of Maine for reviews under the Site Location of Development Act, Chapter 500 Stormwater Permits, and Traffic Movement Permits.

Level III: Site Plan Development includes:

- New structures with a total floor area of 10,000 sq. ft. or more except in Industrial Zones.
- New structures with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- New temporary or permanent parking area(s) or paving of existing unpaved parking areas for more than 75 vehicles.
- Building addition(s) with a total floor area of 10,000 sq. ft. or more (cumulatively within a 3 year period) except in Industrial Zones.
- Building addition(s) with a total floor area of 20,000 sq. ft. or more in Industrial Zones.
- A change in the use of a total floor area of 20,000 sq. ft. or more in any existing building (cumulatively within a 3 year period).
- Multiple family development (3 or more dwelling units) or the addition of any additional dwelling unit if subject to subdivision review.
- Any new major or minor auto business in the B-2 or B-5 Zone, or the construction of any new major or minor auto business greater than 10,000 sq. ft. of building area in any other permitted zone.
- Correctional prerelease facilities.
- Park improvements: New structures greater than 10,000 sq. ft. and/or facilities encompassing 20,000 sq. ft. or more (excludes rehabilitation or replacement of existing facilities); new nighttime outdoor lighting of sports, athletic or recreation facilities not previously illuminated.
- Land disturbance of 3 acres or more (includes stripping, grading, grubbing, filling or excavation).

Portland's development review process and requirements are outlined in the Land Use Code (Chapter 14) which is available on our website:

Land Use Code: <http://me-portland.civicplus.com/DocumentCenter/Home/View/1080>

Design Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2355>

Technical Manual: <http://me-portland.civicplus.com/DocumentCenter/View/2356>

Planning Division
Fourth Floor, City Hall
389 Congress Street
(207) 874-8719

Office Hours
Monday thru Friday
8:00 a.m. – 4:30 p.m.

PROJECT NAME: International Marine Terminal Expansion: Unitil Gas Facility Relocation

PROPOSED DEVELOPMENT ADDRESS:

40 West Commercial Street

PROJECT DESCRIPTION:

** See attached project description

CHART/BLOCK/LOT: 59-A-1-3-4-7-8-11;
59-A-2-5-6-9-10

PRELIMINARY PLAN _____ (date)
FINAL PLAN 4/8/16 (date)

CONTACT INFORMATION:

Applicant – must be owner, Lessee or Buyer Name: Joel Kittredge, PM/ Matt Doughty, PM Business Name, if applicable: Maine Dept. of Transportation/ Unitil, Northern Utilities, Inc Address: 16 State House Station/376 Riverside Ind Prkwy City/State : Augusta/Portland Zip Code: 04333-0016/04103	Applicant Contact Information Work # 207-624-3550/207-541-2579 Home# Cell # Fax# e-mail: joel.c.kittredge@maine.gov /doughty@unitil.com
Owner – (if different from Applicant) Name: Address: City/State : Zip Code:	Owner Contact Information Work # Home# Cell # Fax# e-mail:
Agent/ Representative Name: Amec Foster Wheeler/Rebecca Gabryszewski Address: 511 Congress Street, Ste.200 City/State : Portland, ME Zip Code: 04101	Agent/Representative Contact information Work # 207-828-3317 Cell # e-mail: Rebecca.Gabryszewski@amecfw.com
Billing Information Name: Same as applicant Address: City/State : Zip Code:	Billing Information Work # Cell # Fax# e-mail:

Engineer Name: Amec Foster Wheeler Address: 511 Congress Street, Ste.200 City/State : Portland, ME Zip Code: 04101	Engineer Contact Information Work # 207-828-3317 Cell # Fax# e-mail: Rebecca.Gabryszewski@amecfw.com
Surveyor Name: Not applicable Address: City/State : Zip Code:	Surveyor Contact Information Work # Cell # Fax# e-mail:
Architect Name: Not applicable Address: City/State : Zip Code:	Architect Contact Information Work # Cell # Fax# e-mail:
Attorney Name: Perkins-Thompson/Peggy McGehee Address: 1 Canal Plaza City/State : Portland, ME Zip Code: 04112	Attorney Contact Information Work # 207-774-2635 ext.8104 Cell # Fax# e-mail: pmcgehee@perkinsthompson.com

APPLICATION FEES:

Check all reviews that apply. (Payment may be made by Credit Card, Cash or Check payable to the City of Portland.)

Level III Development (check applicable reviews) ☐ Less than 50,000 sq. ft. (\$500.00) ☐ 50,000 - 100,000 sq. ft. (\$1,000) ☐ 100,000 - 200,000 sq. ft. (\$2,000) ☐ 200,000 - 300,000 sq. ft. (\$3,000) ☐ over 300,000 sq. ft. (\$5,000) ☐ Parking lots over 11 spaces (\$1,000) ☐ After-the-fact Review (\$1,000.00 plus applicable application fee) Plan Amendments (check applicable reviews) ☐ Planning Staff Review (\$250) ☒ Planning Board Review (\$500) The City invoices separately for the following: • Notices (\$.75 each) • Legal Ad (% of total Ad) • Planning Review (\$40.00 hour) • Legal Review (\$75.00 hour) Third party review fees are assessed separately. Any outside reviews or analysis requested from the Applicant as part of the development review, are the responsibility of the Applicant and are separate from any application or invoice fees.	Other Reviews (check applicable reviews) ☐ Traffic Movement (\$1,000) ☐ Stormwater Quality (\$250) ☐ Subdivisions (\$500 + \$25/lot) # of Lots ____ x \$25/lot = ____ ☐ Site Location (\$3,000, except for residential projects which shall be \$200/lot) # of Lots ____ x \$200/lot = ____ ☐ Other _____ ☐ Change of Use ☐ Flood Plain ☐ Shoreland ☐ Design Review ☐ Housing Replacement ☐ Historic Preservation
---	--

PROJECT DATA

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

Total Area of Site	479,160	sq. ft.
Proposed Total Disturbed Area of the Site	16,638	sq. ft.
If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with DEP and a Stormwater Management Permit, Chapter 500, with the City of Portland.		
Impervious Surface Area		
Impervious Area (Total Existing)	1.38 acres / 60112.8 sf	
Impervious Area (Total Proposed)	0.38 acres / 16552.8 sf	
Building Ground Floor Area and Total Floor Area		
Building Footprint (Total Existing)	2270	sq. ft.
Building Footprint (Total Proposed)	1500	sq. ft.
Building Floor Area (Total Existing)		sq. ft.
Building Floor Area (Total Proposed)		sq. ft.
Zoning		
Existing	Waterfront Port Development Zone & Shoreland Overlay District	
Proposed, if applicable	Same	
Land Use		
Existing	vacant land	
Proposed	utility infrastructure	
Residential, If applicable		
# of Residential Units (Total Existing)	Not Applicable	
# of Residential Units (Total Proposed)		
# of Lots (Total Proposed)		
# of Affordable Housing Units (Total Proposed)		
Proposed Bedroom Mix		
# of Efficiency Units (Total Proposed)	Not Applicable	
# of One-Bedroom Units (Total Proposed)		
# of Two-Bedroom Units (Total Proposed)		
# of Three-Bedroom Units (Total Proposed)		
Parking Spaces		
# of Parking Spaces (Total Existing)	144 chassis spaces (IMT site)	
# of Parking Spaces (Total Proposed)	6	
# of Handicapped Spaces (Total Proposed)	0	
Bicycle Parking Spaces		
# of Bicycle Spaces (Total Existing)	4 total on two racks (IMT site)	
# of Bicycle Spaces (Total Proposed)	0	
Estimated Cost of Project		

Applicant Checklist	Planner Checklist	# of Copies	SITE PLAN SUBMISSIONS CHECKLIST (* If applicant chooses to submit a Preliminary Plan, then the * items were submitted for that phase and only updates are required)
X		1	* Boundary Survey meeting the requirements of Section 13 of the City of Portland's Technical Manual
X		1	Final Site Plans including the following:
X			Existing and proposed structures, as applicable, and distance from property line (including location of proposed piers, docks or wharves if in Shoreland Zone);
X			Existing and proposed structures on parcels abutting site;
X			All streets and intersections adjacent to the site and any proposed geometric modifications to those streets or intersections;
X			Location, dimensions and materials of all existing and proposed driveways, vehicle and pedestrian access ways, and bicycle access ways, with corresponding curb lines;
X			Engineered construction specifications and cross-sectional drawings for all proposed driveways, paved areas, sidewalks;
NA			Location and dimensions of all proposed loading areas including turning templates for applicable design delivery vehicles;
NA			Existing and proposed public transit infrastructure with applicable dimensions and engineering specifications;
X			Location of existing and proposed vehicle and bicycle parking spaces with applicable dimensional and engineering information;
X			Location of all snow storage areas and/or a snow removal plan;
NA			A traffic control plan as detailed in Section 1 of the Technical Manual;
NA			Proposed buffers and preservation measures for significant natural features, where applicable, as defined in Section 14-526(b)(1);
NA			Location and proposed alteration to any watercourse;
NA			A delineation of wetlands boundaries prepared by a qualified professional as detailed in Section 8 of the Technical Manual;
NA			Proposed buffers and preservation measures for wetlands;
NA			Existing soil conditions and location of test pits and test borings;
X			Existing vegetation to be preserved, proposed site landscaping, screening and proposed street trees, as applicable;
X			A stormwater management and drainage plan, in accordance with Section 5 of the Technical Manual;
X			Grading plan;
X			Ground water protection measures;
X			Existing and proposed sewer mains and connections;

- Continued on next page -



**PORTLAND FIRE DEPARTMENT
SITE REVIEW
FIRE DEPARTMENT CHECKLIST**



A separate drawing[s] shall be provided as part of the site plan application for the Portland Fire Department's review.

1. Name, address, telephone number of applicant
- 2.
3. Name address, telephone number of architect
4. Proposed uses of any structures [NFPA and IBC classification]
- 5.
6. Square footage of all structures [total and per story]
7. Elevation of all structures
8. Proposed fire protection of all structures
 - **As of September 16, 2010 all new construction of one and two family homes are required to be sprinkled in compliance with NFPA 13D. This is required by City Code. (NFPA 101 2009 ed.)**
9. Hydrant locations
10. Water main[s] size and location
11. Access to all structures [min. 2 sides]
12. A code summary shall be included referencing NFPA 1 and all fire department. Technical standards.

Some structures may require Fire flows using annex H of NFPA 1

****See Attached Response Sheet****

Fire Department Check List

1. Applicant:

Joel Kittredge, Maine Dept Of Transportation
16 State House Station
Augusta, ME 04333-0015
207-624-3550

Matt Doughty, Unitil
376 Riverside Industrial Parkway
Portland, ME 04103
207-541-2579

2. Architect:

Not Applicable

3. Proposed Use of Structure:

Gas Regulator Building and Data Acquisition Building (no IBC classification as neither will be occupied)

4. Square footage of structures:

Regulator Building: 1400 sf (single story)
Data Acquisition Building: 120 sf (single story)

5. Elevation of all structures:

All structures will be constructed at an elevation at least 2 feet above the 100 year flood line.

6. Proposed fire protection of all structures:

See Section 15

7. Hydrant locations:

See Section 15

8. Water main size and location:

Existing 12" water line in West Commercial/Commercial Street

9. Access to all structures:

The size of the access gates has been increased as requested to 16' wide to accommodate fire equipment.

10. Code summary:

Previously submitted for the site, See Section 15

Table of Contents

1. Project Description
2. Evidence of Right, Title, or Interest
3. Evidence of State and/or Federal Permits
4. Written Assessment of Project's Compliance with Zoning Requirements
5. Summary of Existing and/or Proposed Easements, Covenants, Public/Private Rights of Way, or Other Burdens
6. Evidence of Financial Capacity
7. Evidence of Technical Capacity
8. Construction Management Plan
9. Traffic Analysis Study
10. Summary of Significant Natural Features
11. Stormwater Management Plan
12. Summary of Project's Consistency with Related City Master Plans
13. Evidence of Utility Capacity to Serve
14. Summary of Solid Waste Generation and Proposed Management of Solid Waste
15. Fire Safety Plan and Code Summary Referencing NFPA 1 and Fire Department Technical Standards
16. Summary of Project's Constancy with Applicable Design Standards
17. Manufacturer's Verification that all HVAC Equipment Meets Emission Requirements

Drawing List

Appendix A

Site Plan

Figure 1 – Existing Facilities to be Relocated

Figure 2 – Existing Facilities to Remain

Figure 3 – Proposed Regulator Building Location and Inland Pipeline

Figure 4 – Regulator Building Easement

Figure 5 – Shoreland Pipeline Easement

Figure 6 – IMT Service Corridor

Figure 7 – Access Easement

Figure 8 – Electric Easement

Figure 9 – All Relocated Facilities

Appendix B

Boundary Survey

Appendix C

MeDOT Lighting plan (previously submitted)

MeDOT Landscaping plan (previously submitted)

Appendix D

Erosion & Sediment Control Plan

Project Description

Northern Utilities, Inc., d/b/a Unitil, and the Maine Department of Transportation (MDOT) request permit approval to relocate natural gas facilities on MDOT's West Commercial Street property next to the International Marine Terminal (IMT), to other designated locations on the Site. The Gas Facilities Relocation Work will amend MDOT's previously approved Site Plan to expand IMT's container storage capacity, to create an intermodal transportation system, including rail, and to allow for the construction of a cold storage facility. (See this section for a copy of the City's Site Plan approval letter).

Unitil's natural gas facilities on the Site include a gas regulator station housed in a concrete building; a second concrete data building; an anti-cathodic anode bed; and several gas pipelines, including a regional gas pipeline that crosses the harbor to South Portland. Unitil and MDOT have entered a Facilities Relocation Agreement by which MDOT is to take Unitil's existing gas facility rights, and to replace them with gas facility easements over other locations on the Site where shown on the Gas Utilities Relocation Site Plan. (See the enclosed Easement Agreement and its attached easement plans.)

The proposed Gas Facilities Relocation Work is summarized below:

The two existing concrete gas regulator and data buildings and their enclosed gas regulator facilities will be removed, and replaced with new gas regulator facilities in a pre-fabricated building and data building in a new location set back at least 200 feet from the street, between the approved MDOT container storage area to the east and the proposed future location of the cold storage facility to the west. The two new buildings will have a combined footprint of 1520 sq. ft., which is smaller than the combined 2270 sq. ft. footprint of the two existing buildings.

The fenced area of the regulator building will be accessed by two 16-foot wide gates (as recommended by the City), and two 3-foot wide personnel gates, with an access road extending to the Site's main street entrance. There will be six parking spaces within the fenced area for use by Unitil personnel, who are expected to access the facility about once a week.

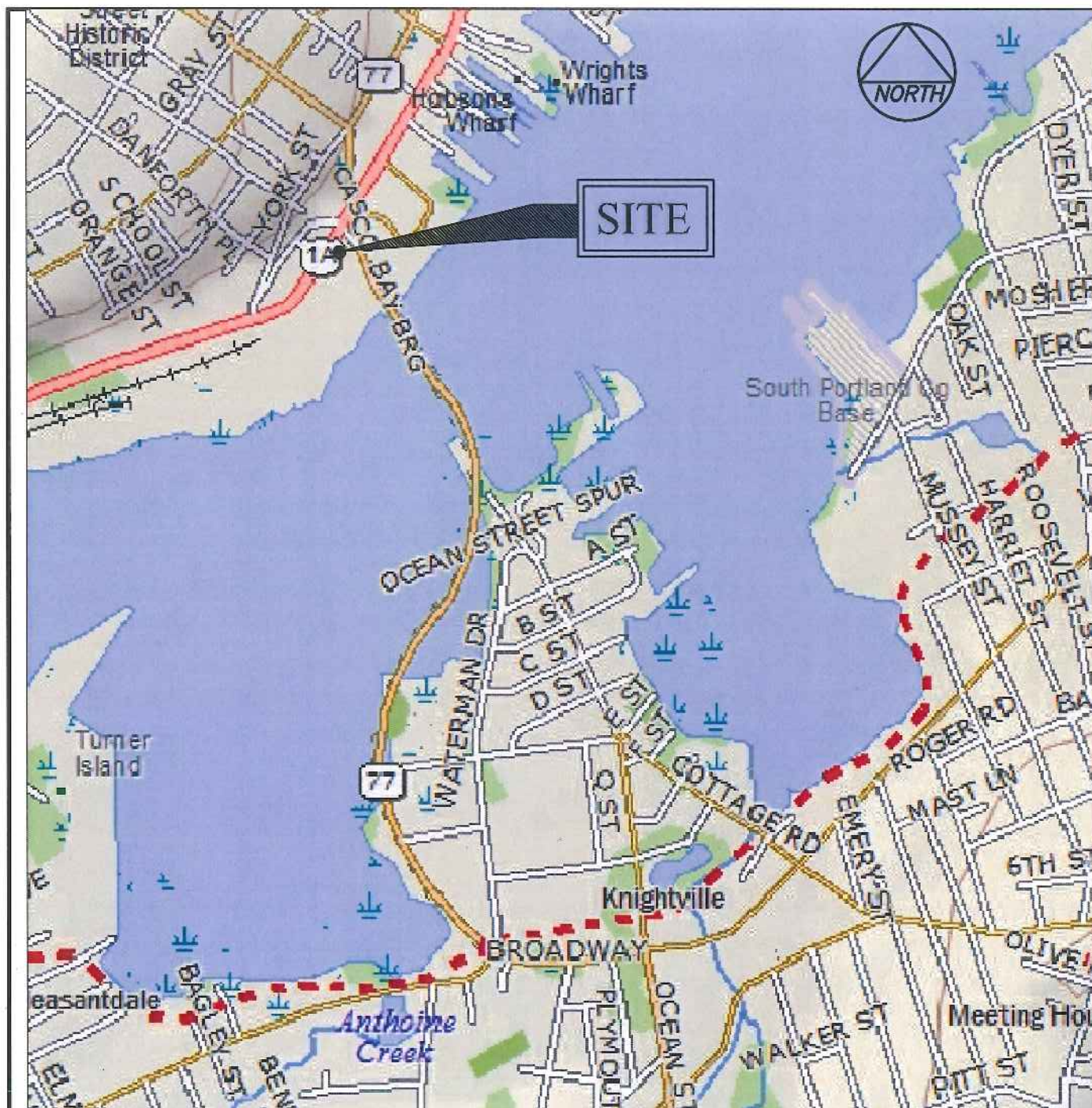
There is no separate exterior lighting. Any lights on the buildings will be facing downward and shielded.

Some of the existing gas pipelines are to be abandoned in place and replaced with new pipeline which will connect the proposed new regulator station to the existing infrastructure in West Commercial Street as well as the gas line that crosses the harbor. All pipeline work will be done outside of the high water line. Each pipeline will have isolation valves separated a minimum of 100 ft. from the regulator building which can isolate the natural gas supply to and from the regulator building. The gas pressures for all systems will be continuously monitored by supervisory control and data acquisition (SCADA) in the data building.

The existing anti-cathodic anode bed will be removed and a new anode bed will be installed off-site elsewhere in the City, under a separate City permit.

The Gas Facilities Relocation Work will benefit the City in the following ways:

1. The expanded International Marine Terminal and new cold storage facility, which cannot be built until the gas facilities are relocated, will be an economic and employment boon to the City;
2. The Gas Facility Relocation Work and coal storage facility construction will require further grading and environmental remediation of this VRAP remediation site (caused by the operation of a coal gasification plant on the Site from 1850 to 1960) resulting in further improved environmental conditions;
3. The Gas Facility Relocation Work involves the installation of new gas facilities, including a new gas regulator station and new pipelines, which will only improve service for Unitil's natural gas customers; and,
4. The Gas Facility Relocation Work will reduce its building footprint and street visibility by removing the two existing buildings near the street, and replacing them with two buildings with a reduced combined square footage, set back at least 200 feet from the street.



LOCUS MAP

NTS



Unitil

ME GAS OPERATIONS

PROJECT: **UNITIL REGULATOR AND METER STATION
RELOCATION PROJECT**
40 COMMERCIAL STREET - PORTLAND, MAINE

PROJECT NUMBER: 3612-15-2308

PROJECT MANAGER: PHT

A/E OF RECORD: AMECFW

CAD FILE: UNITIL PORTLAND G-SK01.dwg

amec foster wheeler



511 Congress St., Suite 200, Portland ME 04101
P: (207) 775-5401 F: (207) 772-4762 www.amec.com

TITLE:

LOCUS MAP

DRAWN BY: DAB

DATE: 4/08/16

SCALE: NTS

SKETCH NO:

SK-1

CITY OF PORTLAND, MAINE

PLANNING BOARD

Stuart O'Brien, Chair
Timothy Dean, Vice Chair
Elizabeth Boepple
Sean Dundon
Bill Hall
Carol Morrisette
Jack Soley

August 12, 2014

Mr. Joel Kittredge, Project Manager
Maine Department of Transportation
16 State House Station
Augusta, Maine 04333-0016

Mr. Pat Carroll
Carroll Associates
217 Commercial Street, #200
Portland, Maine 04101

Project Name: Portland International Marine
Address: 460 Commercial Street

Project ID: 2014-038
CBL: 59-A-1-3-4-7-8-11;
59-A-2-5-6-9-10 (leased)

Applicant: Maine Department of Transportation
Planner: Richard Knowland

Dear Mr. Kittredge:

On June 24, 2014 and July 8, 2014, the Planning Board considered the Portland International Marine Terminal facility expansion for the existing laydown and connecting corridor connection project. The Planning Board reviewed the proposal for conformance with the standards of the Site Plan Ordinance and Shoreland Zoning Regulations. The Planning Board voted to approve the application with the following waivers and conditions as presented below.

WAIVERS

The Planning Board voted (5-0; Hall and Soley absent) to waive the following Technical Standards.

1. The Planning Board finds that two or more criteria for sidewalk waiver, specifically criteria 2 and 3, as provided under Sec. 14-506(b), are met and therefore waives the requirement for sidewalks along the southerly sideline of Commercial Street.
2. The Planning Board finds that two or more criteria for granite curbing waiver, specifically criteria 4 and 5, as provided under Sec. 14-506(b), are met and therefore waives the requirement for granite curbing along the southerly sideline of Commercial Street.
3. The Planning Board waives the Technical Standard for Driveway Design: Maximum driveway width, Section 1.7.1.4. for IMT, Nova Seafood and Graybar as specified on the plan due to the existing constrained circulation conditions for large trucks.

4. The Planning Board waives Technical Standard for flooding as provided under Section 5.III.4.E(2) due to the capacity of the receiving water (Fore River).
5. The Planning Board waives Technical Standard for Soil Infiltration Testing, Sec V, Appendix D.4.(a) based on known conditions on the site and controlled materials to be installed with construction.
6. The Planning Board waives Technical Standard for Landscape and Landscape Preservation for the following sections: Sec. 4.2 and 4.3 – Preservation of Significant Site Features and Existing Vegetation; Sec. 4.5 – Site Landscaping: Screening and Buffers, Industrial and Commercial and Sec. 4.6 – Street Trees. Commercial, industrial and industrial developments shall provide street trees 35 to 45 feet on center along City right-of-way.
7. The Planning Board waives Technical Standard for boundary survey under Sec. 13.2 Level I Site Alteration, II and III General Standards regarding incomplete utility information, incomplete topographic information, and scale drawn to no less than 1 inch to 50 feet.
8. The Planning Board waives Technical Standard for light fixture height under Sec. 12.2.7 of 30 feet by providing fixture heights of 34 feet for the concrete pad area and 35 feet for the container storage area.

SITE PLAN REVIEW

The Planning Board voted (6 to 0; Morrisette absent) that the plan is in conformance with the site plan standards of the Land Use Code, subject to the following condition(s) of approval:

1. That the applicant shall submit a revised site plan and other related material addressing the review comments of Tom Errico (Traffic Review Consultant) memo dated July 2, 2014.
2. That the applicant shall submit a snow storage plan to allow the City to use the IMT snow storage area for snow plowed by the City adjacent to the Commercial Street concrete wall so long as it does not interfere with IMT operations.
3. That the applicant shall submit a revised plan for Planning Staff review and Planning Board approval of the concrete wall and barrier along Commercial Street.
4. City Staff shall review and approve the submitted agreements (including cross agreements), easements, a revised site plan and other relevant documents confirming appropriate cross agreements and easements for access and utilities to service the New Yard property through the IMT site or evidence of rights of access over the additional land to be acquired from the rail road for City Staff review and approval.
5. That the applicant shall submit a revised site plan with sufficient details and dimensions to clarify design intent for Planning Staff review and approval.
6. That the lighting illumination levels shall not exceed the levels shown on the submitted plan and shall meet IESNA (Lighting for Exterior Environments RP-33-99) for the

proposed use. Lighting levels within the container area (S2 and S3 light poles) and security lights within the pad area (S1A and S1B light poles) shall operate at 50% light output levels unless the yard is actively being used. The remaining type S1A light poles within the concrete pad shall only be turned on when the pad area is actively being used.

SHORELAND REGULATIONS REVIEW

The Planning Board voted (6 to 0; Morrisette absent) that the plan is in conformance with the shoreland standards of the Land Use Code.

The approval is based on the submitted plans and the findings related to site plan and subdivision review standards as contained in Planning Report for application #2014-038 which is attached.

STANDARD CONDITIONS OF APPROVAL

Please note the following standard conditions of approval and requirements for all approved site plans:

1. **Develop Site According to Plan** The site shall be developed and maintained as depicted on the site plan and in the written submission of the applicant. Modification of any approved site plan or alteration of a parcel which was the subject of site plan approval after May 20, 1974, shall require the prior approval of a revised site plan by the Planning Board or Planning Authority pursuant to the terms of Chapter 14, Land Use, of the Portland City Code.
2. **Separate Building Permits Are Required** This approval does not constitute approval of building plans, which must be reviewed and approved by the City of Portland's Inspection Division.
3. **Site Plan Expiration** The site plan approval will be deemed to have expired unless work has commenced within one (1) year of the approval or within a time period up to three (3) years from the approval date as agreed upon in writing by the City and the applicant. Requests to extend approvals must be received before the one (1) year expiration date.
4. **Final Sets of Plans** Seven (7) final sets of plans must be submitted to and approved by the Planning Division and Public Services Department prior to the release of a building permit, street opening permit or certificate of occupancy for site plans. If you need to make any modifications to the approved plans, you must submit a revised site plan application for staff review and approval.
5. **Preconstruction Meeting** Prior to the release of a building permit or site construction, a pre-construction meeting shall be held at the project site. This meeting will be held with the contractor, Development Review Coordinator, Public Service's representative and owner to review the construction schedule and critical aspects of the site work. At that time, the Development Review Coordinator will confirm that the contractor is working from the approved site plan. The site/building contractor shall provide three (3) copies of a detailed construction schedule to the attending City representatives. It shall be the contractor's responsibility to arrange a mutually agreeable time for the pre-construction meeting. (If applicable)
6. **Department of Public Services Permits** If work will occur within the public right-of-way such as utilities, curb, sidewalk and driveway construction, a street opening permit(s) is required for your site. Please contact Carol Merritt at 874-8300, ext. 8828. (Only excavators licensed by the City of Portland are eligible.)

7. **As-Built Final Plans** Final sets of as-built plans shall be submitted digitally to the Planning Division, on a CD or DVD, in AutoCAD format (*.dwg), release AutoCAD 2005 or greater.

The Development Review Coordinator must be notified five (5) working days prior to the date required for final site inspection. The Development Review Coordinator can be reached at the Planning Division at 874-8632. All site plan requirements must be completed and approved by the Development Review Coordinator prior to issuance of a Certificate of Occupancy. Please schedule any property closing with these requirements in mind.

If there are any questions, please contact Richard Knowland at (207) 874-8725.

Sincerely,



Stuart G. O'Brien, Chair
Portland Planning Board

Attachments:

1. Review Memo of Tom Errico (Traffic Review Engineer) dated July 2, 2014
2. Planning Board Report
3. City Code: Chapter 32
4. Sample Stormwater Maintenance Agreement [if applicable]
5. Performance Guarantee Packet

Electronic Distribution:

cc: Jeff Levine, AICP, Director of Planning and Urban Development
Alexander Jaegerman, FAICP, Planning Division Director
Barbara Barhydt, Development Review Services Manager
Richard Knowland, Senior Planner
Philip DiPierro, Development Review Coordinator, Planning
Marge Schmuckal, Zoning Administrator, Inspections Division
Tammy Munson, Inspection Division Director
Lannie Dobson, Administration, Inspections Division
Michael Bobinsky, Public Services Director
Katherine Earley, Engineering Services Manager, Public Services
Bill Clark, Project Engineer, Public Services
David Margolis-Pineo, Deputy City Engineer, Public Services
Doug Roncarati, Stormwater Coordinator, Public Services
Greg Vining, Associate Engineer, Public Services
Michelle Sweeney, Associate Engineer
John Low, Associate Engineer, Public Services
Rhonda Zazzara, Field Inspection Coordinator, Public Services
Mike Farmer, Project Engineer, Public Services
Jane Ward, Administration, Public Services
Jeff Tarling, City Arborist, Public Services
Jeremiah Bartlett, Public Services
Captain Chris Pirone, Fire Department
Danielle West-Chuhta, Corporation Counsel
Thomas Errico, P.E., TY Lin Associates
David Senus, P.E., Woodard and Curran
Rick Blackburn, Assessor's Department
Approval Letter File

~~XXXXXXX~~**Rick Knowland - IMT -- Final Updated Comments (July 2, 2014)**

Att. 1

From: Tom Errico <thomas.errico@tylin.com>
To: Rick Knowland <RWK@portlandmaine.gov>
Date: 7/2/2014 7:56 AM
Subject: IMT -- Final Updated Comments (July 2, 2014)
CC: Katherine Earley <KAS@portlandmaine.gov>, David Margolis-Pineo <DMP@port...

Rick – The following is a status update of previous comments and is reflective of responses provided by the applicant dated June 27, 2014.

1. The traffic signal plan includes special signal phasing for Nova Seafood. I would suggest that a City agreement with Nova Seafood be crafted related to traffic operations and a memorandum of understanding and for traffic control.

June 18th Status: The applicant shall be required to provide a draft agreement that specifies maintenance, traffic signal, pavement marking and signage requirements for review and approval. The City suggests that this be a three-party agreement (City/State/Property Owner).

Current Status: Outstanding

2. The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.

June 18th Status: The City supports a waiver from their technical standards for driveway apron material given pedestrian and truck movement conflicts. DPS requests that the driveway apron material be concrete with a color tint (to be determined in the future prior to construction) and be designed to accommodate heavy truck loads.

Current Status: This comment is for the driveway apron area, not the roadway area outside the curb line. Use of cobble for the non-driveway area is acceptable.

3. Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.

June 18th Status: For the IMT Driveway, which is proposed to be 100 feet wide, the applicant has provided a "auto-turn" graphic for a WB-67 truck. Reviewing the graphic, I believe the driveway can be narrowed, although not substantially. I would also like to understand more about the truck characteristics before rendering a final decision on the driveway width. Additionally, understanding right and left-turning movements for these large trucks will be helpful. If most are turning left and destined to the Fore River Parkway and the Veterans Bridge, there may be an opportunity to narrow the driveway on the easterly edge, which may also have a positive impact on the design of the crosswalk.

Current Status: The requested information is outstanding.

June 18th Status: I have reviewed the "auto-turn" graphics for the Nova Seafood site and I support a waiver for driveway width given site operations and that it is an existing business with unique truck access/egress requirements.

Current Status: I have no further comment.

June 18th Status: The applicant has provided a "auto-turn" analysis for one of the Graybar Driveways. The applicant shall provide a similar analysis for the second driveway and provide specific truck delivery information before approval of the widths can be provided.

Current Status: The requested information is outstanding.

4. Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.

June 18th Status: Both the Nova Seafood and Graybar driveways currently do not meet corner clearance standards and conditions will not worsen with the proposed project. Given site constraints and access and egress needs for large trucks, I support a waiver from the City's Technical standard.

5. The City is requesting that truck parking on in-bound Commercial Street be prohibited for to be specified distance in advance of the Beach Street intersection. The City will provide this restriction length.

June 18th Status: Trucks shall be prohibited from parking along Commercial Street from the new STOP bar at the signalized intersection to a point westerly of 200 feet. The applicant shall provide recommendations on how this prohibition will be regulated via signs or other measures for review and approval.

Current Status: The applicant has agreed to revised the plans to include pavement markings and signage. Final plans shall be reviewed and approved by the City.

6. The applicant should investigate the provision of a bicycle lane on Beach Street departing the intersection.

June 18th Status: The applicant has noted that adequate shoulder spaces is provided on Beach Street and no action is required. I concur with their response.

7. I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.

June 18th Status: Specific information needs to be provided by the applicant that helps the City understanding specific constraints to implementing time-of-day restrictions.

Current Status: Nova Seafood has provided the requested information and given low traffic volumes entering and exiting the site during the critical PM peak hour, no special restriction is recommended. I would suggest that the signal operations be monitored and adjustments incorporated as necessary.

8. A sidewalk waiver has been requested and a review of the supporting information will be performed.

June 18th Status: The applicant has documented that two sidewalk waiver criteria are met for the project and are based on prior IMT and New Yard applications. Given these prior decisions, specifically that an alternative route on the opposite side of Commercial Street will serve pedestrian activity in this area and that a signalized crossing will be provided at the IMT Site Driveway/Beach Street intersection, I support a waiver from providing a sidewalk along the property frontage.

9. A granite curbing waiver has been requested and a review of the supporting information will be performed.

June 18th Status: DPS is reviewing this waiver request.

10. The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.

June 18th Status: I understand the security constraints, as noted by the applicant, but I would suggest that the applicant provide an overview of the entire site and whether the layout could be modified to allow for an internal driveway connecting the existing IMT facility and the new signalized entrance that avoids going through the fenced area of the chassis yard.

Current Status: The request site overview illustrating specific constraints has not been provided.

11. A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.

June 18th Status: The applicant has noted that the contractor will be responsible for development of a construction management plan. Site plan standards require applicants to prepare a plan in conjunction with site plan approval. The applicant is required to develop a conceptual management plan that should indicate how construction will occur on Commercial Street. The plan should note how vehicular traffic, pedestrians and bicyclists will be maintained during construction and should note any peak time period restrictions for construction activity (The City has arterial time restrictions). It may be necessary that some construction activities occur at night to avoid impacts to traffic flow.

Current Status: The applicant has provided general construction management guidelines that I generally find to be acceptable. I would note that the City has specific time of day restrictions that must be complied with or requests for waivers submitted for review and approval. Approval of a complete detailed construction management plan will be required before the DPS permits are issued.

12. At the planning board workshop, there was discussion about the provision of a driveway entrance west of the project site for future development access and egress. The applicant should provide information in support of that driveway if that is to be included in the project approval.

June 18th Status: The applicant has indicated that this is not part of the project application and therefore no further action is required.

13. The City does not support the use of pavement markings to delineate pavement areas for use by large trucks.

June 18th Status: The applicant has suggested the use of cobblestones for the truck apron areas and I find this material, in general, to be acceptable. DPS shall review the product information and design details and provide approval.

14. The phasing for the intersection does not appear to be NEMA compliant. Please revise with Commercial Street as the main street, assuming an east-west phasing structure.

June 18th Status: The plans have been revised and I have no further comment.

15. The phasing sequence should begin with Commercial Street and end with Nova Seafood (currently designated as Phase 9).

June 18th Status: The plans have been revised and I have no further comment.

16. The peak hour cycle length seems unusually long for an intersection with this type of geometry, going as long as 150 seconds during the PM peak hour. Discussion should be provided as to why shorter cycle lengths cannot be achieved.

June 18th Status: The applicant has indicated that this cycle length is necessary for providing optimal level of service conditions. The long cycle length is related to the long Nova Seafood signal phase. Given this requirement, I find their response to be acceptable. I would note that the City can monitor traffic conditions and incorporate signal timing adjustments in the future.

17. The pedestrian timing does not appear to provide sufficient crossing time, particularly for Commercial Street. Please confirm use of a standard 3.5 feet per second pedestrian crossing time from curb to curb.

June 18th Status: The plans have been revised and I have no further comment.

18. Given the sight distance issues for this intersection, the all-red clearance times should likely be extended.

June 18th Status: The plans have been revised and I have no further comment.

19. The City's technical standards are in the process to migrating to infra-red video detection as a requirement. The City now requires that either the cameras used with the VIP processors be the FLIR FC series or that the solution be based on the FLIR TrafiSense cameras.

June 18th Status: The plans have been revised and I have no further comment.

20. Please specify four-inch conduit to provide additional future wiring capabilities.

June 18th Status: The plans have been revised and I have no further comment.

21. Please provide one-piece pedestrian poles.

June 18th Status: The plans have been revised and I have no further comment.

22. All pole bases, pull boxes and controller conduits should be sealed to prevent access by rodents and other small animals.

June 18th Status: The plans have been revised and I have no further comment.

23. Please confirm the method of advance notification when the Commercial Street westbound approach is red to account for minimal sight distances passing by Nova Seafood.

June 18th Status: The applicant has added a supplemental signal head and I have no further comment.

24. It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway a exit only driveway. The plans do not reflect this.

June 18th Status: The applicant should include signs and pavement markings that support the one-way access/egress conditions for review and approval.

Current Status: The applicant has indicated that the requested information is to be provided by Nova Seafood. DPS will not issue any permits until plans have been submitted for review and approval.

25. There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.

June 18th Status: The applicant shall provide a draft maintenance agreement for review and comment.

Current Status: This item is outstanding.

26. The applicant should note the material for the Nova Seafood island.

June 18th Status: The applicant has provided the detail and I find the material to be acceptable.

27. The applicant should provide details for the area between the sidewalk and the Nova Seafood island.

June 18th Status: The applicant has indicated that this area will have cobblestone material. I find this material to be acceptable. I have no further comment.

28. The left-turn bay shadowed island is depicted as paint. The applicant should investigate other material treatment for longevity purposes.

June 18th Status: The City supports the use of paint in this area. I have no further comment.

29. During Casco Bay Bridge openings, traffic may be backed up into the new traffic signalized intersection. The applicant should note whether there are any provisions for this scenario from a traffic signal perspective.

June 18th Status: No special provisions have been identified and therefore I have no further comment.

30. The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.

June 18th Status: Within the project limits along Commercial Street, a formal bicycle lane should be continuously marked and signed as appropriate. The plans should be revised to reflect this.

Current Status: The applicant has agreed to make the noted changes and I have no further comments.

31. The direction sign that note Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.

June 18th Status: A condition of approval shall be included that notes signage for the project is subject to change with final recommendations from the City to be provided prior to construction.

32. The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.

June 18th Status: The applicant has agreed to make this change and revised plans will be reviewed for approval.

33. The length of curbing at the Nova Seafood driveway is being eliminated. Justification on this change shall be provided.

June 18th Status: I have reviewed the "auto-turn" graphics and given Nova Seafood's site needs, I have no further comment.

34. A fire hydrant is located in the middle of the sidewalk east of the easternmost Nova Seafood driveway. It would be beneficial if this hydrant could be relocated.

June 18th Status: No further action is requested of the applicant on this issue.

35. The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.

June 18th Status: A condition of approval shall be included that notes signage for the project is subject to change with final recommendations from the City to be provided prior to construction.

36. It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.

June 18th Status: Enhanced pavements markings shall be provided in the subject area and final approval of the details shall be provided prior to construction.

37. The applicant should confirm that adequate illumination will be provided at the two crosswalk locations.

June 18th Status: The applicant has noted that the traffic signal mast arm support will include light fixtures and provide adequate illumination. I have no further comment.

Additional Comment

- **June 18th Status:** DPS requests that the shared use path along Commercial Street within the project limits consist of brick material meeting city standards and the width be reduced to 8-feet. A revised plan that meets this directive shall be reviewed and approved by DPS.

Current Status: The City of Portland views the proposed shared use path to be a secondary facility for serving pedestrians and bicyclist. The long-term vision is the provision of a landside trail that will be located off the street. The path being constructed for this project will only serve temporary use, until the off-road path is constructed and therefore the City does not believe it to be practical to build a full

width facility under this project. The City continues to request construction of a 8-foot facility.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TYLIN INTERNATIONAL

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"One Vision, One Company"

Please consider the environment before printing.

Evidence of Right, Title, or Interest

Please see the attached easement.

EXHIBIT 3
Unitil Easement and Other Rights

Unitil has ownership, easement and other rights under which Unitil has the right to operate and maintain the Existing Facilities on the Acquired Property, as follows:

1. An easement to enter upon the Former New Yard Property for the installation, repair, replacement, and maintenance of gas mains, etc. in the operation of a Gas Regulator Station as set forth in the instrument from New Yard, LLC to Northern Utilities, Inc., d/b/a Unitil, dated August 2, 2013 and recorded in the Cumberland County Registry of Deeds in Book 30895, Page 317.
2. An easement to enter upon the Former New Yard Property for the purpose of environmental remediation and protection, including investigation, implementation, and monitoring, and installation of utilities for such investigation, implementation and monitoring, as described in the Voluntary Response Action Program (the "VRAP") Remediation Plan as approved by the Maine Department of Environmental Protection (the "DEP"), and to manage existing gas facilities as more fully set forth in the instrument from New Yard, LLC to Northern Utilities, Inc., d/b/a Unitil, dated August 2, 2013 and recorded in said Registry of Deeds in Book 30895, Page 321.
3. A twenty foot right of way and the right to lay and maintain gas and water pipes within said right of way as described and reserved in the Warranty/Release Deed from the Portland Gas Light Company to Maine Central Railroad Company dated May 5, 1897 and recorded in said Registry of Deeds in Book 648, Page 488.
4. A twenty foot wide right of way and the right to lay, maintain and repair gas and water pipes and maintain and repair a well and as further described and reserved in the Release Deed from the Portland Gas Light Company to the Portland & Kennebec Railroad Company dated October 6, 1866 and recorded in said Registry of Deeds in Book 346, Page 376.
5. As stated in the Notice of Condemnation filed by the Department on April 30, 2014 and recorded in said Registry of Deeds in Book 31470, Page 191 (the "Notice of Condemnation"), rights to "any existing natural gas and propane facilities, including without limitation, natural gas and propane pipelines, buildings, associated fixtures and related appurtenances, improvements and other personal property that are owned by or are in the custody and control of ...Northern Utilities, Inc., d/b/a Unitil...", including "all existing gas mains, laterals, services, equipment, fixtures, containment and other appurtenances thereto currently owned by Unitil ("Gas Facilities")";
6. The right to enforce the Department's representation, as stated in its Notice of Condemnation, that the Department "shall not construct or permit to be constructed any building, house, structure, obstruction or improvement of any kind on or over the existing Gas Facilities without Unitil's prior written consent" and that the Department "agrees that it will not cause to be carried out any excavation, change of grade, or water impoundment affecting the Gas Facilities without Unitil's prior written consent";

7. The rights reserved to Unitil through the Notice of Condemnation to enter upon the Former Unitil Property for the following purposes:
- a. To repair, replace, maintain, operate, inspect, patrol, protect and remove on, in, over, across and under the Former Unitil Property all existing gas mains, laterals, services, equipment, fixtures, containment and other appurtenances thereto currently owned by Unitil (the "Gas Facilities");
 - b. To survey, trim or remove within the Former Unitil Property, existing or future occurring vegetation that interferes with the Gas Facilities;
 - c. To take such other action as is incident or accessory to the foregoing actions;
 - d. To cross the Former Unitil Property to access the Gas Facilities, including by vehicle and machinery in a manner that does not interfere with the ongoing activities of the Department;
 - e. To conduct such environmental remediation and protection, including investigation, implementation, and monitoring, as well as installation of utilities for such investigation, implementation and monitoring, as described in Unitil's VRAP Remediation Plan (the "Plan") as approved by the DEP and as the DEP may hereafter amend it, and further as the DEP may hereafter certify it as being complete, inclusive of and extending to the terms in the DEP's certification of the Plan's completion and its regulatory requirements;
 - f. To access the Former Unitil Property via the right of way running from West Commercial Street to the portion of the Former Unitil Property identified as Parcel 2 and the right of way connecting Parcel 2 and Parcel 3, as such Parcel 2 and Parcel 3 are identified on the Department Right of Way Map referenced in the Notice of Condemnation, or at such other reasonable location as may be directed by the Department; and
 - g. To use the Former Unitil Property as necessary to fulfill the purposes described above.

In itemizing the above rights, Unitil does not waive any rights it may have under federal, state or local regulation or statute.

EXHIBIT 4
to Utility Relocation Settlement Agreement:
Easement Agreement

EXHIBIT 4
EASEMENT AGREEMENT

This Easement Agreement (this "Easement Agreement") is made as of the ____ day of _____, 2016 (the "Effective Date"), by and between the State of Maine, acting by and through the Maine Department of Transportation, a state agency, its successors and assigns (the "Department"), and Northern Utilities, Inc. d/b/a Unitil, a New Hampshire corporation with a mailing address of 6 Liberty Lane West, Hampton, New Hampshire 03842, its successors and assigns ("Unitil").

RECITALS

A. On April 30, 2014, the Department recorded a Notice of Condemnation (the "Notice of Condemnation") in the Cumberland County Registry of Deeds in Book 31470, Page 191, and acquired, by condemnation, certain land located southerly of West Commercial Street in Portland, Maine, including (i) two parcels of land formerly owned by Unitil (the "Former Unitil Property"), and (ii) an abutting parcel of land formerly owned by New Yard, LLC (the "Former New Yard Property").

B. A copy of the Right of Way Map referenced in the Notice of Condemnation is attached hereto as Schedule 1, on which (i) the Former Unitil Property is depicted as "Parcel 2" (which Parcel 2 includes the acreage depicted as "Parcel 4") and "Parcel 3," and (ii) the Former New Yard Property is depicted as "Parcel 1."

C. The Former Unitil Property and the Former New Yard Property are referred to collectively in this Easement Agreement as the "Acquired Property."

D. The Department excepted from its Notice of Condemnation certain easement rights to be retained by Unitil, and all existing natural gas facilities, including, without limitation, natural gas pipelines, buildings, associated fixtures and related appurtenances, improvements and other personal property owned by or in the custody and control of Unitil. Through the Notice of Condemnation, the Department further reserved to Unitil the right to enter upon the Acquired Property for all purposes necessary to continue Unitil's natural gas facilities operations.

E. Through a subsequent Notice of Taking recorded on _____, 2016, the Department acquired portions of these retained or reserved easement rights from Unitil while leaving other rights undisturbed, and reserving a license to Unitil to continue operating its utility facilities on the Acquired Property until such time as permanent facility relocations have been completed and replacement easements have been conveyed. This Easement Agreement fulfills the Department's easement conveyance obligations in accordance with the terms of a Utility Relocation Settlement Agreement between the parties dated _____, 2016 (the "Relocation Agreement"), duplicate originals of which are on file with the Department and Unitil.

1. **Definitions.**

As used in this Easement Agreement, the following terms have the following meanings:

A. "Gas Pipeline Facilities" means pipelines, gas mains, laterals, services, equipment (including for CP measures and AC mitigation), containments, associated fixtures, and related appurtenances, improvements, and other personal property, including related power and communications lines and appurtenances.

B. "Gas Regulator Station Facilities" means gas mains, laterals, regulator and data buildings, gas heater, filter, pig launcher, and satellite dish, equipment, fixtures, containment and other structures and appurtenances thereto, including, without limitation, an aboveground natural gas regulator station as shown in Schedule 2 attached hereto or as otherwise installed, and related power and communications lines and appurtenances.

2. **Exclusive Gas Regulator Station Easement.**

The Department hereby grants to Unitil an exclusive, perpetual, and assignable easement in gross (the "Gas Regulator Station Easement") over, on, and under the approximately 160-foot by 65-foot area of land depicted and described in Schedule 3 attached hereto (the "Gas Regulator Station Easement Area").

The terms and conditions of the Gas Regulator Station Easement are:

i. **Unitil Rights in Gas Regulator Station Easement Area:** Unitil has the right to access, install, construct, inspect, operate, protect, maintain, repair, and replace the Gas Regulator Station Facilities, and the right to survey, trim, and/or remove within the Gas Regulator Station Easement Area any now-existing or future-occurring vegetation, snow, ice, structures, roads or other matter of any kind which may interfere with the Gas Regulator Station Facilities, and to take such other action as is incident or accessory to the foregoing rights.

ii. **Scope of Department's Use in Gas Regulator Station Easement Area:** The Department will not construct or permit to be constructed any building, house, structure, obstruction, or improvement, including without limitation concrete or matter of any kind, or cause to be carried out any excavation, change of grade, or water impoundment, within, on, over, or under the Gas Regulator Station Easement Area.

iii. **Allocation of Environmental Liability in the Gas Regulator Station Easement Area:** The Gas Regulator Station Easement Area is located principally on the Former New Yard Property. The Relocation Agreement includes an allocation of Environmental Liability for Environmental Conditions (as those terms are defined in the Relocation Agreement) on those portions of the Former New Yard Property that are within the easement areas described in this Easement Agreement.

iv. The terms and conditions associated with any other easement rights conveyed by this Easement Agreement shall be subordinate to the terms and conditions associated with the Gas Regulator Station Easement in any areas where the boundaries of such easements are determined to overlap or encroach upon the Gas Regulator Station Easement Area.

3. **Non-exclusive Pipeline Corridor Easements.**

A. **Inland Pipeline Corridor Easement.** The Department hereby grants to Unitil a non-exclusive, perpetual, and assignable easement in gross (the "Inland Pipeline Corridor Easement"), on the terms and conditions set forth in subsection E of this Section 3, over, on, and under the area of land depicted and described in Schedule 3 (the "Inland Pipeline Corridor Easement Area").

B. **Shoreland Pipeline Corridor Easement.** The Department hereby grants to Unitil a non-exclusive, perpetual, and assignable easement in gross (the "Shoreland Pipeline Corridor Easement"), on the terms and conditions set forth in subsection E of this Section 3, over, on, and under the area of land depicted in Schedule 3 (the "Shoreland Pipeline Corridor Easement Area").

C. **IMT Service Line Corridor Easement.** The Department hereby grants to Unitil a non-exclusive, perpetual, and assignable easement in gross (the "IMT Service Line Corridor Easement"), on the terms and conditions set forth below in subsection E of this Section 3, over, on, and under the area of land depicted in Schedule 3 (the "IMT Service Line Corridor Easement Area").

D. **Corridor Easement Areas.** The Inland Pipeline Corridor Easement Area, the Shoreland Pipeline Corridor Easement Area, and the IMT Service Line Corridor Easement Area are referred to collectively as the "Corridor Easement Areas."

E. **Terms and Conditions of the Inland Pipeline Corridor Easement, the Shoreland Pipeline Corridor Easement, and the IMT Service Line Corridor Easement.**

The terms and conditions of the Inland Pipeline Corridor Easement, the Shoreland Pipeline Corridor Easement, and the IMT Service Line Corridor Easement are:

i. **Unitil Rights in the Corridor Easement Areas:** Unitil has the right to access, install, construct, inspect, operate, protect, maintain, repair, and replace Gas Pipeline Facilities in the Corridor Easement Areas, and the right to survey, trim, and/or remove within the Corridor Easement Areas any now-existing or future-occurring vegetation, snow, ice, buildings, or foundations which may interfere with the Gas Pipeline Facilities, and to take such other action as is incident or accessory to the foregoing rights. After the completion of the Facility Relocation Work (as that term is defined in the Relocation Agreement), Unitil will confer with the Department prior to undertaking any installation, relocation, or other activity within the Corridor Easement Areas in order to minimize any conflict with other uses in the Corridor Easement Areas.

{P1081549.1}

ii. **Scope of Department's Use in the Corridor Easement Areas:** The Department will not construct or permit to be constructed any building or foundation within the Corridor Easement Areas. In addition, (a) the Department will not construct or permit to be constructed any structure, obstruction, or improvement within the Corridor Easement Areas that interferes with the safety and integrity of, or with Unitil's access to, the Gas Pipeline Facilities, and (b) the Department will not cause to be carried out any excavation, change of grade, or water impoundment within, on, over, or under the Corridor Easement Areas that interferes with the safety and integrity of, or with Unitil's access to, the Gas Pipeline Facilities. Prior to undertaking any activity within the Corridor Easement Areas that is not prohibited by the preceding two sentences, the Department will confer with Unitil in order to minimize any conflict with Unitil's installations. The Department retains the right to grant utility easements within the Corridor Easement Areas to other entities, so long as such easements do not interfere with the safe operation of Unitil's installations.

iii. **Allocation of Environmental Liability in the Corridor Easement Areas:** The Inland Pipeline Corridor Easement Area, the IMT Service Line Corridor Easement Area, and a portion of the Shoreland Pipeline Corridor Easement Area are located on the Former New Yard Property. The Relocation Agreement includes an allocation of Environmental Liability for Environmental Conditions (as those terms are defined in the Relocation Agreement) on those portions of the Former New Yard Property that are within the easement areas described in this Easement Agreement. The allocation of Environmental Liability for Environmental Conditions on the portion of the Shoreland Pipeline Corridor Easement Area that is located on the Former Unitil Property is governed by a separate Environmental Agreement that applies to the Former Unitil Property that is referenced in the Relocation Agreement.

4. **Non-exclusive Remediation Easement.**

The Department hereby grants to Unitil a non-exclusive and assignable easement in gross (the "Remediation Easement") to enter upon the Acquired Property for the purpose of such environmental remediation and protection, including investigation, implementation, and monitoring, and installation of utilities, equipment, or any natural or manufactured materials for such investigation, implementation, and monitoring, as described in Unitil's Voluntary Response Action Program ("VRAP") Remediation Plan as approved by the Maine Department of Environmental Protection ("DEP") by letter dated June 1, 2012, a copy of which is on file with the DEP, incorporated herein by reference and as the DEP may hereafter amend it. This Remediation Easement shall continue for so long as Unitil has continuing obligations either under the VRAP or under any certificate of completion issued by the DEP. The Department's grant of this Remediation Easement does not create or imply environmental liability on the part of Unitil.

5. **Non-Exclusive Access Easement.**

The Department hereby grants to Unitil a non-exclusive, perpetual, and assignable easement in gross (the "Access Easement") to cross and use the area of land depicted and described in Schedule 3 (the "Access Easement Area") to access the Gas Regulator Station Easement Area, the Corridor Easement Areas, and any other area on the Acquired Property where Unitil is deemed by any regulatory entity to have environmental liability (collectively the "Areas to be Accessed").

The terms and conditions of the Access Easement are:

- i. Unitil has the right to use the Access Easement Area to access the Areas to be Accessed, by foot, vehicle, machinery, equipment, or other means, (a) to install, construct, inspect, operate, protect, maintain, repair, and replace its Gas Pipeline Facilities and Gas Regulator Station Facilities, (b) to survey, trim, and/or remove any now-existing or future-occurring vegetation, snow, or ice which may interfere with the Gas Pipeline Facilities or Gas Regulator Station Facilities, (c) to investigate, remediate, and/or monitor any other area on the Acquired Property where Unitil is deemed by any regulatory entity to have environmental liability, and (d) to take such other action as is incident or accessory to the foregoing rights ("Right of Access"). Clause (c) of the preceding sentence does not create or imply environmental liability on the part of Unitil.
- ii. Unitil's Right of Access includes the right, but not the obligation, to maintain and improve the Access Easement Area as Unitil deems necessary to use the Access Easement Area, so long as Unitil obtains approval of the Department in advance, which shall not be unreasonably withheld.
- iii. The Department may relocate the Access Easement Area so long as such relocation is at no cost to Unitil and Unitil's Right of Access is not materially impaired.

6. **Gas Facilities are Unitil's Property.**

The Gas Pipeline Facilities and the Gas Regulator Station Facilities, whether fixed to the realty or not, shall be and remain Unitil's property.

7. **Binding on Successors and Assigns.**

This Easement Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns. It may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

8. **Choice of Law.**

This Easement Agreement is governed by, and will be construed and enforced in accordance with, the laws of the State of Maine (without regard to conflicts-of-law principles that would require the application of any other law).

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have set their hands and seals as of the date first set forth above.

MAINE DEPARTMENT OF TRANSPORTATION

Witness

By: _____
David Bernhardt, Commissioner

NORTHERN UTILITIES, INC., d/b/a UNITIL

Witness

By: _____
Printed name: _____
Its: _____

STATE OF MAINE
COUNTY OF KENNEBEC, SS

_____, 2016

Then personally appeared the above-named David Bernhardt, in his capacity as Commissioner of the Maine Department of Transportation, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act of deed of said Maine Department of Transportation.

Before me,

Notary Public/Maine Attorney at Law
Printed Name: _____
Commission Expires: _____

STATE OF _____
COUNTY OF _____, SS

_____, 2016

Then personally appeared the above-named _____, in his capacity as Senior Vice President of Northern Utilities, Inc., d/b/a Unitil, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act of deed of said Northern Utilities, Inc., d/b/a Unitil.

Before me,

Notary Public/Maine Attorney at Law
Printed Name: _____
Commission Expires: _____

Evidence of State and/or Federal Permits

Natural Resource Protection Act – Permit-by-Rule

A Permit-by-Rule will be obtained for the portion of the gas line relocation that is located within 75 feet of the high water line. A copy of final approval will be provided to the City of Portland upon receipt.

Stormwater

Please see Section 11 of this application for a revised Stormwater Report.

Site Location of Development

To be reviewed by DEP as an amendment to its May 27, 2014 General SLODA permit to the MDOT for its Project site, approval #L-26347-TP-A-N.

Summary of Compliance with Zoning Requirements

Division 18.5 Waterfront Port Development Zone

Section 14-318.5. No Adverse Impact on Marine Uses.

(a) *The proposed nonwater-dependent use will displace an existing water-dependent use;*

No change from previous submittal. The proposed project involves the relocation of existing, on site utilities and will not result in the displacement of a water dependent use.

(b) *The proposed use will reduce existing commercial vessel berthing space;*

No change from previous submittal. The proposed project involves the relocation of exiting, on site utilities and will not reduce existing commercial vessel berthing space. The current waterfront is not used for vessel berthing.

(c) *The proposed nonwater-dependent use, structure or activities, including but not limited to access, circulation, parking, dumpsters, exterior storage or loading facilities, and other structures, will unreasonably interfere with the activities and operation of existing water-dependent uses or significantly impede access to vessel berthing or other access to the water by water-dependent uses;*

No change from previous submittal. The proposed utility relocation is a non-water-dependent use and will not reduce or inhibit public access to the water. The project site is currently private property with no public access to the water.

Section 14-320. Conditional Uses.

(a) 4. *Public.*

Utility substation, including sewage collection and pumping stations, water pumping stations, transformer station, telephone electronic equipment enclosures and other similar structures, provided that such structures are located more than one hundred (100) feet from the water.

This project qualifies as a Conditional Use under (a) 4 as defined above. A Conditional Use application has been submitted under separate cover.

Section 14-320.2 Dimensional Requirements.

(a) Minimum lot size: None.

(b) Minimum frontage: None.

(c) Minimum yard dimensions:

Front setback: None

Side setback: None

Rear setback: None

Setback from pier line: Minimum setback of 5' from edge of the pier. **Not applicable**

(d) Maximum Lot coverage: One hundred (100) percent

(e) Maximum Building Height: forty-five (45) feet. **Not applicable**

Sec. 14-320.3 Performance Standards

All uses in the waterfront port development zone shall comply with the following standards:

- (a) *Outdoor storage of materials:* Outdoor storage of commodities and materials accessory to normal conduct of business, except pilings and/or cranes, shall be permitted to a maximum height of forty-five (45) feet, and such materials shall be entirely contained, including runoff contaminants and residual material, within a designated area within the lot boundaries.

No change from previous submittal. The proposed utility relocation will not result in the outdoor storage of materials.

- (b) *Noise:*

No change from previous submittal. The proposed utility relocation will result in no additional noise impact to the site with the exception of short-term sound impacts generated by construction activities.

- (c) *Vibration:*

No change from previous submittal. The proposed utility relocation will not result in the generation of vibrations.

- (d) *Federal and State environmental regulations:*

No change from previous submittal. The proposed utility relocation will comply with all federal and state environmental statutes and regulations regarding emissions into the air.

- (e) *Discharges into harbor areas:*

No change from previous submittal. The proposed utility relocation will not result in any discharges into the harbor areas.

- (f) *Storage of vehicles:*

No change from previous submittal. The proposed utility relocation will not result in unregistered vehicles being stored on site.

- (g) *Landfill of docking and berthing areas:*

Not Applicable

- (h) *Off-street parking:*

The site plan of the proposed utility relocation provides for six (6) off-street parking spaces for use by Unitil personnel when accessing the regulator building.

- (i) *Off-street loading:*

Not Applicable

- (j) *Shoreland and flood plain management regulations: Any lot or portion of a lot located in a Shoreland Zone or Flood Hazard Zone shall be subject to the requirements of division 26 and/or division 26.5*

A portion of the gas line easement is located within the Shoreland Zone. See the summary of requirements of Division 26 at the end of this section.

- (k) *Lighting:*

The proposed Regulator and Control Buildings will utilize the approved lighting plan for the IMT as well as will require some additional lighting. An additional four (4) utility lights to be located above the regulator building access points and one (1) utility light for the control building. There are two (2) Red LED warning lights to be located on the regulator building. These will only illuminate if a certain level of gas accumulates inside the building.

All lights on the buildings will be facing downward and shielded. None of the proposed lights are to be positioned directly facing Commercial Street or the harbor. The regulator building has four (4) access points; two (2) on the west side of the building (facing the cold storage facility) and two (2) on the east side of the building (facing the container storage area). The access point for the control building is towards the east.

A copy of the light bulb specs for the exterior utility lights is provided at the end of this section.

- (l) *Signs:*

There will be one steel 24" x 24" sign (with "Unitil" and an emergency number) fastened to the chain link fence around the Regulator and Control Building. A photographed sign example is provided at the end of this section.

- (m) *Storage of pollutants and oily wastes:*

Not Applicable. There will be no storage of pollutants or oily wastes on site.

- (n) *Compatibility of nonmarine uses with marine uses:*

No change from previous submittal. The proposed utility relocation will not interfere with the existence of marine uses not significantly impede access to vessel berthing or other access to the water by existing or potential marine uses.

Division 26 Shoreland Regulations

Section 14-449 Land Use Standards

(a) *Principal and accessory structures:*

1. *All principal and accessory structures shall be set back at least seventy-five (75) feet horizontal distance, from the normal high water line of water bodies...except that in the following zones the setback shall be as indicated:*

W-PD Zone: No setback required

There is no required shoreland setback in the Waterfront Port Development Zone. The Regulator and Control buildings and the associated access drive will not be located within 75 feet of the normal high water line of a water body.

2. *Development activities within the shoreland zone are reviewed by the Zoning Administrator for compliance with required setbacks of this Division. Submission of plans for such development activity shall be prepared by competent professionals, based upon a boundary survey.*

Not applicable. There is no required setback within the W-PD Zone. The Regulator and Control Buildings and associated drive are not proposed to be located within the 75 feet of the normal high water line of a water body. See Appendix A for the Site Plan.

3. *The lowest floor elevation or openings of all buildings and structures including basements shall be elevated at least one (1) foot above the elevation of the one hundred (100) year flood, the flood of record, or in the absence of these, the flood as defined by soil types identified as recent flood plain soils.*

The Regulator and Control buildings are to be located at least one foot above the elevation of the one hundred year flood. See Appendix A for the Site Plan

4. *Notwithstanding the requirements of this section, stairways or similar structures may be allowed with a permit from the building authority to provide shoreline access in areas of steep slopes or unstable soils.*

Not Applicable.

- (b) *Piers, docks, wharves, bridges and other structures and uses extending over or below the normal high water line of a water body or within a wetland...*

Not Applicable.

- (c) *Clearing or removal of vegetation: The clearing or removal of vegetation standards of this section shall not apply to the following zones: WPD*

Not Applicable.

(d) Erosion and sedimentation control:

See Section 11 for the Erosion and Sedimentation Control Plan.

(e) Soils:

No change from previous submittal.

(f) Water Quality:

The proposed project will not result in the deposit on or into the ground or discharge to a water body any pollutant that would impair the designated use or the water classification of a water body. See Section 11 for the Stormwater report.

(g) Archaeological sites:

No change from previous submittal.

(h) Installation of public utility service:

The proposed project involves the re-location of existing gas lines which will not need utility service. The associated regulator and control buildings will need access to electrical service, however the proposed project site is a pre-developed site with many utilities in place. All applicable utility service companies will be contacted and coordinated with to insure the proper installation of any necessary new services.

(i) Essential services:

No change from previous submittal.

(j) Roads and driveways:

The proposed access drive will connect the regulator building to the previously approved drive on the IMT plan. The proposed relocated regulator building will utilize the existing IMT entrance. See Appendix A for the Site Plan

(k) Parking areas:

There are six (6) parking spaces proposed for this project, none of which are to be located within seventy-five (75) feet from the normal high-water line. There is no minimum setback requirement for parking in the WPD Zone.

(l) Septic waste disposal:

No change from previous submittal. The proposed regulator building will not have any domestic type sewer connection.

(m) Stormwater runoff:

As described in the previous submittal, stormwater from the site will tie into an existing City owned CSO that discharges into the Fore River. The originally submitted stormwater Report has been revised to reflect the addition of the Regulator and Control buildings, the associated drive and parking. See Section 11 for the stormwater report.

(n) Agriculture:

Not Applicable. No change from previous submittal.

(o) General site plan features:

The applicant feels that the proposed amendments to the project meet the intent of the Shoreland Zone regulations.

Hazardous area

Hazard•Gard® EVLL LED Luminaire

Primary applications

Used for general lighting in areas where flammable or explosive vapors or gases are present, such as petroleum refineries, chemical and petrochemical plants, oil terminals, gas plants, drilling platforms and wastewater treatment plants.

Luminaire models

Model Number	Equivalent HID Luminaire	Typical Energy Savings/Lifetime
EVLL5L	100W-150W	Up to 62% reduction in energy costs and 60,000 hours of continuous operation!
EVLL7L	150W-175W	
EVLL9L	175W-250W	
EVLL11L	250W-320W	
EVLL13L	320W-400W	

Certifications & compliances

- Class I, Division 1, Groups B, C, D
- Class I, Zone 1, Groups IIB + H₂, IIB, IIA
- Class II, Groups E, F, G
- Class III, Simultaneous Presence
- UL844; UL1598; UL1598A
- CSA C22.2 No. 137
- Ex II 2G Ex d IIC (Zone 1, 2) (Pending)
- Ex II 2D Ex tD A21 IP66 (Zone 21, 22) (Pending)
- NEMA 4X, IP66

Electrical ratings

- Voltages: 100-277 VAC, 347/480 VAC, 108-250 VDC

Options & accessories

- Trunnion Mount
- Guard
- Color Temperature: Warm White (3000K)*
*available on 5L-11L models only



Energy-efficient and globally certified explosionproof workhorse for general area and high bay lighting applications

Design features

- A Retrofittable to install base** - Adapter available for connection to existing Hazard•Gard® EVI, EVLP and EVM modules.
- B Quick-connect design** - Install and wire the mounting module, then simply screw in the luminaire.
- C Factory sealed** - No external sealing fittings required in Groups B, C and D.
- D 60,000 hours rated life** - Eliminates the need for frequent lamp replacement.
- E Shock- and vibration-resistant** - Solid-state luminaires have no filaments or glass components that could break, greatly reducing the risk of premature failure.



WARNING

Natural Gas Facility



Unitil

IN THE EVENT OF EMERGENCY CALL

866-900-4115

HIGH PRESSURE NATURAL GAS

NO TRESPASSING

Summary of Proposed and Existing Easements

Existing easements, encumbrances, and other burdens were provided in the previously approved submittal.

Proposed Easements for the proposed gas line and regulator building relocation are delineated on the enclosed Site Plan (Appendix A) and described as follows:

The Gas Facility Relocation Project is on Property owned by the State of Maine, acting through the Department of Transportation. Unitil's right, title and interest to locate and operate gas facilities on the Property will be pursuant to easements granted to Unitil by the Department in accordance with Unitil and the Department's executed Gas Facilities Relocation Agreement. A copy of the Easement Agreement (Exhibit 4 to the Relocation Agreement) is attached as Application Attachment [X]. The Easement Agreement describes Unitil's Gas Facilities easements on the Property, including inland, shorefront and IMT pipeline corridor easements, a gas regulator station easement, and an access easement (collectively, "Easements").

Electric Easement: The Access Easement, Inland Pipeline Corridor Easement and the Gas Regulator Station Easement are subject to an electric utility easement, including two poles, that the Department granted to Central Maine Power Company in 2015, by deed recorded in the Cumberland County Registry of Deeds in Book __, Page __, and amended in 2016 by an amendment deed recorded in the Cumberland County Registry of Deeds in Book __, Page __.

Co-Location and Shared Use Rights Retained by the Department: The Gas Regulator Station Easement is exclusive to Unitil. The remaining Easements are non-exclusive, and are subject to co-located uses so long as such uses do not interfere with, or compromise the integrity of Unitil's gas facilities.

Covenant: As to all the Easement areas, the Department covenants in the Easement Agreement not to "construct or permit to be constructed any building or foundation...[or] any structure, obstruction, or improvement...that interferes with the safety and integrity of, or with Unitil's access to, [Unitil's] Gas Pipeline Facilities [and not to] cause to be carried out any excavation, change of grade, or water impoundment...that interferes with the safety and integrity of, or with Unitil's access to, the Gas Pipeline Facilities."

Environmental Liability Allocation: The Easements are subject to and benefitted by Unitil's agreement with the Department, set forth in the Gas Facilities Relocation Agreement, allocating environmental liability for the Easement areas' existing environmental conditions. This environmental liability agreement is in addition to Unitil's and the Department's 2014 Environmental Liability for Environmental Conditions Agreement that applies to that part of the Shoreland Pipeline Corridor Easement Area subject to Unitil's VRAP remediation plan, which plan was completed in 2015, as certified by the Maine Department of Environmental Protection.

Evidence of Financial Capacity

Northern Utilities, Inc., d/b/a Unitil, is a natural gas public utility regulated by the Maine Public Utilities Commission. It is the successor corporation of the Portland Gas Light Company, founded in Maine in 1849, and is a wholly owned subsidiary of **Unitil Corporation**. It provides natural gas services to approximately 62,200 residential, commercial and industrial customers in 44 communities, from Plaistow, New Hampshire and northerly to South Portland, Portland, and Lewiston-Auburn. Its commercial base includes healthcare, education, government and retail customers, and its industrial base includes manufacturers in the automobile, housing, rubber, printing, textile, pharmaceutical, electronics, wire and food production industries as well as a military installation.

Northern Utilities' parent company, **Unitil Corporation**, is an interstate electricity and natural gas utility holding company that, through its other subsidiaries, also serves areas in southeastern New Hampshire and in the greater Fitchburg area of north central Massachusetts. https://en.wikipedia.org/wiki/Unitil_Corporation - cite note-report1-2 Its wholly owned subsidiary, **Granite State Gas Transmission, Inc.**, operates 86 miles of underground gas transmission pipeline primarily in Maine and New Hampshire, providing interstate natural gas pipeline access and transportation services to **Northern Utilities** in its New Hampshire and Maine service areas.

Unitil has the financial capacity to complete the Project. It is a financially sound company, with a net income in 2015 of \$26.3 million, which is an increase of \$1.6 million, compared to 2014. As Unitil's Chairman and Chief Executive Officer, Robert G. Schoenberger, reports on Unitil's website, www.unitil.com:

"We had another solid year in 2015 as earnings increased by 6%... We continue to experience strong growth in our gas and electric businesses. Reflecting confidence in our business plan, on January 27, 2016 the Company's Board of Directors raised the quarterly dividend to \$0.3550 per share, increasing the annual dividend from \$1.40 to \$1.42 per share."

Further, the Maine Department of Transportation ("Department") is reimbursing Unitil for most of the cost of the Project. Pursuant to a Gas Facilities Relocation Agreement that Unitil and the Department executed on April __, 2016, the Department agrees to "reimburse Unitil for the Facility Relocation Work in accordance with the terms set forth in Section 4 below, and such

reimbursement will satisfy the Department's obligation to pay compensation pursuant to 23 M.R.S. § 154 in connection with the relocation of the Affected Existing Facilities.”:

4. Reimbursement.

(a) The Table of Costs and Estimate of Fees, as set forth in Exhibit 7 attached hereto, includes all costs and fees associated with the Full Facility Relocation Project described in Exhibit 5 (the “Full Facility Relocation Project Cost”). ... The Department has reviewed the Total Eligible Estimated Cost and... finds the Total Eligible Estimated Cost ...to be reasonable. Therefore, the Department, recognizing that the actual cost for any line item may be greater or less than the estimate for that line item, agrees not to reduce the amount to be reimbursed to Unitil as to any of Unitil's invoiced items within the scope of the Facility Relocation Work, so long as the total reimbursement does not exceed the Total Eligible Estimated Cost (subject, however, to subsection (e) below regarding Unanticipated Costs).

(e) The Department will reimburse Unitil in accordance with the submitted invoices in a total amount not to exceed the Total Eligible Estimated Cost as set forth in Exhibit 7; provided, however, that in the event the costs of the Facility Relocation Work exceed the Total Eligible Estimated Cost for reasons beyond Unitil's control or reasonable anticipation (“Unanticipated Costs”), Unitil shall notify the Department of the Unanticipated Costs within seven working days of such costs becoming apparent to Unitil, and the Department agrees to reimburse Unitil for such Unanticipated Costs to the extent that the Department finds, in its reasonable discretion, that such costs are consistent with costs that would be eligible for reimbursement pursuant to 23 M.R.S. § 154 and are necessary and reasonable to complete the Facility Relocation Work.

Evidence of Technical Capacity

Northern Utilities, Inc., d/b/a Unitil, has the technical capacity to complete the proposed gas facilities relocation Project. It and its corporate predecessors have provided manufactured and natural gas services in Maine since 1849. Today it provides natural gas services to approximately 62,200 residential, commercial and industrial customers in 44 communities, from Plaistow, New Hampshire and northerly to South Portland, Portland, and Lewiston-Auburn.

Unitil's Project Team includes both Unitil personnel, and outside consultants and independent contractors, as summarized below:

UNITIL PERSONNEL:

Unitil's personnel have expertise in gas engineering and operations, gas facility procurement, emergency management and compliance, and environmental compliance. The Project's management team for this Project includes:

1. *Kevin Sprague, P.E., Director of Engineering*, responsible for engineering planning and design of Unitil's natural gas transmission and distribution systems; for substation and line design, protection and control design, and for GIS and Unitil owned land and easements.
2. *Matt Doughty, Project Manager*, oversees such aspects of Unitil's Maine operations as construction estimation, contract execution, company operations, and capital budgets, including for this Project. He is also manager of the Greater Portland cast iron pipeline replacement project to replace and upgrade over 100 miles of gas pipeline.
3. *Tim Bickford, Manager, Gas Engineering Manager*, responsible for the safe design of natural gas distribution systems and pressure regulator stations, and for the design of all pipelines and regulator stations for the Project.
4. *Thomas Murphy, Manager, Environmental Compliance & Business Continuity*, coordinates environmental compliance across Unitil's electric and gas operations, as well as support services. This includes working with environmental consultants and contractors retained to conduct response actions on behalf of Unitil. Mr. Murphy is a Certified Professional Environmental Auditor (CPEA) in Environmental Compliance, as well as Safety and Health.
5. *Bob Schummrick, Sr. Gas Engineer*, responsible for the detailed design of natural gas pressure regulator and meter stations and all regulator station relocation designs for the Project.
6. *Craig Campbell, Construction Supervisor*, responsible for timely and precise estimates for a vast majority of projects, responsible for capital budgets, overseeing multiple crews, ensuring that installations of Unitil facilities meet federal and state regulations and coordinating projects with many different entities.

CONSULTANTS:

Unitil's Project consultants include two engineering companies and a local law firm. They are:

1. AMEC Foster Wheeler Environment & Infrastructure:

AMEC Foster Wheeler Environment & Infrastructure, with a regional office in Portland, is a global engineering company that serves the oil and gas, clean energy, environment and infrastructure and mining markets. It provides consultancy, engineering, project management, operations and construction services, project delivery and specialized power equipment services to Unitil and other energy companies, as well as to governmental entities, including the U.S. Department of Homeland Security.

AMEC is assisting Unitil in preparing and presenting the Project permit applications. It will also monitor the environmental condition of the disturbed areas of the Property during the gas facility relocation work and advise as to its remediation as appropriate.

The principal AMEC personnel working on this Project are Peter Thompson and Rebecca Gabryszewski. *Peter Thompson, P.E.* is a principal project manager /team leader, for environmental and infrastructure projects in AMEC's Portland office, and is the principal consultant for the environmental aspects of the Project. *Rebecca Gabryszewski* is a regulatory specialist familiar with state and local permitting standards, and is the principal preparer of the Project's permit applications, having done similar work for a range of projects, including for utilities, businesses and municipalities.

2. Process Pipeline Services, Inc:

Portland Pipeline Services (PPS), with offices in Walpole, Massachusetts, provides advanced pipeline engineering and design services, including design compatibility and cost control. It specializes in natural gas industry projects, providing construction advisory and management services from initial conception through final completion of pipeline projects.

3. Perkins Thompson:

Perkins Thompson is a general service law firm in Portland with specialties in corporate, contract, real estate and energy law, and for this Project is assisting Unitil to negotiate and draft contracts, leases, and easements, and address permit and licensing legal standards. The principal Perkins Thompson attorneys working on this Project are Peggy McGehee, Jim Katsiaticas and Julie Ray, each of whom specialize in environmental, land use, municipal, administrative, and real estate law.

CONTRACTORS:

Until principal contractor for the Project is New England Utility Constructors (NEUCO). Other specialized contractors for the Project will be retained through a standard bid process.

1. New England Utility Constructors (NEUCO)

With offices throughout New England and a regional office in South Portland, NEUCO provides "turnkey" construction services for underground utility construction industry, specializing in pipeline and distribution of natural gas and electric. Its automated dispatch center supports underground utility construction efforts in natural gas; electric; welding fabrications; water; sewer; cable; and street restorations.

NEUCO's specialty services include horizontal directional drilling (trenchless technologies); cast iron encapsulation expertise including customized encapsulations for LP & IP; saw cutting and trench grinding; and vacuum excavation capabilities.

Its personnel include trained foremen, engineers, laborers, safety personnel, supervisors and support staff.



Coastal Environmental Package and Corrosion Resistant Coils

May 2007

For wall mounted air conditioners and heat pumps to be installed in close proximity to the ocean or other corrosive environments, Marvair offers the Coastal Environmental Package. This package extends the life of the air conditioner or heat pump by providing a corrosion protection coating or finish on the components located in the outdoor compartment, including the outdoor coil. The package includes the following:

- Dacromet® external fasteners
- A sealed condenser fan motor
- A sealed electrical controls compartment
- A two layer epoxy/urethane applied to all exposed components in the outdoor condenser compartment
- An impregnated polyurethane coating applied to the outdoor coil.

Marvair offers an aluminum-impregnated polyurethane (brand name Blygold® PoluAl XT) protective coil coating. Detailed information on the properties and advantages of the PoluAl XT can be found at www.blygoldamerica.com. The thin (1 mil) coating has a negligible effect on pressure drop and heat transfer of the coated coil. The aluminum-impregnated polyurethane coating is flexible and UV and impact resistant.

The exposed metallic components in the condenser section are first coated with a two part polyamide epoxy and finished with a two part acrylic urethane. This epoxy/urethane system is resistant to alkalis, salts, hydrogen sulfide and moisture, is UV resistant and is manufactured by ICI Devoe Coatings.

All AVP units can be ordered with the Coastal Environmental Package. Please allow 4 additional weeks for units with the Coastal Environmental Package.

A coated outdoor coil is included in the Coastal Environmental Package. However, if the complete corrosion protection is not required, the unit can be ordered with only a corrosion resistant condenser coil. Please allow 4 additional weeks for units with coated coils.

Construction Management Plan

The existing station is located at 40 West Commercial St. in Portland. The new station will be relocated approximately 400 ft. north of the existing station. This facility will be located between the planned cold storage building and the future IMT container storage area. The facility will be surrounded by a grounded chain-linked fence.

This new facility will consist of two precast concrete buildings. Each building will be set upon engineered concrete foundations. The data acquisition (DAC) building will measure 10 ft. wide x 12 ft. long x 9 ft. high, and will house the supervisory control and data acquisition (SCADA) and communications equipment. The natural gas meter and regulator building will measure 28 ft. wide x 50 ft. long x 11 ft. - 4 in. high, and will house a turbine flow meter, several gas pressure regulators supplying three separate distribution systems, isolation valves, with pressure and temperature instrumentation for communications. These buildings will be delivered to this location and set in place.

Site Preparation

- Perform Land Survey.
- Relocate IMT's buried electric conduits and drains as required.
- Stakeout the regulator and DAC buildings' corners, the fence lines, easement areas, etc.
- Excavate for regulator and DAC buildings' foundations.
- Install regulator and DAC buildings' concrete foundations.
- Install pipeline filter's concrete foundations.

Pipeline Installations

- Excavate and trench to install four buried steel pipelines.
- Install pipelines with isolation valves from Commercial St. to the existing pipeline which crosses the Fore River.
- Install pipeline filter and its isolation valves.
- Perform X-Ray on the welded pipeline joints.
- Coat the welded pipeline joints.
- Jeep the pipe coatings.

Pressure Test Pipelines

- Evacuate the gas from the pipeline from West Commercial St. to the Fore River crossing.
- Make preparations on the other side of the river.
- Perform pressure test with nitrogen on the four pipelines.

Install DAC & Regulator Buildings

- Set DAC building and regulator building sections in place with cranes.
- Install regulator building piping, valves, and equipment.
- Pressure test regulator building piping.
- Blast & Coat regulator building piping.

Install Electric Power

- Install CMP electric meter and disconnect switch on the CMP right-of-way.
- Install Unitil-owned electric stepdown transformer near DAC building.
- Excavate and trench for buried electric conduits from CMP meter to the DAC building.
- Install electric conduits to regulator building.
- Install power to DAC building.
- Install power to regulator building.
- Install power to electric gate operators.
- Run wire and cable to all devices in regulator building.
- Install station grounding.
- Install SCADA communications.
- Terminate wires.

Commission New Regulator Station

- Perform tie-ins.
- Purge air from pipelines and new station and introduce natural gas.
- Commission new station.
- Retire old station piping as required.
- Retire old regulator station.

Restore Site

- Grade site.
- Add geotechnical fabric in areas not to be paved.
- Add crushed rock as required in areas not to be paved.
- Install asphalt paving according to the plan.
- Install chain-linked fence.

Complete Project Documentation

Stormwater Management Plan

The originally submitted Stormwater Report has been revised to reflect the addition of the Regulator and Control buildings, the associated drive and parking. The revised Stormwater Management Plan and Erosion Control Plan are provided at the end of this section.



Stormwater Report & Erosion & Sedimentation Control Plan

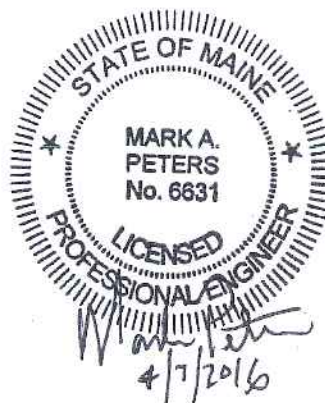
Unitil Regulator & Meter Station Relocation Project 40 West Commercial Street Portland, Maine

Prepared for:

**City of Portland Planning Department
389 Congress Street
Portland, ME 04101**

Prepared by:

**Amec Foster Wheeler Environment & Infrastructure, Inc.
511 Congress Street
Portland, Maine 04101**



April 2016



STORMWATER REPORT

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared a stormwater report in accordance with the City of Portland (City) and Maine Department of Environmental Protection (MeDEP) standards for the new Unitol regulator and meter station project at 40 West Commercial Street in the City. The new station will be relocated approximately 400 feet north of the existing station. This facility will be located between the planned cold storage building and the International Marine Terminal (IMT) container storage area. The facility will be surrounded by a grounded chain-linked fence.

This stormwater report is supplemental to a stormwater report developed by HNTB on behalf of the Maine Department of Transportation and titled "Port of Portland International Marine Terminal Existing Laydown and Connecting Corridor Connection" dated March 26, 2014. The recently completed project consisted of rail improvements, Commercial Street improvements, and chassis storage yard improvements as part of the planned cold storage building and recently completed laydown and connecting corridor connection project.

Project Description

The new Unitol regulator and meter station will be relocated to within the site area associated with the chassis storage yard improvements project. This new facility will consist of two precast concrete buildings. Each building will be set upon engineered concrete foundations. A data acquisition building will measure 10 foot wide x 12 foot long x 9 foot high, and will house the supervisory control and SCADA equipment. A natural gas metering and regulator building will measure 28 foot wide x 50 foot long x 11-4 foot high, and will house a meter, gas regulators and supplying three separate distribution systems.

The site will be provided with a 22 foot wide circular paved access drive with two ingress/egress locations off an existing paved drive providing access to the IMT, six parking spaces, and chain link fencing with three 16 foot electric sliding gates. Geotextile fabric and crushed rock will be installed within the station's fenced-in area. These areas are not to be paved.

The gas pipelines will be relocated westerly on the site to a pipeline easement corridor extending from West Commercial Street to the relocated Gas Regulator and Meter Station. After the new regulator and meter station is constructed and in service, Unitol will isolate the existing pressure regulating facilities from the distribution systems. Removal and disposal of the remaining piping and components and demolition of the existing buildings will be the responsibility of MeDOT. All excavations will be done in accordance with the Soil Management Plan approved by the MeDEP for Unitol's VRAP remediation plan, as amended by joint Unitol/Department petition.

MeDOT Port of Portland IMT Stormwater Management Strategy

The HNTB Portland International Marine Terminal Existing Laydown and Connecting Corridor Connection stormwater report provided information that the existing soils in the 7.4 acre chassis storage yard watershed are manmade cut and fill lands that are moderately well drained with groundwater levels approximately 6-9 feet below existing grade and that the development improvements included removal of an undesirable organic layer and installation of a 4-inch thick



MeDOT 411.12 crushed stone surface over a 20-inch thick MeDOT 304.10 Type D aggregate subbase per Section 7.7 – Manmade Pervious Surfaces Best Management Practices (BMP) from the MeDEP BMP Technical Design Manual.

The HNTB report provided additional information that the MeDEP Manmade Pervious Surface BMP was designed to handle heavy IMT vehicle loads, provide water quality treatment of runoff flows by filtration through the 20-inch aggregate subbase and infiltration through the existing soils and provide water quantity control of runoff flows with storage of the 1-inch water quality rain event within the voids (40%) of the 4-inch crushed stone layer in accordance with MeDEP Chapter 500 General Standard requirements.

The HNTB report provides a summary for the 7.4 acre chassis storage yard watershed that includes the following:

- Existing Impervious = 1.38 acres
- Proposed Impervious = 7.38 acres
- New Impervious = 7.38 acres – 1.38 acres = 6.0 acres
- MeDEP Crushed Stone Surface = 6.90 acres
- 6.90 acres/6.0 acres = 115% Water Quality Treatment to New Impervious Areas
- 6.90 acres (300,564 SF) X (1") X (1'/12") = 25,050 CF of Runoff Volume Provided
- (300,564 SF) X (40% Voids/1") X (1'/12") = 10,020 CF storage/1" = 2.5 Inches Minimum Thickness Crushed Stone Surface Required for Water Quantity Control
- 4-inch Thick MeDOT 411.12 Crushed Stone Surface Provided

Unitil Stormwater Management ty Control Strategy

The stormwater management for the Unitil project will utilize the same MeDEP Manmade Pervious Surface BMP to provide water quality treatment and water quantity control to runoff flows from the Unitil station.

Amec Foster Wheeler has assumed that the entire new 16,638 square foot (**0.38 acre**) Unitil station site consisting of buildings, paved access drives, parking spaces, and all areas within the proposed fenceline and area between the two ingress/egress locations consisting of geotextile fabric and crushed rock will be considered new impervious area within the existing chassis storage yard. See Erosion & Sedimentation Control Report and Unitil Station watershed delineation on Drawing C-1 included as Appendix A.

Amec Foster Wheeler's MeDEP water quality treatment and water quantity control calculations with the relocated Unitil regulator and meter station within the 7.4 acre chassis storage yard watershed include the following:

- Existing Impervious = 1.38 acres
- Proposed Impervious = 7.38 acres + **0.38 acres** = 7.76 acres
- New Impervious = 7.76 acres - 1.38 acres = 6.38 acres
- MeDEP Crushed Stone Surface = 6.90 acres – **0.38 acres** = 6.52 acres
- 6.52 acres/6.38 acres = 102% Water Quality Treatment to Impervious Areas

- (previously provided 6.90 acre crushed stone surface area) / (proposed 6.52 acre crushed stone surface area) X (previously required 2.5 Inches Minimum Thickness Crushed Stone Surface for Water Quantity Control) = 2.65 Minimum Thickness Crushed Stone Surface Required for Water Quantity Control
- 4-inch Thick MeDOT 411.12 Crushed Stone Surface Provided

Conclusion

The 0.38 acre reduction in surface area to the chassis yard MeDEP Manmade Pervious Surface BMP associated with the relocation of the Unitil station did not adversely affect the overall water quality treatment and water quantity control of the Port of Portland International Marine Terminal Existing Laydown and Connecting Corridor Connection site.

Project Erosion & Sedimentation Control Strategy

The project will provide disturbances of less than one (1) acre but will include erosion and sedimentation measures to meet the MeDEP Basic Standards requiring BMP Standards for development projects disturbing one (1) acre or more of area to ensure that the planned improvements will not create potential degradation of water quality treatment and water quantity control to the MeDEP Manmade Pervious Surface BMP chassis yard.

Amec Foster Wheeler has developed an Erosion and Sediment Control Report to address any possible erosion and sedimentation during and after the construction of the Unitil regulator and meter station project. This plan incorporates the standards and specifications for erosion prevention for development projects contained in the MeDEP *Erosion and Sediment Control Handbook for Construction: Best Management Practices* (March 2003).



Appendix A

Erosion & Sedimentation Control Report



EROSION AND SEDIMENTATION CONTROL PLAN REPORT

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) has prepared an Erosion and Sediment Control Plan Report for the new Unitil regulator and meter station project at 40 West Commercial Street in the City of Portland (City).

This erosion and sediment control plan report will address any possible erosion and sedimentation during the construction of the Unitil station Relocation Project and incorporates the standards and specifications for erosion prevention for development projects contained in the Maine Department of Environmental Protection (MeDEP) *Erosion and Sediment Control Handbook for Construction: Best Management Practices* (March 2003). See Erosion and Sedimentation Control Drawings included as Appendix A.

Project Erosion & Sedimentation Control Strategy

The project is anticipated to produce minor excess earth materials that the contractor will be required to dispose of off-site in accordance with all local, state, and federal requirements.

The erosion and sediment control strategy to be employed during the construction and stabilization of the proposed development will be to contain sediment on the site. This strategy will not allow the introduction of sediment-laden runoff to the 7.4 acre MeDEP Manmade Pervious Surface BMP chassis yard. To accomplish this strategy, temporary erosion and sediment control measures will be used at the construction site and will stay in effect until the site has been stabilized permanently. These control measures will consist of the placement of a MeDEP siltation log Best Management Practices (BMP) along the perimeter of the construction site stabilization of disturbed areas by paving or installation of Geotextile fabric and crushed rock to site areas.

Project Site Data

The project site will be located between the planned cold storage building and the International Marine Terminal (IMT) container storage area and is bounded by The Fore River to the south and Commercial Street to the west.

The existing soils in the 7.4 acre chassis storage yard watershed are manmade cut and fill lands that are moderately well drained with groundwater levels approximately 6-9 feet below existing grade. See the Natural Resources Conservation Services Custom Soil Resource Report for Cumberland County included as Appendix B.

The existing site consists of a 4-inch thick MeDOT 411.12 crushed stone surface over a 20-inch thick MeDOT 304.10 Type D aggregate subbase per Section 7.7 – Manmade Pervious Surfaces Best Management Practices (BMP) from the MeDEP BMP Technical Design Manual associated with the Portland International Marine Terminal Existing Laydown and Connecting Corridor Connection project.

In general, the MeDEP Manmade Pervious Surface BMP was designed to handle heavy IMT vehicle loads, provide water quality treatment of runoff flows by filtration through the 20-inch aggregate subbase and infiltration through the existing soils and provide water quantity control



of runoff flows with storage of the 1-inch water quality rain event within the voids (40%) of the 4-inch crushed stone layer in accordance with MeDEP Chapter 500 General Standard requirements.

Erosion & Sedimentation Control Plan

The project will provide disturbances of less than one (1) acre but will include erosion and sedimentation measures to meet the MeDEP Basic Standards requiring BMP Standards for development projects disturbing one (1) acre or more of area to ensure that the planned improvements will not create potential degradation of water quality to locations downstream of the developments site.

The general contractor will be responsible for maintenance during construction. An Inspection and Maintenance Plan is included as Appendix C that provides information for the applicant or hired subcontractors for inspections and restoration activities. Additionally, MeDEP Housekeeping Standards are included as Appendix D of this report.

The primary emphasis of the erosion and sedimentation control plan to be implemented for this project is as follows:

1. Developing a project layout that avoids excessive earth disturbance.
2. Development of a careful construction sequence that limits the area and duration of soil exposure.
3. Rapid stabilization of disturbed areas to minimize the period of soil exposure.
4. The use of on-site measures to capture initial sediment (siltation logs/hay bales/silt fence, etc.).
5. Protection of natural resource areas.
6. Any loam or soil stockpiles will be in suitable areas approved by the MeDOT.
7. Additional erosion control methods will be implemented during winter construction, between November 1 and April 15, if necessary.

Erosion & Sedimentation Control Requirements

The equipment anticipated to be used for the construction includes the following: backhoes, bulldozers, loaders, trucks, cranes, and compactors. The following measures will be undertaken to provide maximum protection to the soil, water, and abutting lands:

1. Prior to excavation and earth moving operations, perimeter siltation logs/silt fence will be installed along the perimeter of the site.
2. In areas of construction dewatering, if necessary, pumped discharge sediment devices will be utilized adjacent to the activity. Sediment traps will be constructed utilizing



dirtbags, or other similar devices that do not require additional soil disturbance. Additional sedimentation protection will be provided by the installation of hay bale barriers between the sediment traps and the receiving drainage course.

3. All siltation BMPs will be inspected by the contractor on a weekly basis or following any significant rainfall (1/2 inch or more) or snowmelt. All damaged erosion control devices will be repaired and/or replaced immediately. Trapped sediment will be removed before it has accumulated to one-half of the installed siltation fence or hay bale barrier height. Devices no longer serviceable due to sediment accumulation will also be repaired and/or replaced as necessary.
4. Intercepted sediment will be returned to the site and incorporated into the project area and stabilized.
5. Should construction occur after November 15, additional erosion control methods will be implemented. All disturbed areas will be minimized as much as possible. Prior to freezing, additional erosion control devices will be installed as appropriate. Inspection of these erosion control items will be constant, with particular attention paid to weather predictions to ensure that these measures are properly in place to handle large amounts of runoff from heavy rains or thaws.

Monitoring Program

Sedimentation and erosion control measures will be inspected continually by the contractor and all measures damaged by construction equipment, vandals, or the elements will be repaired immediately. Following rainstorms and during runoff events, the site and all structures will be inspected for erosion and damage. All damaged structures will be repaired and/or additional erosion control structures will be installed prior to continuing the construction.

After the project area is stabilized, the contractor shall remove all temporary erosion control measures.

Dust Control Program

If dusty conditions occur on-site as a result of increased vehicular traffic during dry conditions, dust control measures will need to be implemented.

1. Water: Water should be applied at a rate sufficient enough to moisten exposed soil to prevent dust transport but not at a rate that produces any amount of silt-laden runoff or muddy pools in the travel way.
2. Calcium Chloride: Liquid or fine-flaked calcium chloride may be used. Calcium chloride should not be applied adjacent to wetlands, lakes, pools or other naturally sensitive areas. Limit application rates to 30% calcium chloride or as recommended by manufacturer.

Winter Construction (If Necessary)

The winter construction period is from November 1 through April 15. If the construction site is not stabilized with pavement, a road gravel base, by November 15, then the site needs to be protected with over-winter stabilization. An area considered open is any area not stabilized with pavement, or gravel base.

The contractor must install any added measures which may be necessary to control erosion/sedimentation from the site dependent upon the actual site and weather conditions.

Continuation of earthwork operations on additional areas shall not begin until the exposed soil surface on the area being worked has been stabilized, in order to minimize areas without erosion control protection.

1. **Soil Stockpiles:** Stockpiles of soil or subsoil will be mulched for over winter protection with hay or straw at twice the normal rate or at 150 lbs/1,000 s.f. (3 tons per acre) or with a four-inch layer of woodwaste erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpile will not be placed (even covered with hay or straw) within 100 feet from any natural resources.
2. **Trench Dewatering and Temporary Stream Diversion:** Water from construction trench dewatering or temporary stream diversion will pass first through a filter bag or secondary containment structure (e.g. hay bale lined pool) prior to discharge. The discharge site shall be selected to avoid flooding, icing, and sediment discharges to a protected resource. In no case shall the filter bag or containment structure be located within 100 feet of a protected natural resource.
3. **Inspection and Monitoring:** After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to insure their continuous function.



Appendix A

Erosion and Sedimentation Control Drawings



Appendix B

Natural Resources Conservation Services Custom Soil Resource Report



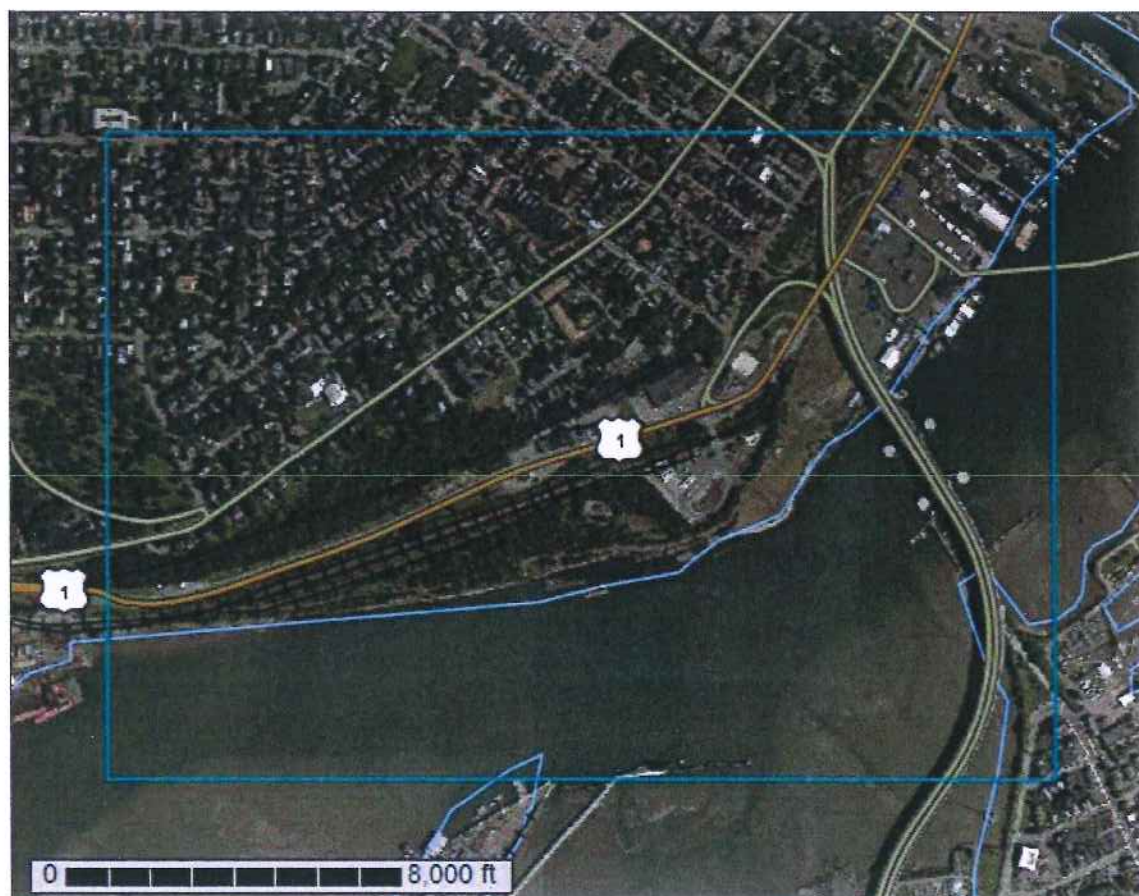
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Cumberland County and Part of Oxford County, Maine



April 4, 2016

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

	Area of Interest (AOI)		Soil Map Unit Polygons		Spoil Area
	Soils		Soil Map Unit Lines		Story Spot
	Soil Map Unit Points		Very Stony Spot		Wet Spot
	Special Point Features		Other		Special Line Features
	Blowout		Water Features		Streams and Canals
	Borrow Pit		Transportation		Rails
	Clay Spot		Interstate Highways		US Routes
	Closed Depression		Major Roads		Local Roads
	Gravel Pit		Background		Aerial Photography
	Gravelly Spot				
	Landfill				
	Lava Flow				
	Marsh or swamp				
	Mine or Quarry				
	Miscellaneous Water				
	Perennial Water				
	Rock Outcrop				
	Saline Spot				
	Sandy Spot				
	Severely Eroded Spot				
	Sinkhole				
	Slide or Slip				
	Sodic Spot				

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 11, Sep 17, 2015

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

Date(s) aerial images were photographed: Jul 31, 2013—Aug 11, 2013

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

Map Unit Legend

Cumberland County and Part of Oxford County, Maine (ME005)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cu	Cut and fill land	89.5	24.1%
DeB	Deerfield loamy sand, 3 to 8 percent slopes	10.4	2.8%
HIB	Hinckley loamy sand, 3 to 8 percent slopes	107.6	29.0%
HIC	Hinckley loamy sand, 8 to 15 percent slopes	6.6	1.8%
HID	Hinckley loamy sand, 15 to 25 percent slopes	11.0	3.0%
W	Water	139.7	37.7%
WmB	Windsor loamy sand, 0 to 8 percent slopes	5.8	1.6%
Totals for Area of Interest		370.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially

Custom Soil Resource Report

where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Cumberland County and Part of Oxford County, Maine

Cu—Cut and fill land

Map Unit Composition

Cut and fill land: 90 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cut And Fill Land

Typical profile

H1 - 0 to 65 inches: very gravelly sandy loam

Properties and qualities

Slope: 0 to 35 percent

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr)

Depth to water table: About 24 to 42 inches

Available water storage in profile: Moderate (about 6.6 inches)

DeB—Deerfield loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: blh6

Elevation: 150 to 1,200 feet

Mean annual precipitation: 30 to 50 inches

Mean annual air temperature: 37 to 45 degrees F

Frost-free period: 90 to 160 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Deerfield and similar soils: 87 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Deerfield

Setting

Landform: Outwash terraces

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Sandy glaciofluvial deposits derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: loamy sand

H2 - 10 to 24 inches: loamy sand

H3 - 24 to 65 inches: sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Low (about 3.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A

HIB—Hinckley loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2svm8

Elevation: 0 to 1,430 feet

Mean annual precipitation: 36 to 53 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hinckley and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Eskers, kames, kame terraces, outwash plains, outwash terraces, moraines, outwash deltas

Landform position (two-dimensional): Summit, shoulder, backslope, footslope

Landform position (three-dimensional): Base slope, crest, nose slope, side slope, tread, riser

Down-slope shape: Linear, convex, concave

Across-slope shape: Convex, linear, concave

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Custom Soil Resource Report

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

HIC—Hinckley loamy sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2svm9

Elevation: 0 to 1,480 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Eskers, kames, kame terraces, outwash plains, outwash terraces, moraines, outwash deltas

Landform position (two-dimensional): Shoulder, toeslope, footslope, backslope

Landform position (three-dimensional): Crest, head slope, nose slope, side slope, riser

Down-slope shape: Convex, concave, linear

Across-slope shape: Concave, linear, convex

Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material

A - 1 to 8 inches: loamy sand

Bw1 - 8 to 11 inches: gravelly loamy sand

Bw2 - 11 to 16 inches: gravelly loamy sand

BC - 16 to 19 inches: very gravelly loamy sand

C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Custom Soil Resource Report

Natural drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

HID—Hinckley loamy sand, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2svmc
Elevation: 0 to 1,460 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hinckley and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hinckley

Setting

Landform: Eskers, kames, kame terraces, outwash plains, outwash terraces, moraines, outwash deltas
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, crest, head slope, nose slope, riser
Down-slope shape: Convex, concave, linear
Across-slope shape: Concave, linear, convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from gneiss and/or granite and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 8 inches: loamy sand
Bw1 - 8 to 11 inches: gravelly loamy sand
Bw2 - 11 to 16 inches: gravelly loamy sand
BC - 16 to 19 inches: very gravelly loamy sand
C - 19 to 65 inches: very gravelly sand

Properties and qualities

Slope: 15 to 25 percent

Custom Soil Resource Report

Depth to restrictive feature: More than 80 inches

Natural drainage class: Excessively drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A

W—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Setting

Landform: Lakes

WmB—Windsor loamy sand, 0 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w2x2

Elevation: 0 to 1,410 feet

Mean annual precipitation: 36 to 71 inches

Mean annual air temperature: 39 to 55 degrees F

Frost-free period: 140 to 240 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Windsor and similar soils: 85 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Windsor

Setting

Landform: Deltas, dunes, outwash plains, outwash terraces

Landform position (three-dimensional): Riser, tread

Down-slope shape: Linear, convex

Across-slope shape: Linear, convex

Custom Soil Resource Report

Parent material: Loose sandy glaciofluvial deposits derived from granite and/or loose sandy glaciofluvial deposits derived from schist and/or loose sandy glaciofluvial deposits derived from gneiss

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 3 inches: loamy sand
Bw - 3 to 25 inches: loamy sand
C - 25 to 65 inches: sand

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A



Appendix C

Inspection and Maintenance Plan

INSPECTION & MAINTENANCE PLAN

Stormwater runoff from construction areas can contain a significant amount of non-point contaminants which can have an adverse impact on the receiving waters. The installation of MeDEP Best Management Practices (BMP) measures can significantly reduce the non-point pollutant discharge from the developed area.

This inspection and maintenance plan defines the inspection and maintenance requirements for the stabilization of the project site.

During Construction

The following standards must be met during construction.

A. Inspection and Corrective Action

Inspect disturbed and impervious areas, erosion control measures, materials, storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. Inspect these areas at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control shall conduct the inspections.

B. Maintenance

Maintain all measures in effective operating condition until areas are permanently stabilized. If BMP's need to be maintained or modified, additional BMP's are necessary, or other corrective action is needed, implementation must be completed within 7 days and prior to any storm event (rainfall).

C. Documentation

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

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



Post Construction

Persons knowledgeable of erosion and stormwater controls and the standards and conditions of MeDEP permits should conduct the inspections, identify deficiencies, and perform maintenance to assure that the stormwater management system functions as intended on a long-term basis.

After the project area has stabilized, the contractor shall remove all siltation fences, temporary siltation control risers, and any other temporary erosion control measures.

Summary Checklist – Inspection & Maintenance

Maintenance Program Summary Checklist

BMP ITEM	Commentary	Frequency			
		After Storm Event	Weekly	At Final Stabilization	Prior to City Approval
Resurfaced Areas					

Inspected By:

Date:



Appendix D

MeDEP Housekeeping Standards

MAINE DEP – Chapter 500: Stormwater Management

Housekeeping

These performance standards apply to all projects.

1. **Spill prevention.** Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater and appropriate spill prevention, containment and response planning and implementation. If required, the general contractor shall review the Jetport Stormwater Pollution Prevention Plan and follow all established spill control plans and maintenance report logs as necessary.

2. **Groundwater protection.** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in the Park.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R. S.A. §465-C(1).

3. **Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

4. **Debris and other materials.** Litter, construction debris and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules, Maine oil conveyance and storage rules and Maine pesticide requirements.

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

Note: For guidance on de-watering controls, consult the Maine Erosion and Sediment Control BMPs, Maine Department of Environmental Protection.

6. Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Follow manufacturer's recommendations and MeDEP requirements for all non-stormwater discharges.

Fire Safety Plan and Fire Safety Assessment/ Code Summary (NFPA 1) and Fire Department Technical Standards

A Fire Safety Plan was submitted and approved with the April 4, 2014 Site Plan Application. In addition to this plan Unitil has set fire safety features for their facilities and infrastructure. Each pipeline will have isolation valves separated a minimum of 100 ft. from the building which can isolate the natural gas supply to and from the regulator building. The gas pressures for all systems will be continuously monitored by supervisory control and data acquisition (SCADA) in Unitil's Gas Control. There will be redundant pressure regulators on each system: one to control pressure and one as a backup to monitor gas pressure in the event the controller fails. There will be a firewall installed in the center of the building to satisfy the "single incident single failure" industry safety standard. There will also be gas detectors in both buildings, which send alarm signals back through SCADA to gas control in the event there is a gas leak inside the buildings. The regulator building's exterior will have two warning lights at the entrances, which will illuminate if there is an unexpected gas buildup inside the regulator building. The fenced area of the regulator building is accessed by two 16-foot wide gates (as recommended by the City) and two 3-foot wide personnel gates.

Maine Port Authority
International Marine Terminal

FIRE SAFETY PLAN

(Rev. 01, 24 March, 2014)

Fire Safety Program

As part of the overall objective to ensure that adequate fire and life safety protection are provided at the Portland International Marine Terminal (IMT), a Fire Safety Program has been implemented. This Fire Safety Plan outlines not only the fire protection and life safety systems that are installed throughout the IMT, but also provides specific operational requirements that are designed to minimize any potential fire risks to personnel or property, resulting from flammable or combustible materials that are being used, handled, and/or stored at the IMT site. In general, the IMT Fire Safety Program consists of:

- Installed fire protection and life safety systems that are distributed throughout the IMT site to support both early notification of a fire emergency and provide ready access to firefighting water,
- Operational and administrative procedures that provide guidance for ensuring that day-to-day operations at the IMT are conducted in a fire-safe manner, and
- The assignment of personnel responsible for the oversight of the fire safety measures implemented at the IMT.

All three facets of the program must be maintained and administered on a day-to-day basis to ensure that operations within the IMT are conducted in the most fire safe manner possible and that if a fire emergency does occur, that emergency responders have ready access to all portions of the site, including the installed fire protection systems.

Fire Protection Systems

The fire protection systems installed at the Portland IMT consist of both a fire alarm/notification system and a fire water supply system to support manual firefighting operations. The fire alarm/notification system consists of six (6) manual fire alarm pull stations that are installed at locations throughout the IMT site. These pull stations provide a means for rapid notification of emergency responders to a fire or other emergency at the site. The general locations of these pull stations are included on Attachment 1; the site's Fire Safety Plan (Dwg. C17). These pull stations are to be connected to the main fire alarm control panel (FACP) for the main Terminal Building. Upon activation, these will alert the Fire Department via the wireless Master Box system that is connected to the FACP.

In addition to the five (5) Municipal fire hydrants installed along the north side of Commercial Street, adjacent to the IMT site, the private fire water supply system on the IMT site has been updated such that nine (9) fire hydrants and three (3) standpipe connections, which are supplied from the Municipal system, are dispersed throughout the IMT. The three standpipe connections are located along the length of the railroad loading area. Due to space constraints associated with large equipment used to load containers on the rail cars, along with ensuring adequate protection from damage, it was not possible to site hydrants within this area. The standpipes are connected to the remainder of the fire water supply system via a post indicator valve (PIV) that is located adjacent to the west access road from Commercial St. The location of the hydrants and standpipes is intended to maximize the ease of access to firefighting water from all points within the IMT site. Equally, the specified clear space that is to be maintained between all container storage areas has been designed to facilitate the ease of movement and operation of firefighting vehicles within the IMT. The locations for all fire hydrants and standpipes, including the standpipe's PIV, throughout the IMT are indicated on Attachment 1. Although Attachment 1

Maine Port Authority
International Marine Terminal

FIRE SAFETY PLAN

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also shows the locations of several existing hydrants that are located on adjacent properties, these are not IMT control and were not considered when evaluating the fire water supply requirements for IMT.

An associated aspect of providing adequate site fire protection capabilities is the need to ensure that the responding Fire Department will have ready access to the site itself. The IMT is a "secure" site, with access from Commercial St. provided by two automatic-opening gates at the eastern end of the IMT, along with the access road at the western end of the site. Additionally, the IMT site includes a secure storage area for the wheeled containers that are awaiting loading on rail cars. This secure storage area is accessed from the eastern end by an automatic-opening gate from within the IMT site, along with another automatic-opening gate on the western side; which is accessed by the (unsecured) roadway on the western end of the site. Each gate is operated by use of a key card. To ensure that the Fire Department will have ready access to all areas of the site, including during non-working hours when the site is unmanned, a "knox" box will be located adjacent to each gate; with each containing the necessary key card that will open the respective gate.

Control of Flammable/Combustible Materials

Inherent in the site Fire Protection Plan is a requirement to control the locations of both potential ignition sources and all flammable and combustible materials; with the emphasis being to maintain separation between the two.

Areas within the IMT site where the potential exists for open flame or other ignition sources to be present are specifically designated. These areas include the IMT Maintenance Shop, the DoT Bridge Maintenance Building, and any designated smoking areas. No flammable or combustible materials are to be stored within 100 feet of the "shop" areas associated with the Maintenance Buildings. Any storage areas within this distance must be designated for non-flammable/combustible materials only, including any bulk containers that may contain flammable or combustible materials. Smoking areas may be designated at locations throughout the IMT site, but these may be no closer than 50 feet from any areas where flammable/combustible materials are used, handled, or stored. All areas designated as either flammable/combustible storage "exclusion" areas or smoking areas must be clearly marked.

The IMT is certified for the handling of bulk containers of ethanol; a flammable liquid. Due to the specific hazards associated with the (temporary) storage of large quantities of flammable liquids, a specific area of the IMT storage yard has been designated for the storage of the bulk ethanol containers. To alleviate the potential for errors, the size of the designated flammable liquid storage area is sufficient to accommodate both the incoming "full" containers and those that are empty and awaiting return shipping. The location for the storage of the bulk flammable liquids containers is highlighted on Attachment 1. Should the site be recertified to handle other types of flammable liquids, the proposed specific location to be designated for storing these additional containers will be reviewed and approved by the Authority(ies) Having Jurisdiction.

Site Fire Safety Coordinator

Although all IMT site personnel will receive basic instruction regarding the fire safety requirements at the IMT, a full-time employee of the Maine Port Authority will be assigned as the site's Fire Safety Coordinator. This individual will receive specific orientation training that

Maine Port Authority
International Marine Terminal

FIRE SAFETY PLAN

(Rev. 01, 24 March, 2014)

will provide a more in-depth understanding of all facets of the site's Fire Safety Plan. He/She will be responsible for ensuring the day-to-day implementation of, and adherence to, the Fire Safety Plan by all site personnel. Equally, this individual will be responsible for coordinating the IMT fire safety requirements with the site's two adjacent tenants whose personnel must transit portions of the IMT site to reach their respective facilities; the DoT Bridge Maintenance Building and the Canal Landing Boatyard. Each will be instructed as to the specific fire safety requirements to which they must adhere to ensure the safety of all personnel operating at, or immediately adjacent to, the IMT site. At a minimum, this individual's responsibilities will include;

- Ensuring all IMT personnel receive an initial briefing regarding all facets of the site's Fire Safety Program, including the location and use of all fire protection and life safety equipment,
- Acting as the site's primary liaison with the local Fire Department; both for coordinating any maintenance and testing of the fire water supply system and scheduling routine familiarization and training exercises at the IMT,
- Acting as the site's primary liaison with representatives of the DoT Bridge Maintenance facility and Canal Landing Boatyard to ensure they are fully knowledgeable of the fire safety requirements associated with the IMT's operation and their responsibilities when operating within the IMT site.
- Conducting routine site inspections to verify that all fire protection systems remain undamaged and in good working condition and that access to all fire hydrants, standpipes (and controlling PIV), and manual pull stations remains unobstructed, and
- Verifying that all hot work activities are performed only in designated areas, including smoking, and that all flammable and combustible materials are stored within their proper areas.

The Maine Port Authority management will ensure that this individual has the necessary authority to carry out and enforce the assigned responsibilities. Equally, an alternate Fire Safety Coordinator will be designated as/if needed to support periods when the primary designee is unavailable to perform these functions.

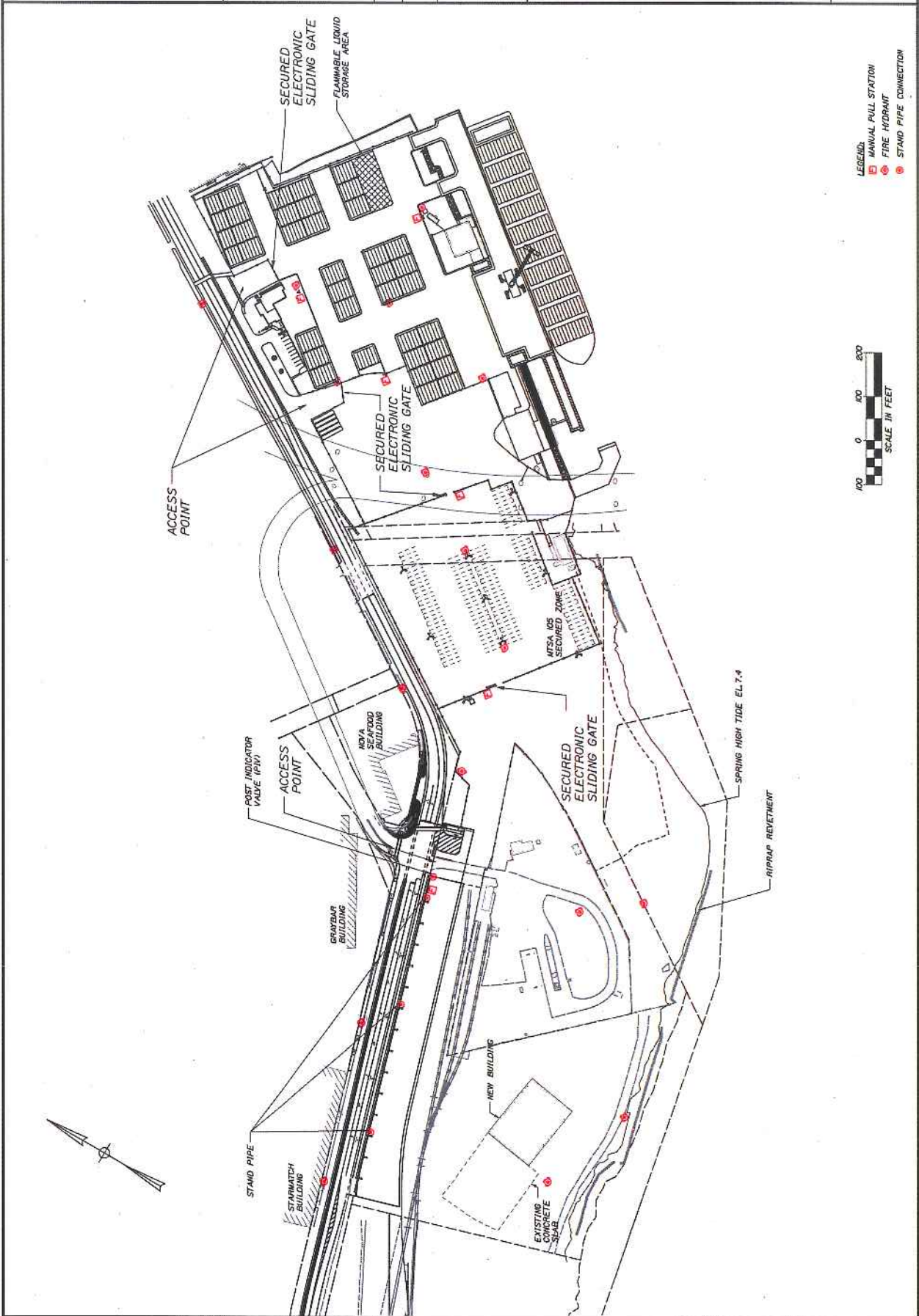
Fire Protection and Life Safety Systems Inspection, Testing, and Maintenance

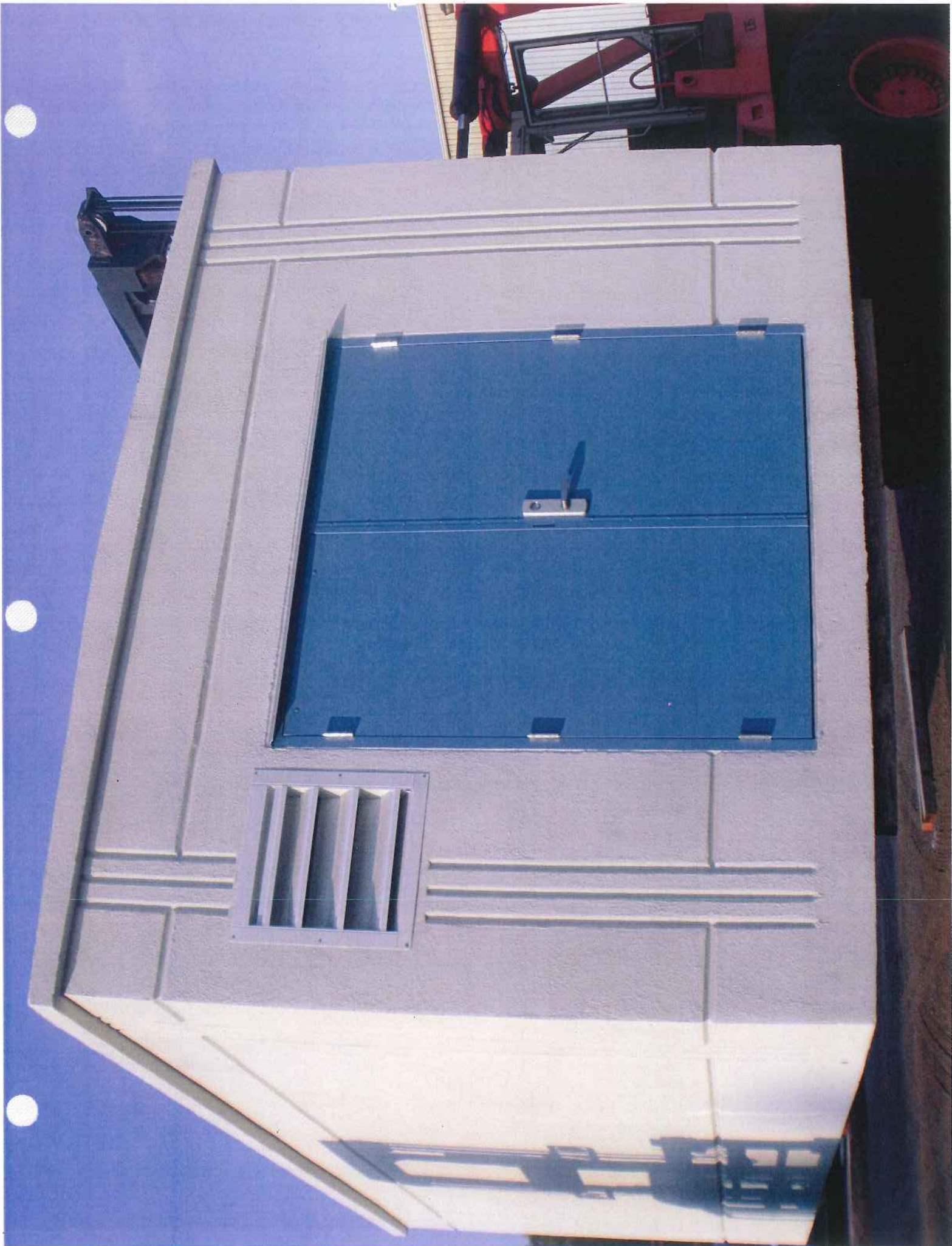
To ensure that all fire protection and life safety systems are operational and ready for use when/if needed, the site's Fire Safety Coordinator will maintain records that demonstrate all installed systems are being properly maintained and tested in accordance with applicable industry codes and standards. The Maine Port Authority will ensure that the site's fire alarm/notification system is being properly inspected, tested, and maintained by an authorized fire alarm contractor. Equally, the Fire Safety Coordinator will work with the Municipal Authorities to ensure that authorized personnel have the necessary access to the site to properly inspect, test, and maintain all components associated with the fire water supply system, including performing the routine hydrant flow tests, along with performing the necessary inspections and testing of the standpipe system, including its controlling PIV.

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

[illegible]

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.00
WIN
022809.00





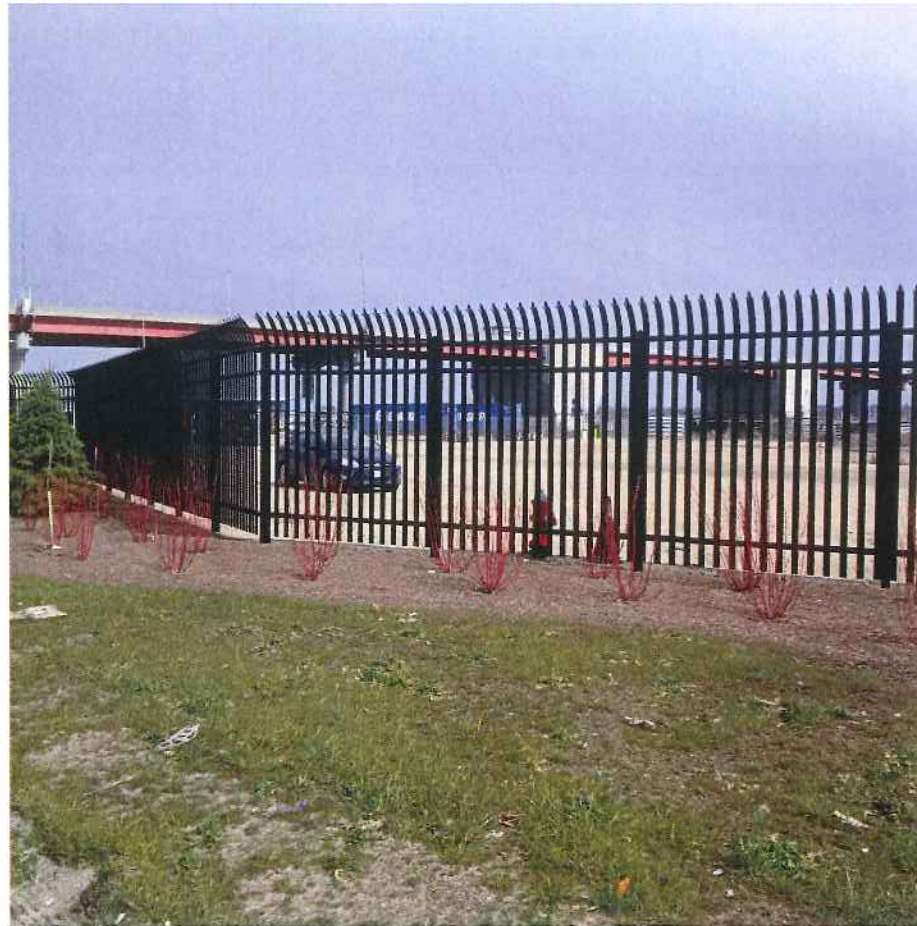
Existing Facilities



Existing Facilities

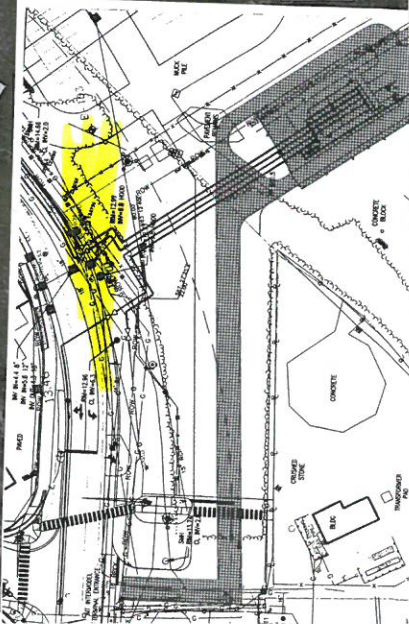


Landscaping Along Fence (winter conditions)

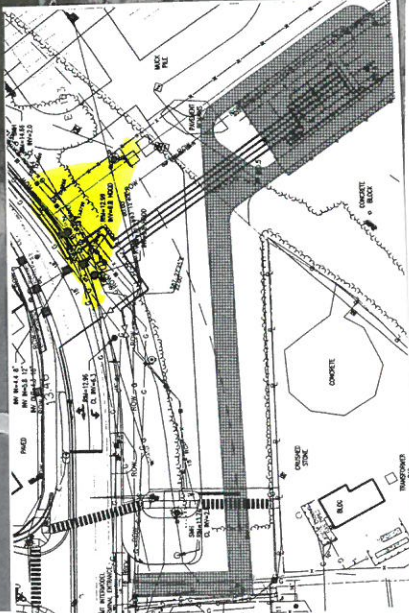


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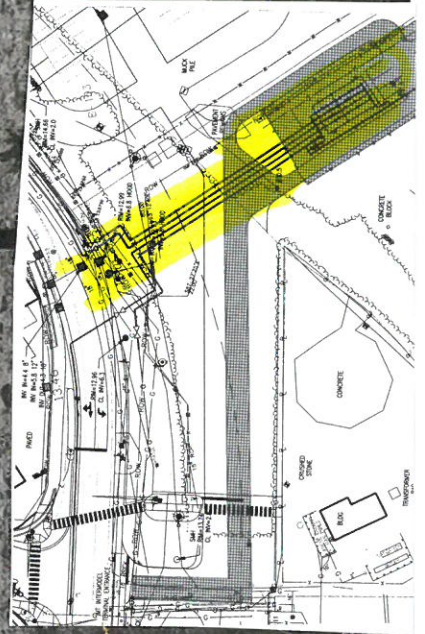
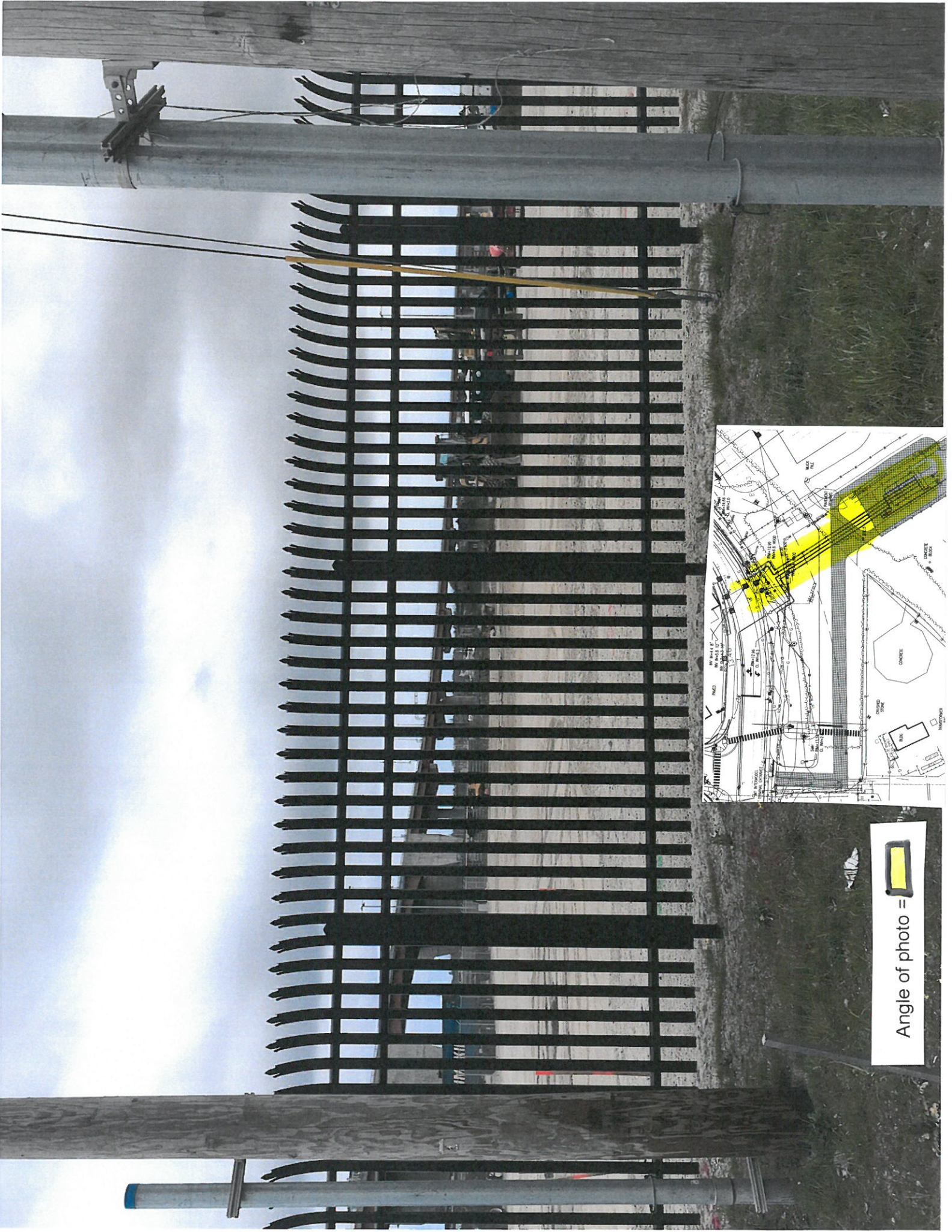




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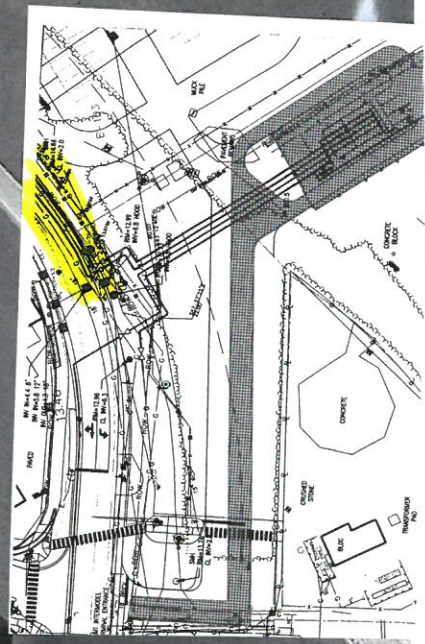
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Manufacturer's Verification of Equipment Meeting Emission Standards

The proposed regulator building will have an HVAC system. The manufacture's information on this system has been provided at the end of this section.



Coastal Environmental Package and Corrosion Resistant Coils

May 2007

For wall mounted air conditioners and heat pumps to be installed in close proximity to the ocean or other corrosive environments, Marvair offers the Coastal Environmental Package. This package extends the life of the air conditioner or heat pump by providing a corrosion protection coating or finish on the components located in the outdoor compartment, including the outdoor coil.

The package includes the following:

- Dacromet® external fasteners
- A sealed condenser fan motor
- A sealed electrical controls compartment
- A two layer epoxy/urethane applied to all exposed components in the outdoor condenser compartment
- An impregnated polyurethane coating applied to the outdoor coil.

Marvair offers an aluminum-impregnated polyurethane (brand name Blygold® PoluAl XT) protective coil coating. Detailed information on the properties and advantages of the PoluAl XT can be found at www.blygoldamerica.com. The thin (1 mil) coating has a negligible effect on pressure drop and heat transfer of the coated coil. The aluminum-impregnated polyurethane coating is flexible and UV and impact resistant.

The exposed metallic components in the condenser section are first coated with a two part polyamide epoxy and finished with a two part acrylic urethane. This epoxy/urethane system is resistant to alkalis, salts, hydrogen sulfide and moisture, is UV resistant and is manufactured by ICI Devoe Coatings.

All AVP units can be ordered with the Coastal Environmental Package. Please allow 4 additional weeks for units with the Coastal Environmental Package.

A coated outdoor coil is included in the Coastal Environmental Package. However, if the complete corrosion protection is not required, the unit can be ordered with only a corrosion resistant condenser coil. Please allow 4 additional weeks for units with coated coils.



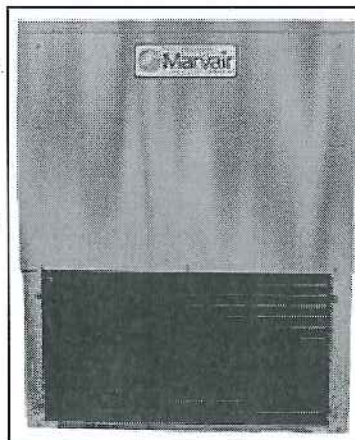
Environmental Control Units Model ECUA11

General Description

The Marvair® Environmental Control Units are used primarily to cool electronic and communication equipment shelters. Due to the high internal heat load, these shelters require cooling even when outside temperatures drop below 60°F (15°C). The Environmental Control Units have the necessary controls and components for operation during these (less than 60°F [15°C]) temperatures.

There are two configurations of the ECUA11- one with a factory installed economizer and a second that does not allow any outside air into the enclosure. When cool and dry, the economizer uses outside air to cool the shelter. The economizer provides temperature control, energy cost savings, and increased reliability by decreasing the operating hours of the compressor and the condenser fan. The ECUA11 Environmental Control Units are problem solvers for a wide range of conditions and applications. To insure proper operation and optimum performance, all economizers are non-removable, factory installed and tested. In addition, factory and field installed accessories can be used to meet specific requirements.

All models of the ECUA11 environmental control unit are manufactured and tested to UL Standard 1995, 2nd Ed. and CAN/CSA C22.2 No. 236-95, 2nd Ed. The ECUA11 units are commercial units and not intended for use in residential applications.



ECUA11



Standard Features

Designed for Operation in Low Ambient Conditions

- Low ambient control cycles condenser fan to maintain proper refrigerant pressures to allow cooling with the compressor down to 20°F/-7°C. Note: low ambient operation is affected by ambient conditions, e.g., wind and humidity.
- Three minute by-pass of the low pressure switch for start-up of compressor when outdoor temperatures are below 55°F (13°C).
- Factory built-in economizer.*

High Efficiency

- High efficiency compressor.
- Lanced fins and rifled tubing on many condenser and evaporator coils.

Built-in Reliability

- High pressure switch and low pressure switch with lockout protects refrigerant circuit.

- Three minute delay on break for short cycle protection.

Remote Alarm Capability

- Dry contacts can be used for remote alarm or notification upon air conditioner lockout.

Ease of Installation

- Sloped top with flashing eliminates need of rainhood.
- Built-in mounting flanges facilitate installation and minimize chance of water leaks.
- Supply and return openings exactly match previous models.
- Outside air hood is standard. (Only available on units with the economizer.)

Rugged Construction

- Copper tube, aluminum fin evaporator and condenser coils.
- Factory installed heaters on discharge side of evaporator coil (optional)

- Baked on neutral beige finish over galvalume steel for maximum cabinet life. (Other finishes are available.)

Ease of Service

- Service access valves are standard.
- 2" (50mm) filter standard on models with the economizer. Non-economizer units do not have an internal filter and require combination supply/return filter grille.
- All major components are readily accessible.
- LEDs indicate operational status and fault conditions.

**R-410A
Refrigerant**

* ECUA11ACxxxxC models only

A Marvair® First – Factory Installed Economizer

Marvair's factory installed economizer has been the industry standard since its introduction in 1986. Tens of thousands of units are in operation from the metropolitan areas of North America to the deserts of the Mid-East to the Siberian tundra. Here's how the economizer works:

On a signal from the wall mounted indoor thermostat that cooling is required, either mechanical cooling with the compressor or free cooling with the economizer is provided. A factory installed enthalpy controller determines whether the outside air is sufficiently cool and dry to be used for cooling. If suitable, the compressor is locked out and the economizer damper opens to bring in outside air. Integral pressure relief allows the interior air to exit the shelter, permitting outside air to enter the shelter. The temperature at which the economizer opens is adjustable from 53°F (12°C) at 50% Relative Humidity to 78°F (26°C) at 50% Relative Humidity.

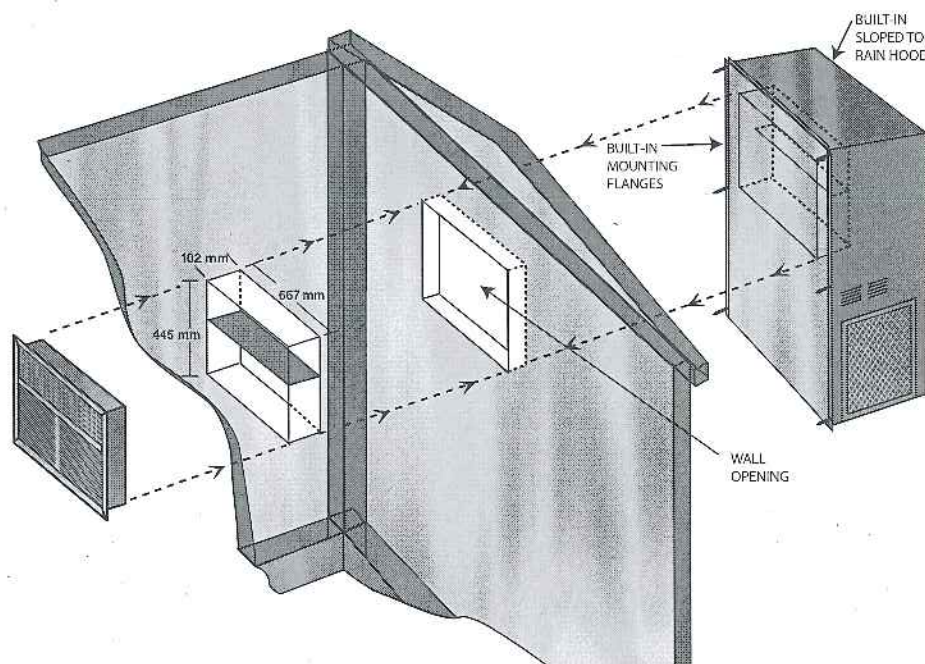
After the enthalpy control has activated and outside air is being brought into the building, the mixed air sensor measures the temperature of the air entering the indoor blower and then modulates the economizer damper to mix the right proportion of cool outside air with warm indoor air to maintain 50-56°F (10 - 13°C) air being delivered to the building. This prevents shocking the electronic components with cold outside air. The compressor is not permitted to operate when the economizer is functioning.

If the outside air becomes too hot or humid, the economizer damper closes completely, or to a minimum open position with an optional minimum position potentiometer, and mechanical cooling is activated.

Marvair's ECUA11 Environmental Control Unit – Ideal Replacement for Window Air Conditioners or New Construction

The electronic/communication shelter requires cooling virtually year-round because of the heat load generated by the internal electronic equipment (i.e., switching and transmission gear). Residential window room air conditioners are not designed to operate when outside air temperatures are moderate to cold, e.g.; below 65°F (18°C) to 0°F (-18°C). Typical problems are freezing of the coil, diminished capacity and compressor damage which all contribute to high maintenance and short operating life.

Marvair's ECUA11 environmental control units are designed exclusively for the electronic/communication shelter to provide a commercial grade air conditioner. The unit is built to operate continuously and efficiently in a variety of outside conditions. For existing shelters with window air conditioners, upgrading to the commercial grade Marvair environmental control unit is made easy by the design of the unit. The wall sleeve slides into a 26-1/2" (673 mm) x 17-3/4" (451 mm) opening, the standard opening size for many window units. With the built-in mounting flanges, the air conditioner mounts quickly and simply to the exterior of the building. The single piece supply and return grille attaches easily to the wall sleeve to complete the installation. Factory installed electric heat is available in the unit thus eliminating baseboard heat and a second power source.



Options

The ECUA11 environmental control units were designed and are built to stringent requirements of the communications/electronic shelter. Other applications have special requirements. Numerous options are available for the ECUA11 environmental control units that meet these special needs.

Hard Start Kit - Used on single phase equipment to give the compressor higher starting torque under low voltage conditions. (Field installed only)

Dehumidification - Humidity controller overrides thermostat and allows electric heat to operate simultaneously with cooling. See Dehumidification Application Bulletin for details. Note: The electrical characteristics and requirements of air conditioners with the dehumidification option are different from standard air conditioners. Refer to the appropriate Summary Rating Charts for the electrical characteristics of units with Electric Reheat.

Coastal Environment Package - Recommended for units to be installed near an ocean or on seacoast. Includes corrosion resistant fasteners, sealed condenser fan motor, sealed control box, protective coating applied to all exposed internal copper in the condenser section and an impregnated polyurethane coating on the condenser coil. See Coastal Environmental Technical Bulletin for more details.

Economizer Damper Control - Models with economizer only - A minimum position potentiometer that can be adjusted to prevent the economizer damper from closing completely. This control ensures that whenever the evaporator fan is operating, fresh air is being introduced into the building. Field or factory installed.

Color - ECUA11 environmental control units are available in five different cabinet colors -the standard Marvair® beige and white, gray, brown and dark bronze. The standard cabinet's sides, top and front panels are constructed of 20 gauge painted steel. As an option, these panels can be built of 16 gauge steel in beige & gray or .050 stucco aluminum. When the 16 gauge painted steel or the aluminum is used, only the side, top and front panels are 16 gauge or aluminum. Contact your Marvair representative for color chips. The entire cabinet can also be constructed of stainless steel. When the stainless steel cabinet is ordered, the top, sides, front panels, back panel and all internal cabinet steel are stainless.

Protective Coil Coatings - Either the condenser or evaporator coil can be coated, however, coating of the evaporator coil is not common. For harsh conditions, e.g., power plants, paper mills or sites where the unit will be exposed to salt water, the coil should be coated with either an impregnated polyurethane (trade name BlyGold®). The

impregnated polyurethane coatings is sprayed on and passes 3,000 hours of B117 salt fog test. Note: Cooling capacity may be reduced by up to 5% on units with coated coils.

Extended Warranty - A first year labor - Silver, and a two year labor - Gold, are available.

Accessories

Combination Supply/Return Grille (non-economizer units only)

26" x 17" (660 mm x 432 mm) P/N 80669

Combination Supply/Return Filter Grille (economizer units only)

26" x 17" (660 mm x 432 mm) P/N 80681

Wall Sleeve (Required for proper operation.)

26-1/4" x 17-1/2" x 4" (667 mm x 445 mm x 102 mm)
P/N S/01784

Controllers

CommStat™ 3 Lead/Lag Microprocessor Controller P/N S/04581

Solid state controller designed to operate a fully or partially redundant air conditioning system. Insures equal wear on both air conditioners while allowing the lag unit to assist upon demand. Lead/lag changeover is factory set at 7 days, but is field programmable in 1/2 day increments from 1/2 to 7 days. The CommStat™ 3 Controller has LED's to indicate status & function, digital display of temperature, a comfort override button for energy savings, five alarm relays, a built in temperature sensor and is fully programmable. See CommStat™ 3 Controller Product Data Sheet for details on operation and installation.

LL357D4 Lead/Lag Controller P/N S/07529

Two stage heat and cool thermostat with solid state module for redundant operation See the LL357D4 Product Data Sheet for details.

Thermostats & Thermostat Guards

Thermostat P/N 50123

Digital thermostat. 1 stage heat, 1 stage cool. 7 day programmable. Fan switch: Auto & On. Auto-change over. Keypad lockout. Non-volatile program memory.

Thermostat P/N 50186

Digital non-programmable 1 stage heat, 1 stage cool. auto changeover.

Thermostat Guard P/N 50092

Thermostat guard for use with the 50123 and 50107 thermostats.

Control Board

The internal control board in the ECUA11 Environmental Control Units simplifies wiring, consolidates several of the electrical functions onto one device and improves the reliability of the air conditioner. In addition, the control board has LED's that indicate operational status and fault conditions.

LED Indicator Lights

COLOR	TYPE	STATUS	DESCRIPTION
Green	Power	Constant On	24 VAC power has been applied
Red	Status	Constant On	Normal operation
		1 Blink	High pressure switch has opened twice
		2 Blinks	Low pressure switch has opened twice
		3 Blinks	Freeze stat (optional) - indoor coil temperature is below 35°F (1°C)

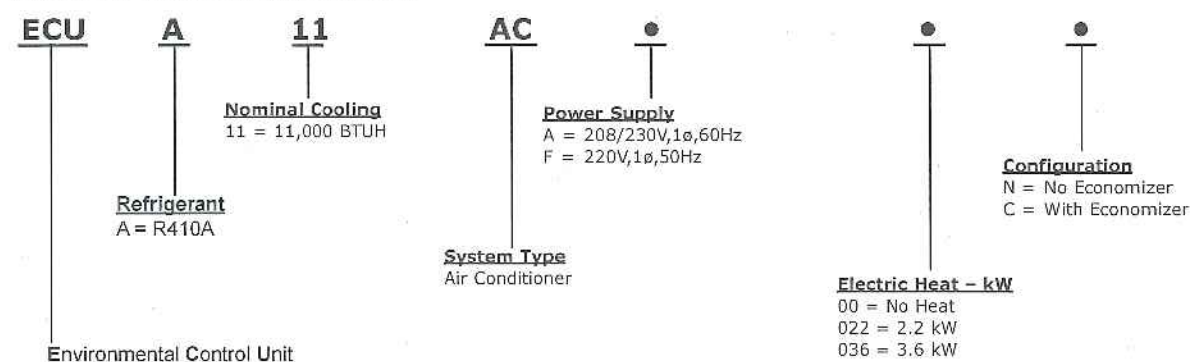
Modes of Operation

Normal Start-up: On a call for cooling, and the with the high pressure switch closed, the cooling system (compressor, indoor blower motor and outdoor fan motor) will be energized. (Note: See the Delay on Make feature). The cooling system will remain energized during the three minute low pressure switch bypass cycle. If the low pressure is closed, the cooling system will continue to operate after the three-minute bypass. If the low pressure switch is open after the three-minute bypass, the cooling system will be de-energized.

Lockout Mode: If either the high or low pressure switch opens twice, the control board enters into the lockout mode. In the lockout mode, the compressor is turned off, the alarm output is energized and the status LED's will blink to indicate which fault has occurred. If there is a call for air flow, the indoor blower will remain energized. When the lockout condition has cleared, the unit will reset if the demand of the thermostat is removed or when power is reset. The ComPac® air conditioners are factory wired for normally open contacts. The user can now have normally closed contacts by moving a wire on the control board.

Delay on Make: On initial power up or on resumption of power, the air conditioner will wait .03 to 10 minutes from a call for cooling before allowing the contactor to energize.

Model Identification



Summary Ratings (Wire Sizing)

ELECT. HEAT		000 = None		022 = 2.2 kW		036 = 3.6 kW	
BASIC MODEL	VOLTAGE	CKT #1		CKT #1		CKT #1	
	PHASE / HZ	MCA	MFS	MCA	MFS	MCA	MFS
ECUA11ACA (N, C)	208-230/1/60	7.9	15	12.4	15	19.6	20

MCA = Minimum Circuit Ampacity (Wire Sizing Amps) MFS = Max. Fuse Size or HACR circuit breaker

Electrical Characteristics

BASIC MODEL	COMPRESSOR					OUTDOOR MOTOR				INDOOR MOTOR			
	TYPE	VOLTS-HZ-PH	RLA	LRA	MCC	VOLTS-HZ-PH	RPM	FLA	HP	VOLTS-HZ-PH	RPM	FLA	HP
ECUA11ACA (N, C)	Rotary	208/230-60-1	5.1	32.5	7.9	208/230-60-1	1630	0.65	1/6	208/230-60-1	1650	0.85	1/5

RLA = Rated Load Amps LRA = Locked Rotor Amps MCC = Maximum Continuous Current RPM = Revolutions per Minute
FLA = Full Load Amps HP = Horsepower

Unit Load Amps

BASIC MODEL NUMBER	VOLTAGE HERTZ PHASE	CURRENT AMPS		LOAD OF RESISTIVE HEATING ELEMENTS ONLY (AMPS)		TOTAL MAXIMUM HEATING AMPS	
		AC UNIT	IBM	2.2 kW	3.6 kW	2.2 kW	3.6 kW
ECUA11ACA (N, C)	208/230-60-1	6.60	0.85	9.20	15.00	10.05	15.85

IBM = Indoor Blower Motor

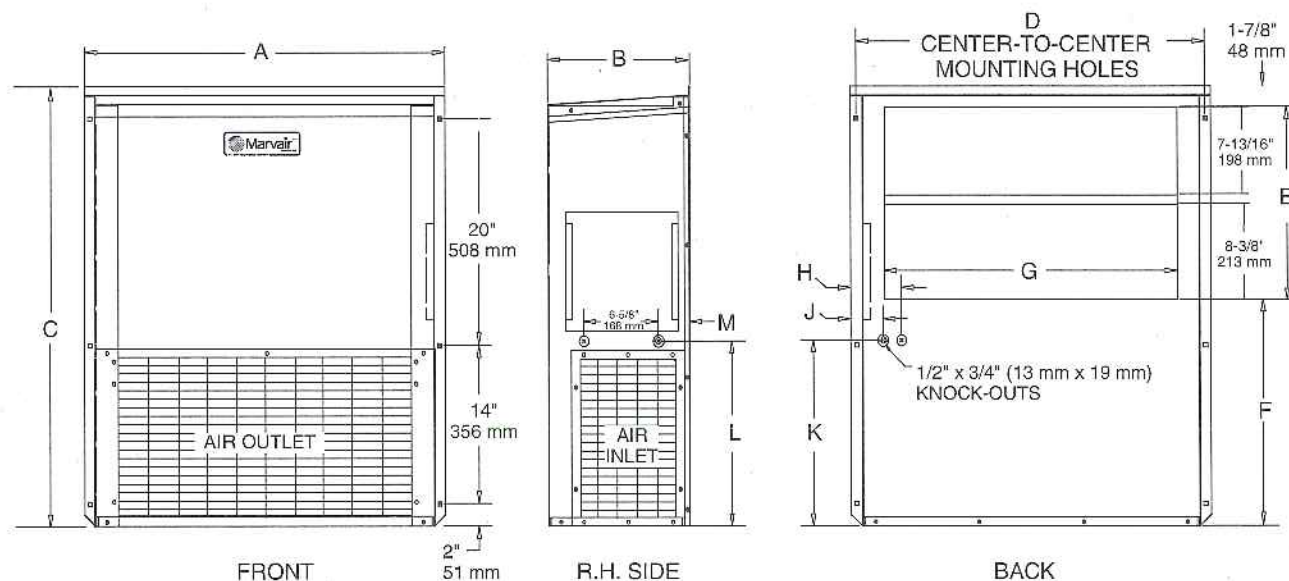
ECUA11 Total & Sensible Cooling Capacity

<i>Data based upon 80°F Dry Bulb/ 67°F wet bulb return air temperature at Various Outdoor Temperatures. Airflow at 475 CFM</i>									
Outdoor Temperature	75°F	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°
Total Cooling (BTUH)	12,760	12,320	11,880	11,440	11,000	10,560	10,120	9,680	9,460
Sensible Cooling (BTUH)	9,155	9,995	8,840	8,680	8,525	8,370	8,215	8,060	7,985
<i>Data based upon 26.5°C Dry Bulb/ 19.5°C wet bulb return air temperature at Various Outdoor Temperatures. Airflow at 805 m3/hr.</i>									
Outdoor Temperature	24°C	26.5°C	29°C	32°C	35°C	38°C	40.5°C	43.3°C	46°
Total Cooling (kW)	3.74	3.61	3.48	3.35	3.22	3.09	2.97	2.84	2.77
Sensible Cooling (kW)	2.68	2.93	2.59	2.54	2.50	2.45	2.41	2.36	2.34

Dimensional Data - ECUA11 Environmental Control Unit without Economizer

MODEL	A	B	C	D	E	F	G	H	J	K	L	M
ECUA11 (inches)	32	12-5/8	38-7/8	31	17	20	26	4-1/2	2-7/8	16-3/8	16-3/8	2-13/16
ECUA11 (mm)	813	321	987	787	432	508	660	114	73	417	416	71

Note: Dimensional tolerance $\pm 1/16"$ (2 mm)



MODEL - ECUA11	Non-Economizer Unit
SHIP WEIGHT - LBS/KG	160/75

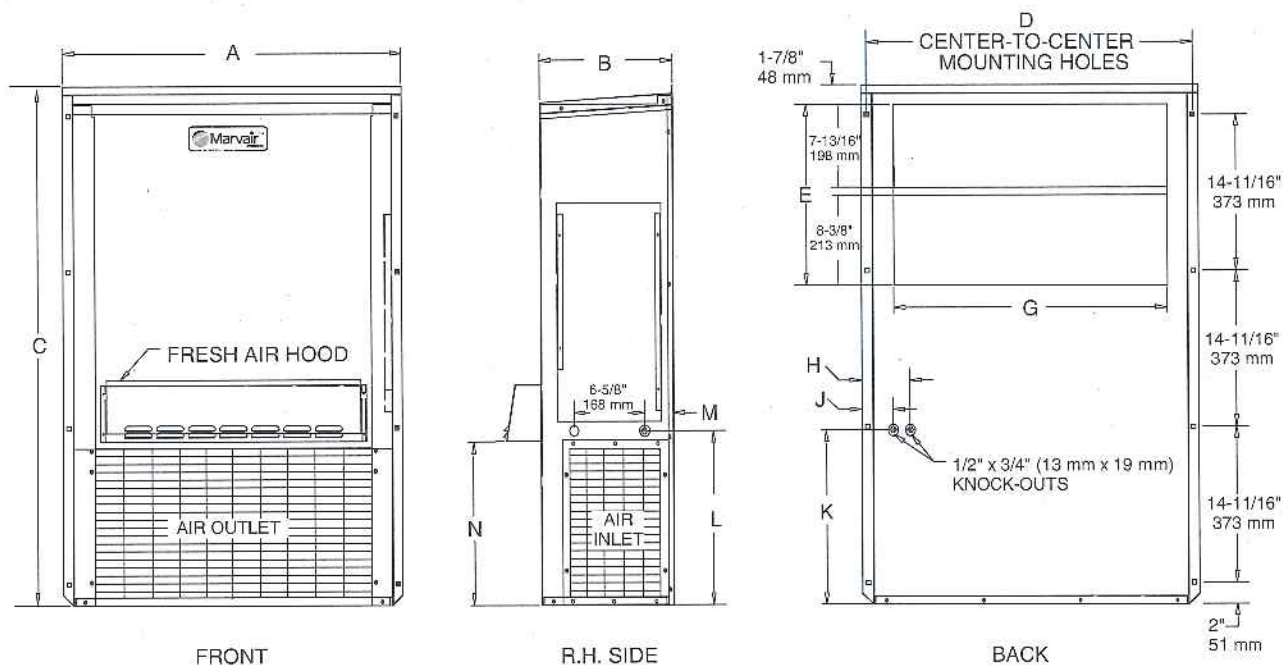
MODEL	FILTER SIZE (inches)	FILTER SIZE (mm)
FILTER SIZE	9-3/4 x 25 5/8 x 1"	248 x 651 x 25mm*

* The ECU11A non-economizer unit does not have an internal filter and requires a one piece combination supply and return filter grille, part number 80669.

Dimensional Data - ECUA11 Environmental Control Unit with Economizer

MODEL	A	B	C	D	E	G	H	J	K	L	M	N
ECUA11 (inches)	32	12-5/8	48-7/8	31	17	26	4-1/2	2-7/8	16-3/8	16-3/8	2-13/16	15-7/16
ECUA11 (mm)	813	321	1240	787	432	660	114	73	417	416	71	392

Note: Dimensional tolerance $\pm 1/16"$ (2 mm)



MODEL - ECUA11	Economizer Unit
SHIP WEIGHT - LBS/KG	170/80

MODEL	FILTER SIZE (inches)	FILTER SIZE (mm)
FILTER SIZE	6-1/4 x 22-1/4 x 2*	159 x 565 x 51*

* The ECU11A with economizer has an internal filter and uses a one piece combination and supply grille, part number 80681.

Please consult the Marvair® website at www.marvair.com for the latest product literature. Complete installation instructions are in the ECUA11 I&O Manual. Detailed dimensional data is available upon request. A complete warranty statement can be found in each product's Installation/Operation Manual, on our website or by contacting Marvair at 229-273-3636. As part of the Marvair continuous improvement program, specifications are subject to change without notice.



P.O. Box 400 • Cordele, GA 31010
 156 Seedling Drive • Cordele, GA 31015
 Ph: 229-273-3636 • Fax: 229-273-5154
 Email: marvair@airxcel.com • Internet: www.marvair.com

PERKINS THOMPSON
ATTORNEYS & COUNSELORS AT LAW

ESTABLISHED 1871

ONE CANAL PLAZA
PO BOX 426
PORTLAND ME 04112
TEL 207.774.2635
FAX 207.871.8026

www.perkinsthompson.com

May 5, 2016

VIA HAND DELIVERY

Robert L. Green, Jr., Project Manager
Maine Department of Environmental Protection – SMRO
Bureau of Land Resources
312 Canco Road
Portland, Maine 04103

Re: Permit-By-Rule Application, 40 West Commercial Street, Portland, ME

Dear Bob:

Enclosed please find the Permit-By-Rule application of co-applicants Northern Utilities, Inc. d/b/a Unitil and the Maine Department of Transportation with respect to the project referenced above. Also enclosed is a check in the amount of \$74.00 in payment of the fee associated with this application.

If you have any questions regarding the enclosed application, please do not hesitate to contact me. Thank you for your assistance.

Sincerely,



Joseph C. Siviski, Esq.
Attorney for Northern Utilities, Inc. d/b/a Unitil

JCS/ld
Enclosure

cc: (all via email)
Matt Doughty, Unitil
Peggy L. McGehee, Esq.
Toni Kemmerle, Esq., Maine DOT
William Pulver, Maine DOT
Theresa Pulver, Maine DOT
Joel Kittredge, Maine DOT

PHILIP C. HUNT
JOHN S. UPTON
PEGGY L. McGEHEE
MELISSA HANLEY MURPHY
JOHN A. HOBSON
JAMES N. KATSIARAKIS
TIMOTHY P. BENOIT
J. GORDON SCANNELL, JR.
FRED W. BOPP III
MARK P. SNOW
WILLIAM J. SHEILS
DAVID B. McCONNELL
PAUL D. PIETROPAOLI
RANDY J. CRESWELL
JULIANNE C. RAY
DAWN M. HARMON
CHRISTOPHER M. DARGIE
PETER J. McDONELL
SARA N. MOPPIN
SHAWN K. DOIL
JOSEPH G. TALBOT
LAUREN B. WELIVER
JOSEPH C. SIVISKI
JOHN W. MASLAND

11/14/2013

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NRPA PERMIT BY RULE NOTIFICATION FORM
 (For use with DEP Regulation, Natural Resources Protection Act—Permit by Rule Standards, Chapter 305)

PLEASE TYPE OR PRINT IN BLACK INK ONLY

Name of Applicant: (owner)	Maine DOT / Northern Utilities, Inc. d/b/a Unilt	Name of Agent:	Joel Kittredge / Matt Doughty
Applicant Mailing Address:	376 Riverside Industrial Parkway	Agent Phone # (include area code):	207-624-3550 (DOT) / 207-541-2579 (Unilt)
Town/City:	Portland	PROJECT Information Name of Town/City:	40 West Commercial Street, Portland
State and Zip code:	ME 04103	Name of Wetland or Waterbody:	Fore River
Daytime Phone # (include area code):	207-541-2579	Map #:	059A
		Lot #:	1-5; 7-11
Detailed Directions to Site: From S, take Exit 4 off of I-295 N across Veterans Memorial Bridge to Fore River Pkwy to West Commercial St. From N, take Exit 5A off of I-295 S. Turn left onto Fore River Pkwy then proceed to W Commercial St.			
		UTM Northing: (if known)	UTM Easting: (if known)
Description of Project:	Relocation of natural gas pipeline facilities. Please refer to Exhibit D attached hereto for additional information.		
Part of a larger project? (check one) →	☐ Yes ☐ No	After the Fact? (check one) →	☐ Yes ☐ No
Check one → This project ☐ does (or) ☒ does not involve work below mean low water (average low water).			

NRPA 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.

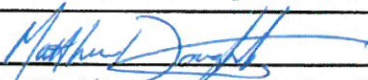
- | | | |
|--|---|--|
| ☒ Sec. (2) Act. Adj. to Protected Natural Res. | ☐ Sec. (10) Stream Crossing | ☐ Sec. (17) Transfers/Permit Extension |
| ☐ Sec. (3) Intake Pipes | ☐ Sec. (11) State Transportation Facil. | ☐ Sec. (18) Maintenance Dredging |
| ☐ Sec. (4) Replacement of Structures | ☐ Sec. (12)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

NOTIFICATION FORMS CANNOT BE ACCEPTED WITHOUT THE NECESSARY ATTACHMENTS:

- ☐ Attach a check for the correct fee, 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 U.S.G.S. topo map or Maine Atlas & Gazetteer map with the project site clearly marked.
- ☐ 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.informeg.org/nei-sos-icrs/ICRS?MainPage=x>). Individuals and municipalities are not required to provide any proof of identity.
- ☐ Attach photos of the proposed site where activity will take place as required in PBR Sections checked above.
- ☐ Attach all other required submissions as outlined in the PBR Sections checked above.

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 permit is not valid until approved by the Department or 14 days after receipt by the Department, whichever is less.**

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:		Date:	5/5/16
----------------------------------	---	-------	--------

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)287-3901

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.#	Date	Staff	Staff	After Photos
PBR #	FP		Acc. Date	Def. Date	

DEPLW0311-O2013

Joseph C. Siviski

From: Pulver, Theresa <Theresa.Pulver@maine.gov>
Sent: Thursday, May 05, 2016 1:10 PM
To: Joseph C. Siviski; Peggy L. McGehee
Cc: Kemmerle, Toni; Pulver, William; Kittredge, Joel; Elder, Robert
Subject: RE: MaineDOT's Response to PBR Application

Thank you, Bob, for those changes. By copy of this email to MaineDOT's Director of Project Development Bill Pulver and its Chief Counsel Toni Kemmerle, please let this response serve as MaineDOT's consent to be added as a co-applicant to the Permit By Rule application. If Joel Kittredge's signature is still needed, he is here in Augusta today, and copy of the signed application can be forwarded to you electronically if that format is acceptable.

Thank you,
Theresa Pulver

*Theresa Pulver
Legal Administrative Coordinator
Maine Department of Transportation
Office of Legal Services
16 State House Station
Augusta, ME 01333-0016
Phone: 207-624-3020
Fax: 207-624-3021
theresa.pulver@maine.gov*

From: jsiviski@perkinsthompson.com [mailto:jsiviski@perkinsthompson.com]
Sent: Thursday, May 05, 2016 1:02 PM
To: pmcgehee@perkinsthompson.com; Pulver, Theresa
Cc: Kemmerle, Toni; Pulver, William; Kittredge, Joel; Elder, Robert
Subject: RE: MaineDOT's Response to PBR Application

Theresa:

Attached is a revised PBR application which incorporates the revisions you have requested to Exhibit D. I just spoke to Bob Green at DEP and advised him that DOT would be added as a co-applicant. Per Bob, a DOT signature is not required as long as we provide some other evidence (such as your affirmative response to this email) of DOT's consent to be added as a co-applicant. So, if Joel is available to sign and date page 1 of the attachment, I'll include that with the filed application. If not, DOT's response to this email will suffice in place of a signature.

Thank you for your assistance,

Joe

JOSEPH C. SIVISKI
ATTORNEY

PERKINS THOMPSON

Exhibit A
Maine Atlas & Gazeeter map of
40 West Commercial Street Site

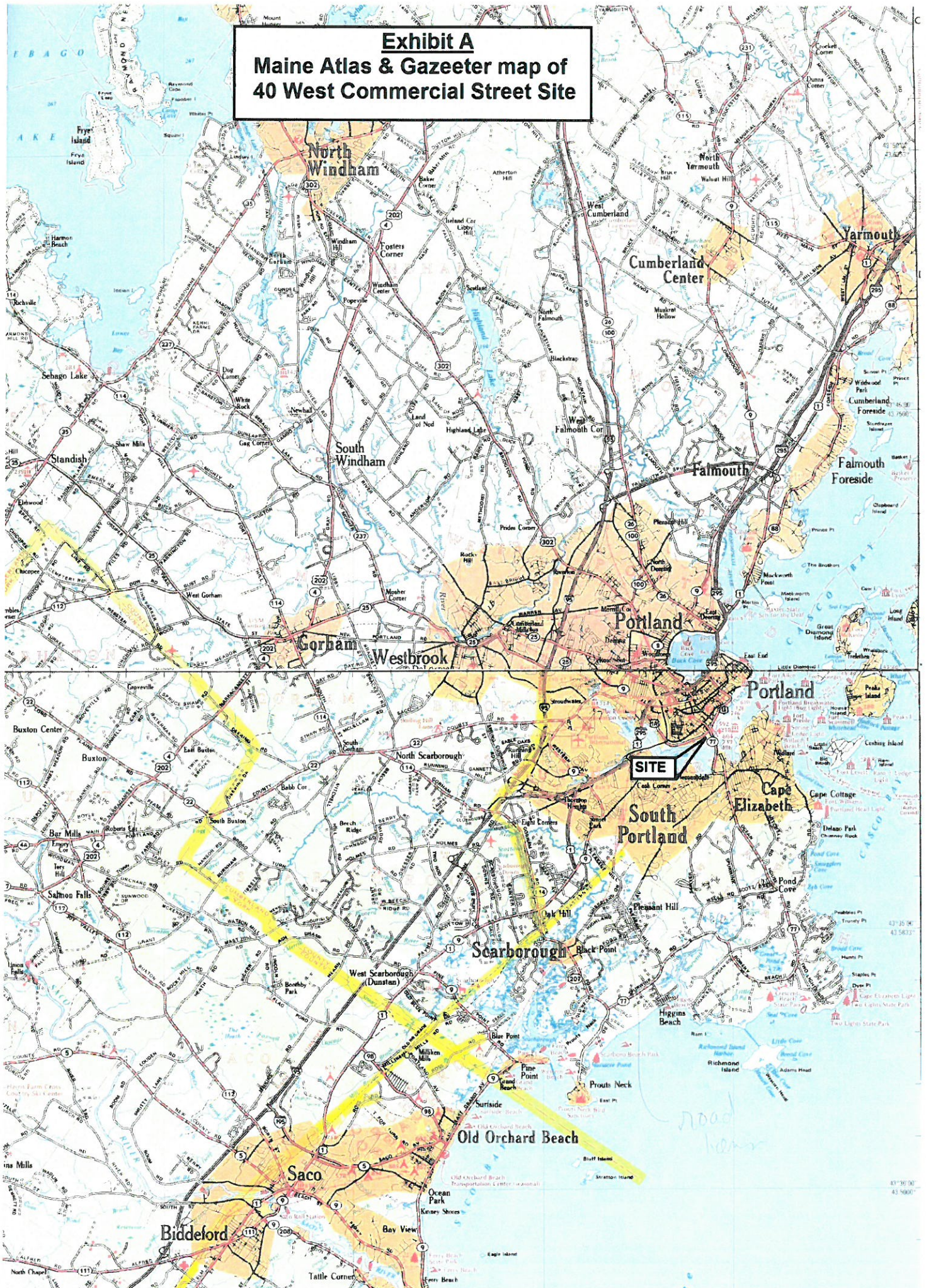


Exhibit B

Proof of Legal Name

**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: Wed May 04 2016 13:18:14. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
NORTHERN UTILITIES, INC.	20030256 F	BUSINESS CORPORATION (FOREIGN)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
09/12/2002	N/A	NEW HAMPSHIRE

Other Names	(A=Assumed ; F=Former)
UNITIL	A

Clerk/Registered Agent

CORPORATION SERVICE COMPANY
45 MEMORIAL CIRCLE
AUGUSTA, ME 04330

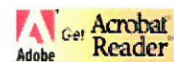
[Back to previous screen](#)[New Search](#)

Click on a link to obtain additional information.

[List of Filings](#)[View list of filings](#)**Obtain additional information:**

Certificate of Existence (more info)	Short Form without amendments (\$30.00)
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You will need Adobe Acrobat version 3.0 or higher in order to view PDF files. If you encounter problems, visit the [troubleshooting page](#).



If you encounter technical difficulties while using these services, please contact the [Webmaster](#). If you are unable to find the information you need through the resources provided on this web site, please contact the Bureau's Reporting and Information Section at 207-624-7752 or [e-mail](#) or visit our [Feedback](#) page.

© Department of the Secretary of State

Exhibit C

Site Photographs



1. Looking northeast towards IMT property and Casco Bay Bridge. Yellow flags indicate approximate location of existing pipeline.



2. Looking northeast at area of excavation.





4. Looking southwest at area of excavation.







7. Looking southwest at area of excavation.

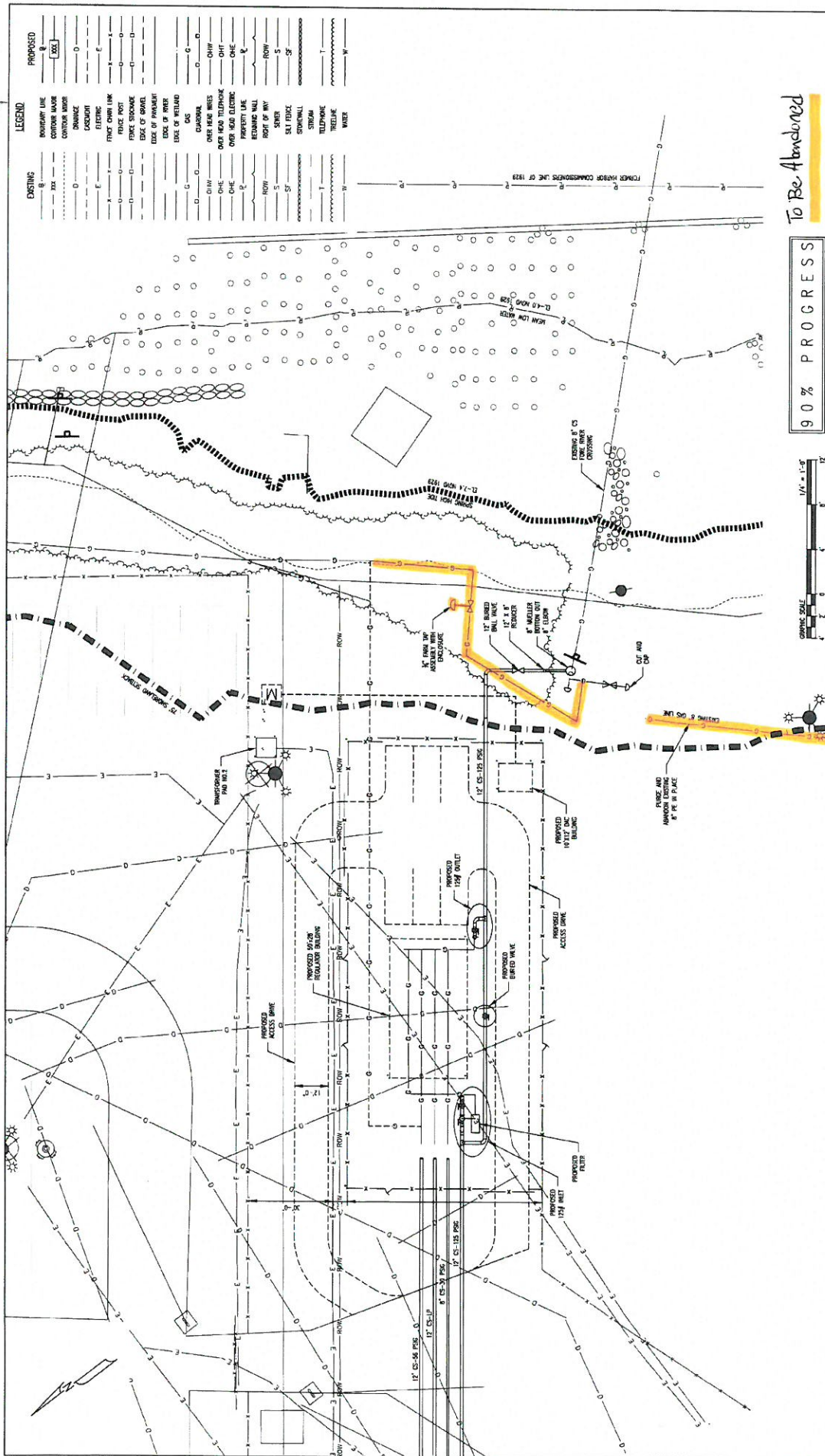


8. Buried electrical cable to run from proposed 10' x 12' DAC Building to gravel area on the shoreland side of existing transformer pad.

Exhibit D

Description of Project

Unitil is being required to relocate its natural gas facilities on the Site as part of a transportation project to expand the intermodal operations adjacent to existing marine terminal facilities serving the State of Maine. The planned expansion includes the construction of a large cold storage facility over existing Unitil pipelines. Due to safety considerations these pipelines must be relocated to an area outside of the proposed cold storage facility so that they are more accessible. The relocated pipelines must tie into two existing pipelines that are located within the 75-foot shoreland setback. One of these existing lines serves the International Marine Terminal property to the northeast and the other runs across the Fore River to South Portland. The proposed work includes the abandonment-in-place of certain segments of the existing pipeline and excavation for the replacement segments of pipeline. The proposed work also includes the installation of a buried electrical cable that will run from a proposed 10' by 12' DAC Building (located outside the 75-foot setback) to a location designated with an "M" on the attached plans. Please see the attached plans for additional information.



To Be Abandoned

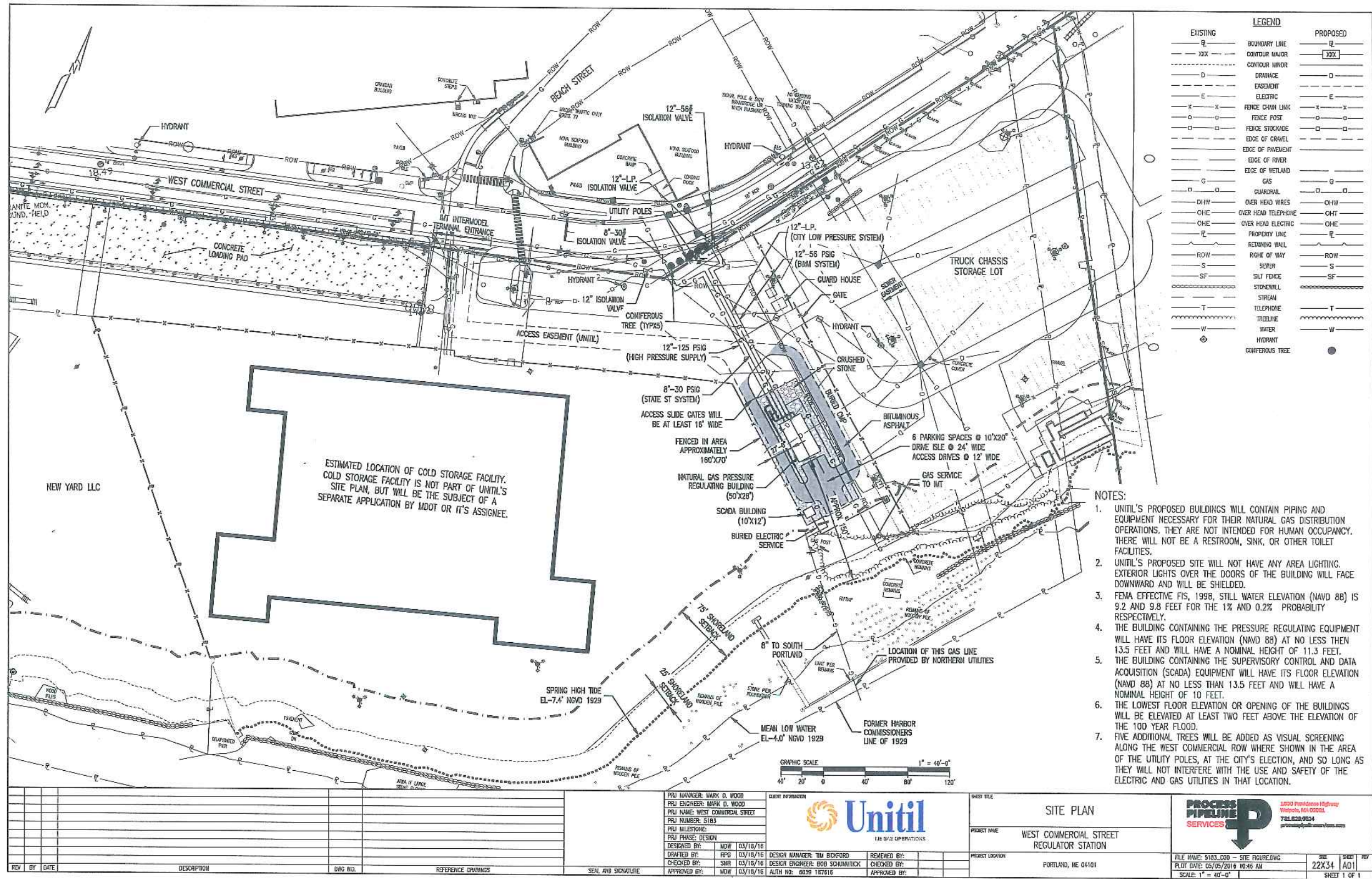
90% PROGRESS



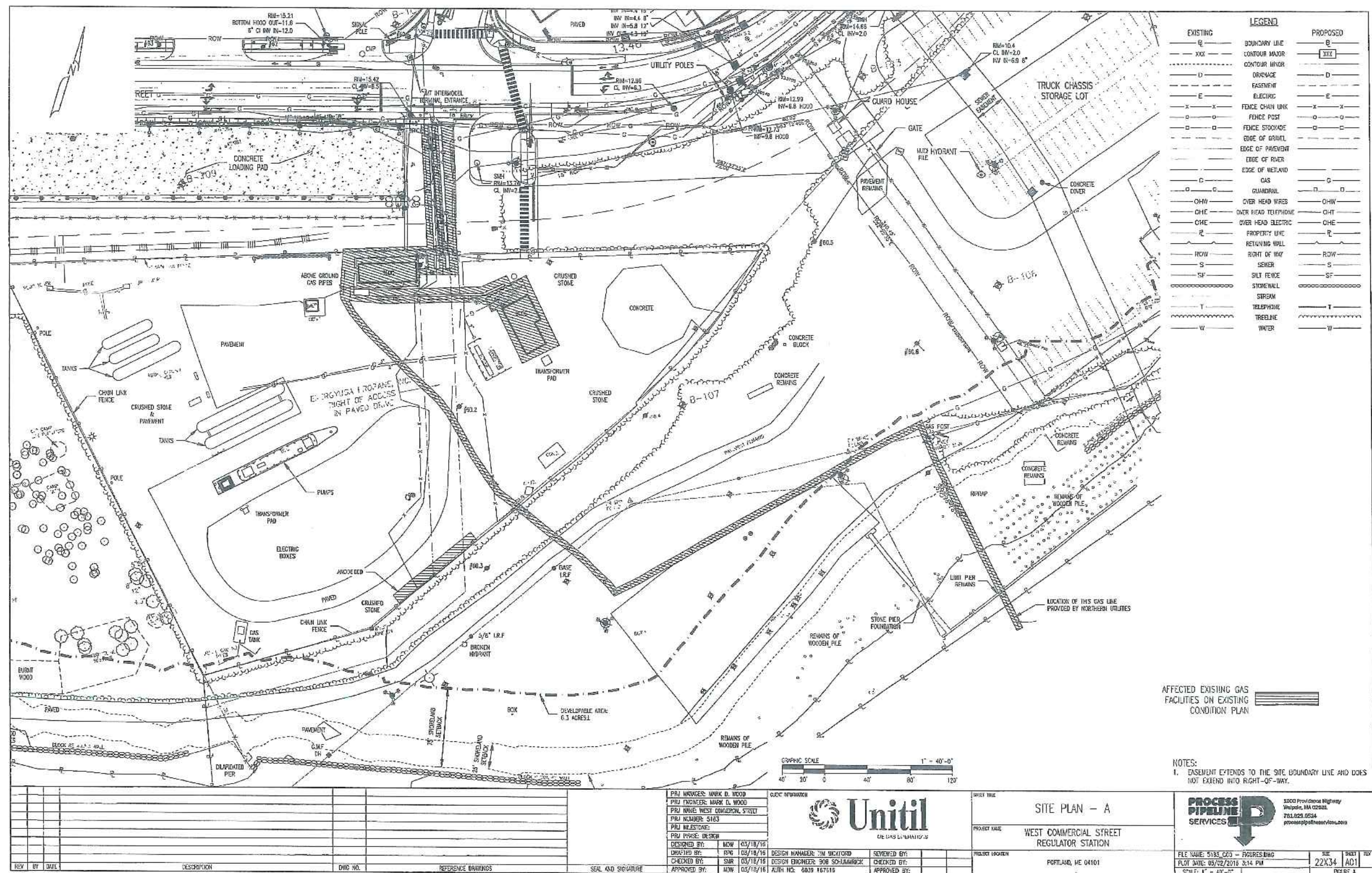
LEGEND

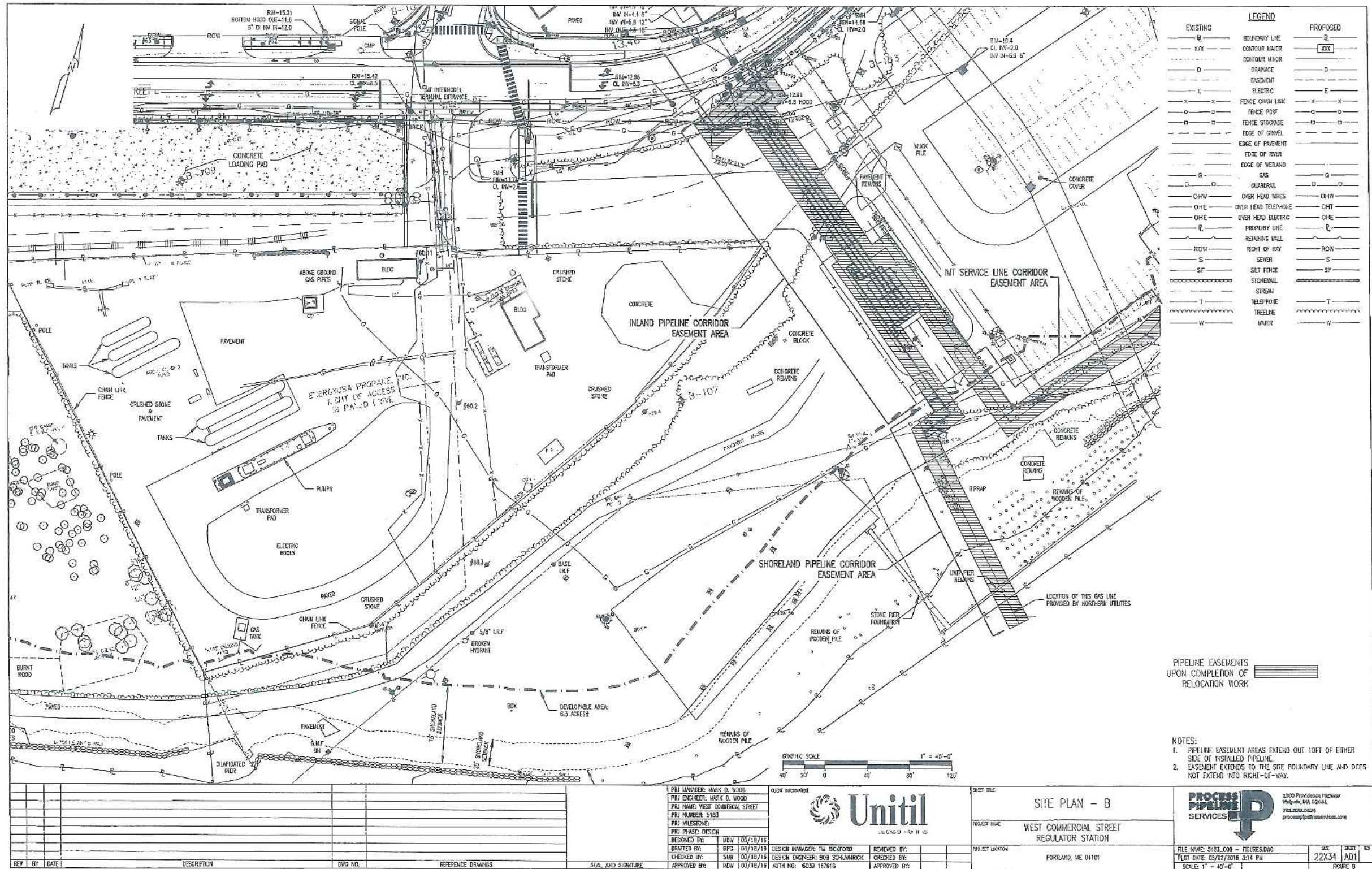
EXISTING	PROPOSED
BOUNDARY LINE	BOUNDARY LINE
CONCRETE MAJOR	CONCRETE MAJOR
CONCRETE MINOR	CONCRETE MINOR
ASPHALT	ASPHALT
ELECTRIC	ELECTRIC
EXISTING DRAIN LINE	EXISTING DRAIN LINE
EXISTING POST	EXISTING POST
EXISTING SPOORAGE	EXISTING SPOORAGE
EDGE OF SHOULDER	EDGE OF SHOULDER
EDGE OF PARKING	EDGE OF PARKING
EDGE OF DRIVE	EDGE OF DRIVE
EDGE OF WETLAND	EDGE OF WETLAND
EDGE OF ROAD	EDGE OF ROAD
OVERHEAD TELEPHONE	OVERHEAD TELEPHONE
OVERHEAD ELECTRIC	OVERHEAD ELECTRIC
PROPERTY LINE	PROPERTY LINE
REGULATORY WALL	REGULATORY WALL
RIGHT OF WAY	RIGHT OF WAY
SEWER	SEWER
SALT TOLERANT	SALT TOLERANT
STEAM	STEAM
TELEPHONE	TELEPHONE
WETLAND	WETLAND

Unil 1000 Providence Highway Warren, NJ 07059 www.unil.com		PHASE 3 POST PRESSURE TEST WEST COMMERCIAL STREET REGULATOR STATION	DATE: 12/14/18 BY: [Signature] FOR: [Signature]
DESIGNED BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature]		DATE: 12/14/18 BY: [Signature] FOR: [Signature]	DATE: 12/14/18 BY: [Signature] FOR: [Signature]
DATE: 12/14/18 BY: [Signature] FOR: [Signature]		DATE: 12/14/18 BY: [Signature] FOR: [Signature]	DATE: 12/14/18 BY: [Signature] FOR: [Signature]
DATE: 12/14/18 BY: [Signature] FOR: [Signature]		DATE: 12/14/18 BY: [Signature] FOR: [Signature]	DATE: 12/14/18 BY: [Signature] FOR: [Signature]

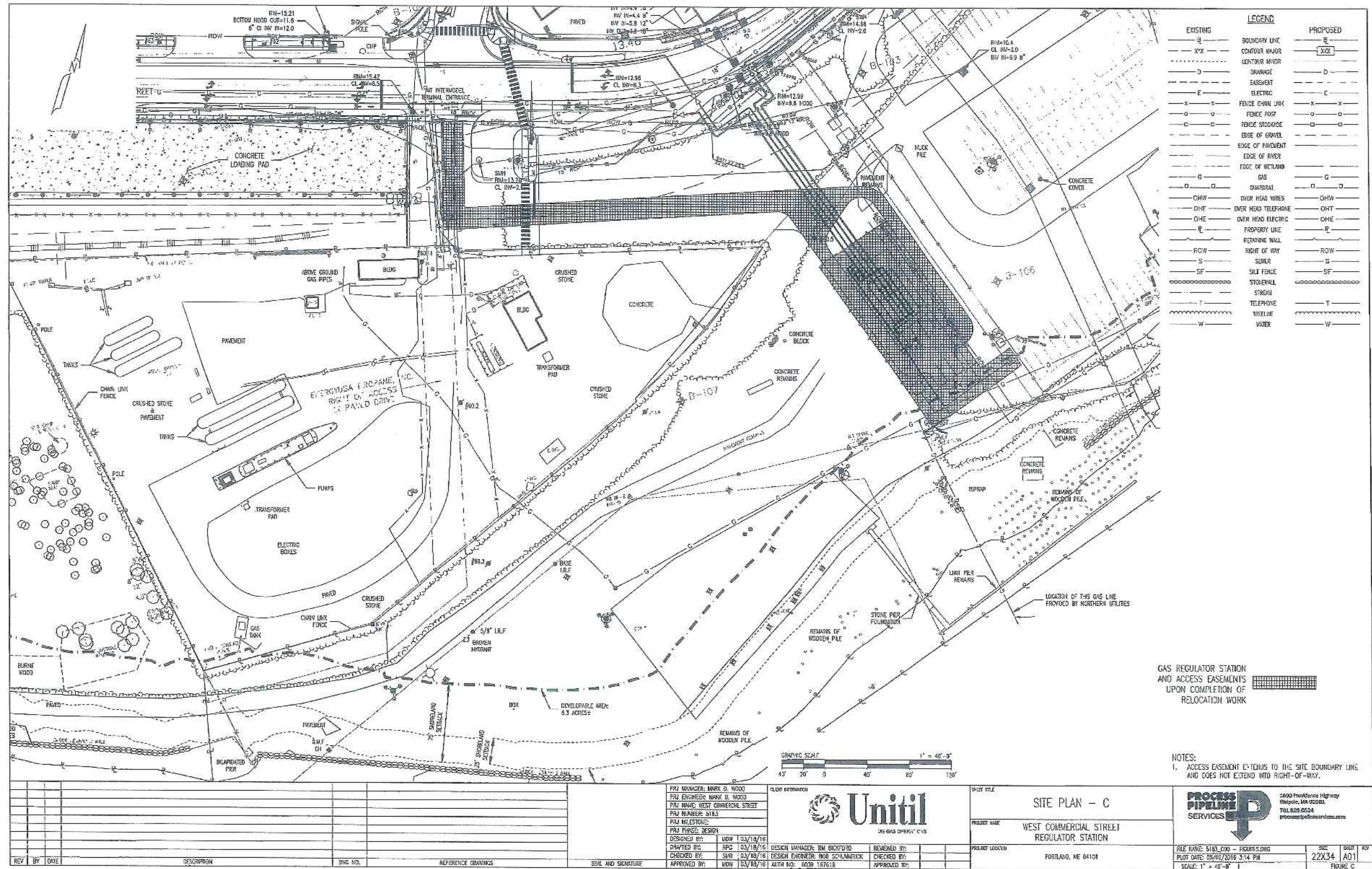


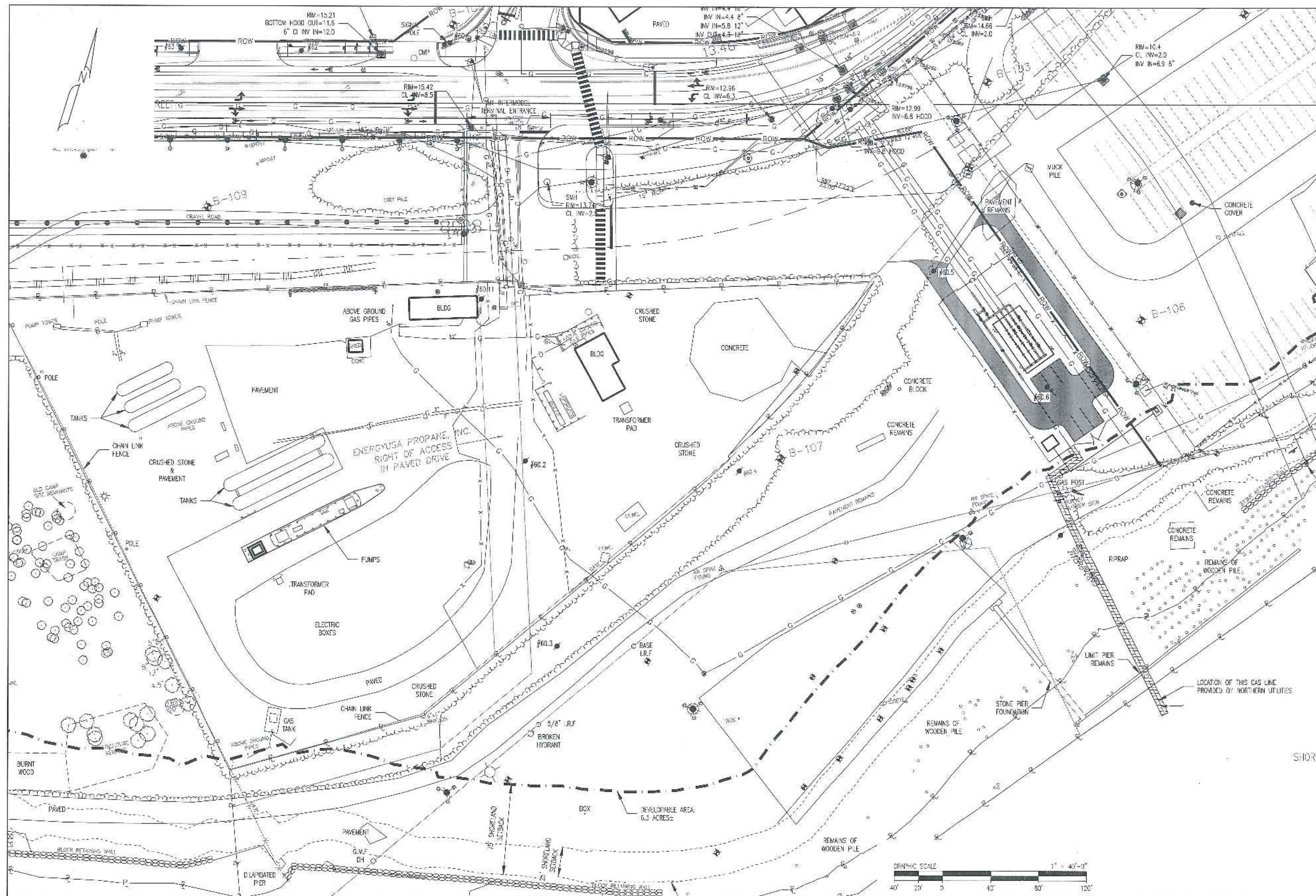
Plan 2





Plan 4





LEGEND	
EXISTING	PROPOSED
— E —	— E —
— XXX —	— XXX —
— D —	— D —
— E —	— E —
— X — X —	— X — X —
— O — O —	— O — O —
— P —	— P —
— ROW —	— ROW —
— S —	— S —
— SF —	— SF —
— T —	— T —
— W —	— W —
— G —	— G —
— O-H-W —	— O-H-W —
— O-H-E —	— O-H-E —
— O-H-E —	— O-H-E —
— P —	— P —
— ROW —	— ROW —
— S —	— S —
— SF —	— SF —
— T —	— T —
— W —	— W —

Plan 6

SHORELAND PIPELINE CORRIDOR EASEMENT AREA

NOTES:
1. SHORELAND PIPELINE CORRIDOR EASEMENT AREA (EXTENDING FROM SHORELAND BOUNDARY OF REGULATOR STATION EASEMENT AREA AND OUT 10 FT FROM EITHER SIDE OF CENTERLINE OF RELOCATED PIPELINE AS INSTALLED AND OF EXISTING SHORELAND PIPELINE THAT IS NOT RELOCATED BUT REMAINS IN SERVICE AFTER THE RELOCATION WORK; AND EXTENDING TO MEAN LOW WATER)

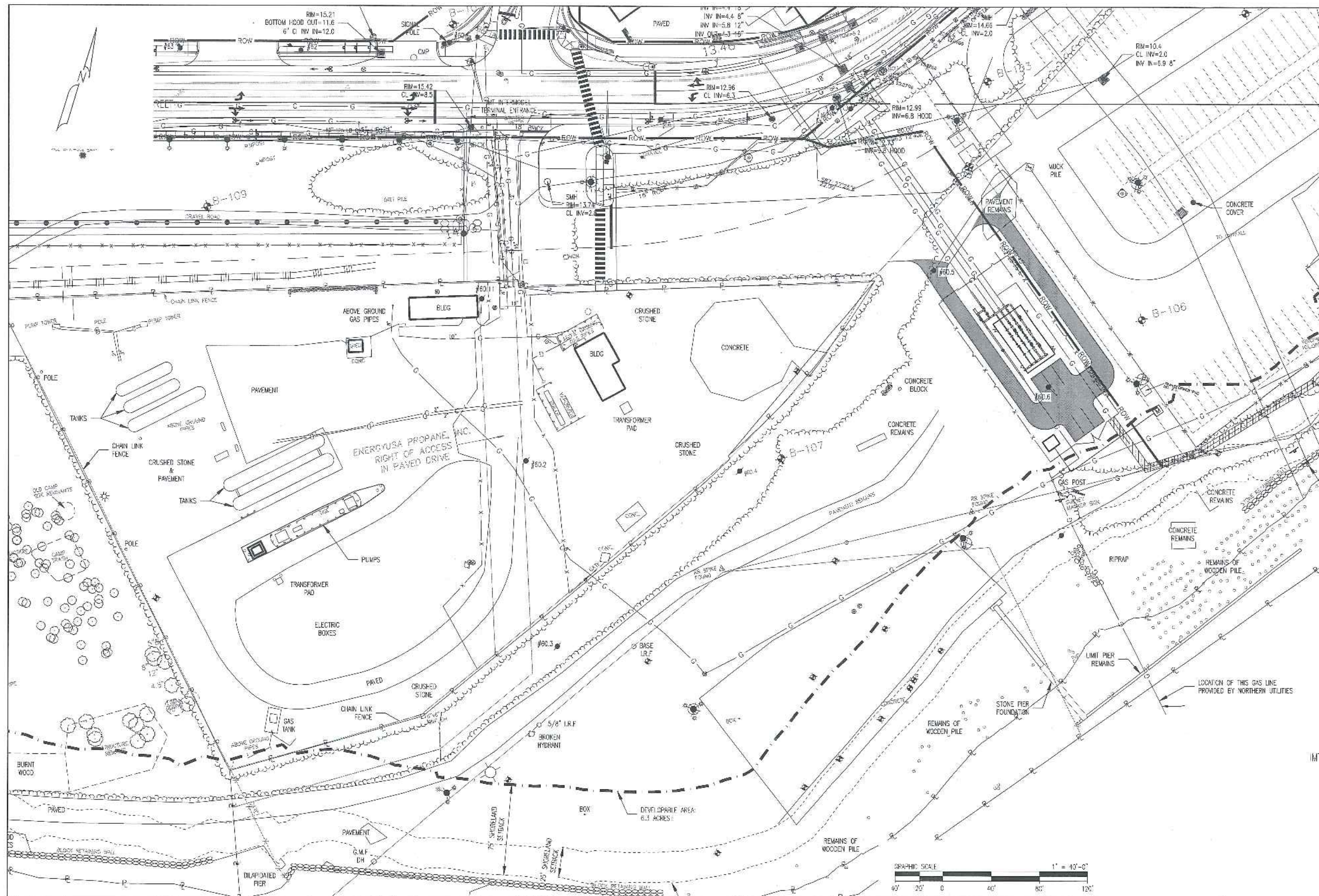
REV	BY	DATE	DESCRIPTION	DWG NO.	REFERENCE DRAWINGS	SEAL AND SIGNATURE

PRJ MANAGER: MARK D. WOOD
PRJ ENGINEER: MARK D. WOOD
PRJ NAME: WEST COMMERCIAL STREET
PRJ NUMBER: 5163
PRJ M LESTONE
PRJ PHASE: DESIGN
DESIGNED BY: MDW 03/18/16
DRAFTED BY: RFG 03/18/16
CHECKED BY: SMR 03/18/16
APPROVED BY: MDW 03/18/16

CLIENT INFORMATION
Unitil
N.E. GAS OPERATIONS
DESIGN MANAGER: TIM BICKFORD
DESIGN ENGINEER: BOB SCHUMMICK
ACTIVATION ORDER:
REVIEWED BY:
CHECKED BY:
APPROVED BY:

SHEET TITLE
FIGURE 5
PROJECT NAME
WEST COMMERCIAL STREET
REGULATOR STATION
PROJECT LOCATION
PORTLAND, ME 04101

PROCESS PIPELINE SERVICES
1600 Providence Highway
Weymouth, MA 02091
781.829.0524
processpipelineservices.com
FILE NAME: 5163_C00 - FIGURES.DWG
PLOT DATE: 04/01/2016 3:30 PM
SCALE: 1" = 40'-0"
SHEET 22X34
REV A01
FIGURE 5



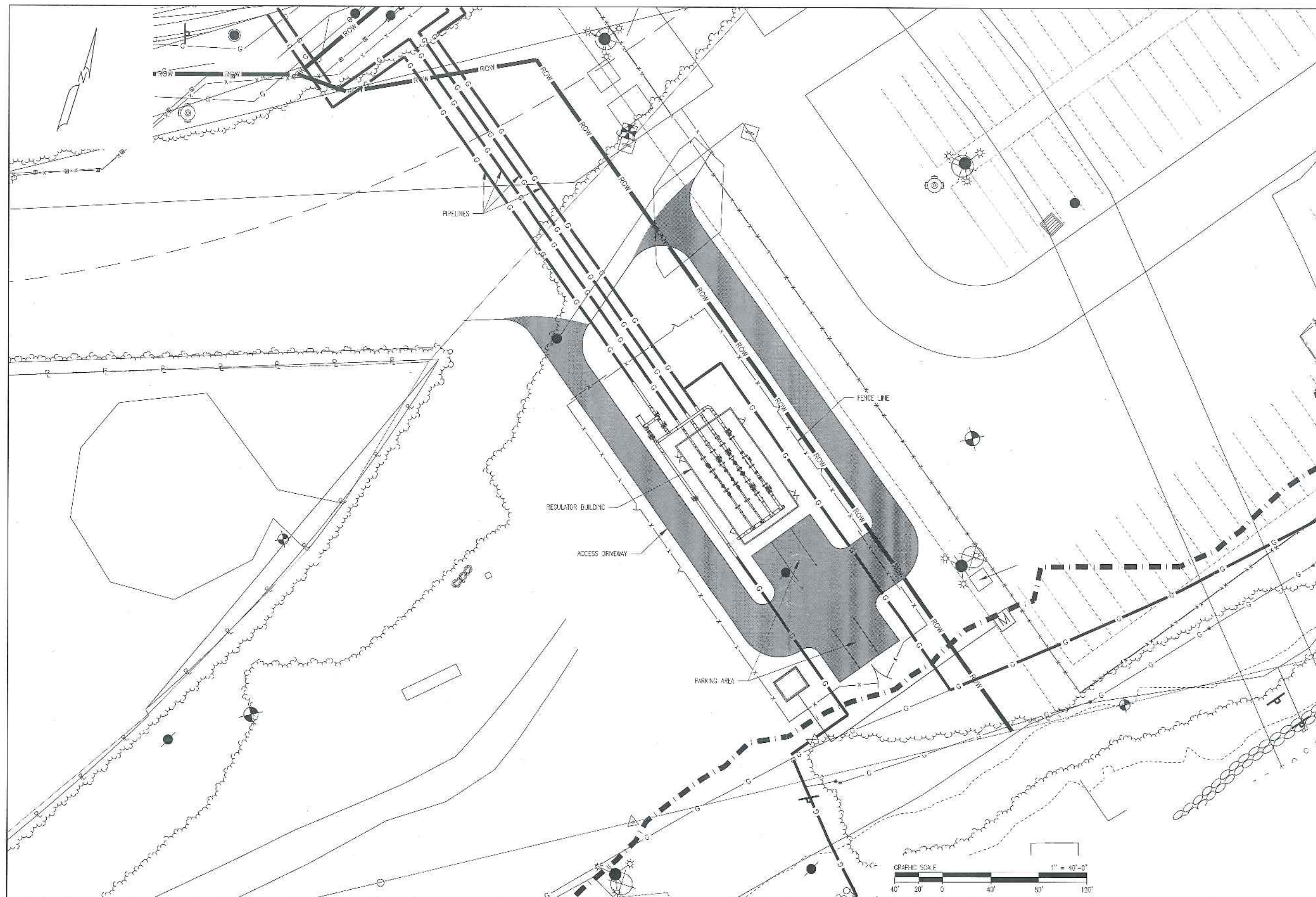
EXISTING		LEGEND		PROPOSED	
---	BOUNDARY LINE	---	BOUNDARY LINE	---	BOUNDARY LINE
---	CONTOUR MAJOR	---	CONTOUR MAJOR	---	CONTOUR MAJOR
---	CONTOUR MINOR	---	CONTOUR MINOR	---	CONTOUR MINOR
---	DRAINAGE	---	DRAINAGE	---	DRAINAGE
---	EASEMENT	---	EASEMENT	---	EASEMENT
---	ELECTRIC	---	ELECTRIC	---	ELECTRIC
---	FENCE CHAIN LINK	---	FENCE CHAIN LINK	---	FENCE CHAIN LINK
---	FENCE POST	---	FENCE POST	---	FENCE POST
---	FENCE STOCKADE	---	FENCE STOCKADE	---	FENCE STOCKADE
---	EDGE OF GRAVEL	---	EDGE OF GRAVEL	---	EDGE OF GRAVEL
---	EDGE OF PAVEMENT	---	EDGE OF PAVEMENT	---	EDGE OF PAVEMENT
---	EDGE OF RIVER	---	EDGE OF RIVER	---	EDGE OF RIVER
---	EDGE OF WETLAND	---	EDGE OF WETLAND	---	EDGE OF WETLAND
---	GAS	---	GAS	---	GAS
---	GUARDRAIL	---	GUARDRAIL	---	GUARDRAIL
---	OVER HEAD WIRES	---	OVER HEAD WIRES	---	OVER HEAD WIRES
---	OVER HEAD TELEPHONE	---	OVER HEAD TELEPHONE	---	OVER HEAD TELEPHONE
---	OVER HEAD ELECTRIC	---	OVER HEAD ELECTRIC	---	OVER HEAD ELECTRIC
---	PROPERTY LINE	---	PROPERTY LINE	---	PROPERTY LINE
---	RETAINING WALL	---	RETAINING WALL	---	RETAINING WALL
---	RIGHT OF WAY	---	RIGHT OF WAY	---	RIGHT OF WAY
---	SEWER	---	SEWER	---	SEWER
---	SILT FENCE	---	SILT FENCE	---	SILT FENCE
---	STONEWALL	---	STONEWALL	---	STONEWALL
---	STREAM	---	STREAM	---	STREAM
---	TELEPHONE	---	TELEPHONE	---	TELEPHONE
---	TREELINE	---	TREELINE	---	TREELINE
---	WATER	---	WATER	---	WATER

Plan 7

INT SERVICE LINE CORRIDOR
EASEMENT AREA

NOTES:
1. INT SERVICE LINE CORRIDOR EASEMENT AREA
(EXTENDING OUT 10 FT FROM EITHER SIDE OF SERVICE LINE
AS INSTALLED)

					PRJ MANAGER: MARK D. WOOD PRJ ENGINEER: MARK C. WOOD PRJ NAME: WEST COMMERCIAL STREET PRJ NUMBER: 5163 PRJ VILLAGE: ONE PRJ PHASE: DESIGN					CLIENT INFORMATION  Unitil ME GAS OPERATIONS					SHEET TITLE FIGURE 6					 1600 Providence Highway Walpole, MA 02081 781.829.0524 process@pipelineservices.com																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					DESIGNED BY: MDW 03/18/16 DRAFTED BY: RPS 03/18/16 CHECKED BY: SMR 03/18/16 APPROVED BY: MDW 03/18/16					DESIGN MANAGER: TIM BICKFORD DESIGN ENGINEER: BOB SCHUMMICK ACQUATION ORDER:					REVIEWED BY: CHECKED BY: APPROVED BY:					PROJECT NAME WEST COMMERCIAL STREET REGULATOR STATION					PROJECT LOCATION PORTLAND, ME 04101					FILE NAME: 5163_000 - FIGURES.DWG PLOT DATE: 04/01/2016 3:30 PM SCALE: 1" = 40'-0"					SHEET 22X34 A01					REV																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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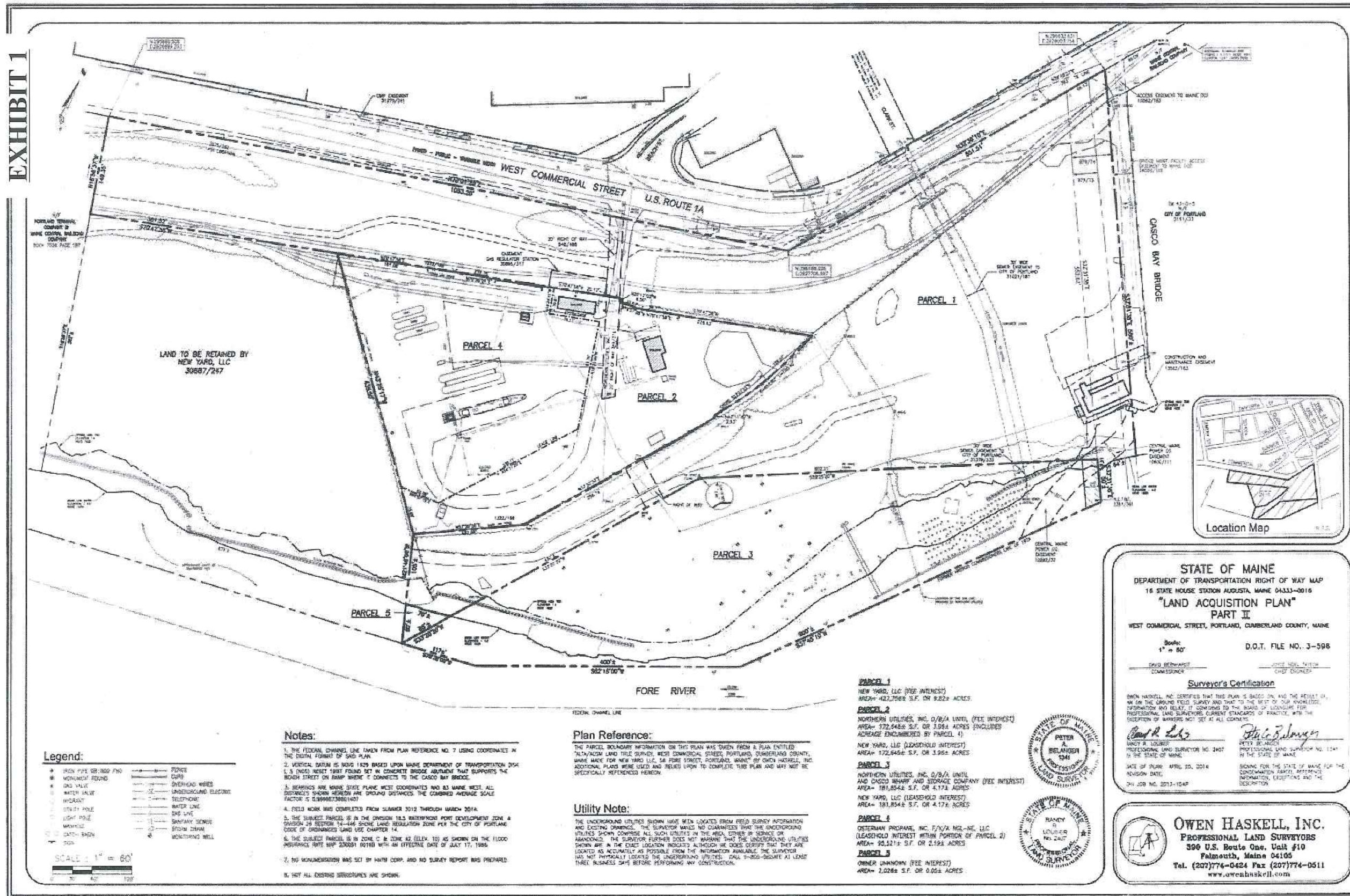


LEGEND	
EXISTING	PROPOSED
B	BOUNDARY LINE
XXX	CONTOUR MAJOR
---	CONTOUR MINOR
D	DRAINAGE
E	EASEMENT
E	ELECTRIC
X-X	FENCE CHAIN LINK
O-O	FENCE POST
□-□	FENCE STOCKADE
---	EDGE OF GRAVEL
---	EDGE OF PAVEMENT
---	EDGE OF RIVER
---	EDGE OF WETLAND
G	GAS
□-□	GUARDRAIL
OHW	OVER HEAD WIRES
OHE	OVER HEAD TELEPHONE
OHE	OVER HEAD ELECTRIC
P	PROPERTY LINE
---	RETAINING WALL
ROW	RIGHT OF WAY
S	SEWER
SF	SILT FENCE
---	STONEWALL
---	STREAM
T	TELEPHONE
---	TREELINE
W	WATER

Plan 10

						PRJ MANAGER: MARK D. WOOD		CLIENT INFORMATION:		SHEET TITLE		Figure 9 ALL RELOCATED FACILITIES		PROCESS PIPELINE SERVICES		1600 Providence Highway Walpole, MA 02081 781.829.0534 processpipeline.com	
						PRJ ENGINEER: MARK D. WOOD											
						PRJ NAME: WEST COMMERCIAL STREET		ME GAS OPERATIONS									
						PRJ NUMBER: 5183						PROJECT NAME		WEST COMMERCIAL STREET REGULATOR STATION			
						PRJ MILESTONE:											
						PRJ PHASE: DESIGN											
						DESIGNED BY: MDW 03/18/16						PROJECT LOCATION		PORTLAND, ME 04101		FILE NAME: 5183_000 - FIGURES.DWG	
						DRAFTED BY: RPG 03/18/16		DESIGN MANAGER: TIM BOKFORD		REVIEWED BY:						SIZE	
						CHECKED BY: SMR 03/18/16		DESIGN ENGINEER: BOB SCHUMWICK		CHECKED BY:						22X34	
						APPROVED BY: MDW 03/18/16		ACTIVATION ORDER:		APPROVED BY:						A01	
REV BY DATE DESCRIPTION DWG NO. REFERENCE DRAWINGS SEAL AND SIGNATURE																PLOT DATE: 04/01/2016 3:30 PM	
																SCALE: 1" = 40'-0"	
																FIGURE 9	

EXHIBIT 1



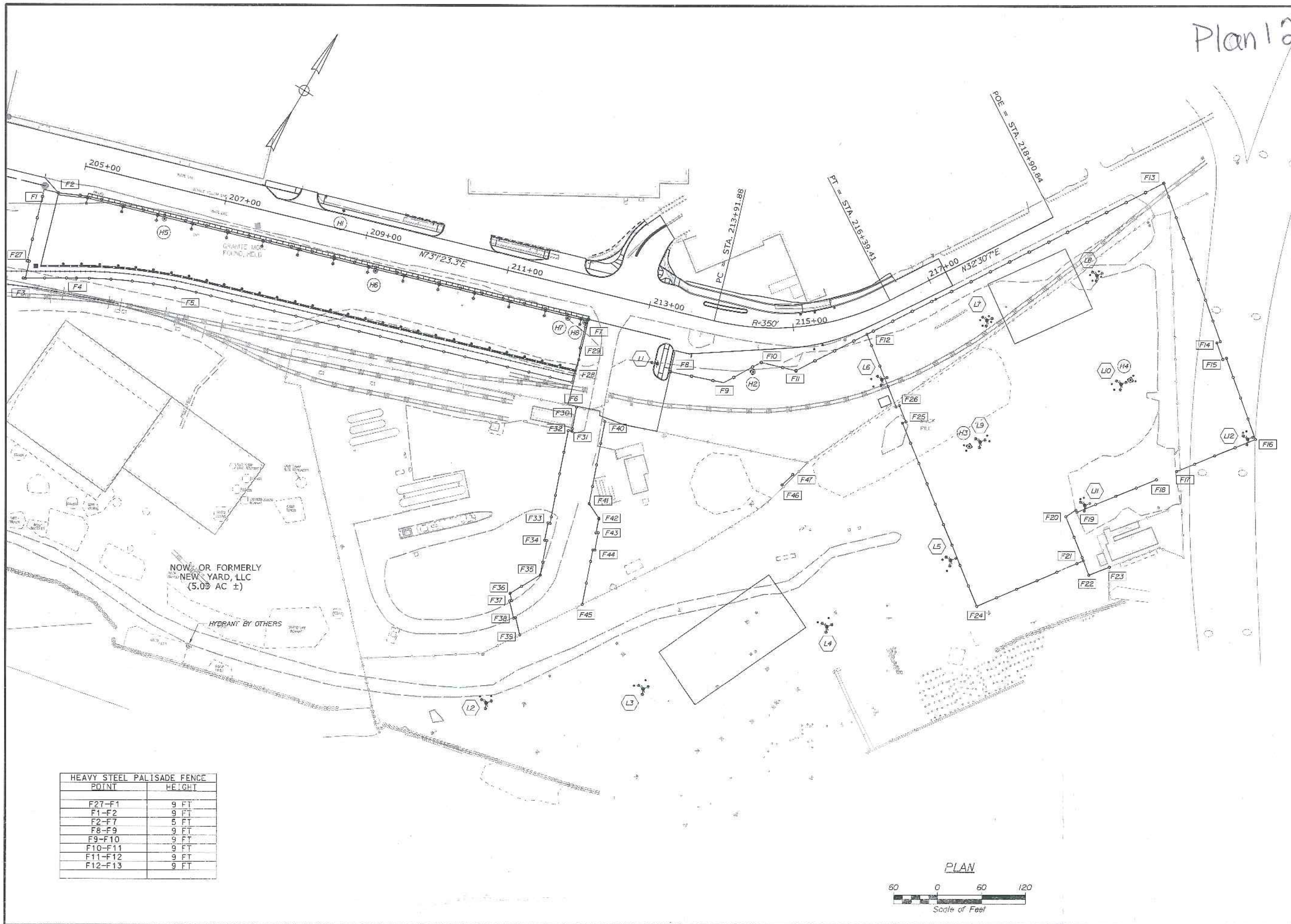
Plan 11

Date: 6/26/2014

Username:

Division:

Filename: 021_SiteGeometricsPlan3.dgn



HEAVY STEEL PALISADE FENCE	
POINT	HEIGHT
F27-F1	9 FT
F1-F2	9 FT
F2-F7	5 FT
F8-F9	9 FT
F9-F10	9 FT
F10-F11	9 FT
F11-F12	9 FT
F12-F13	9 FT



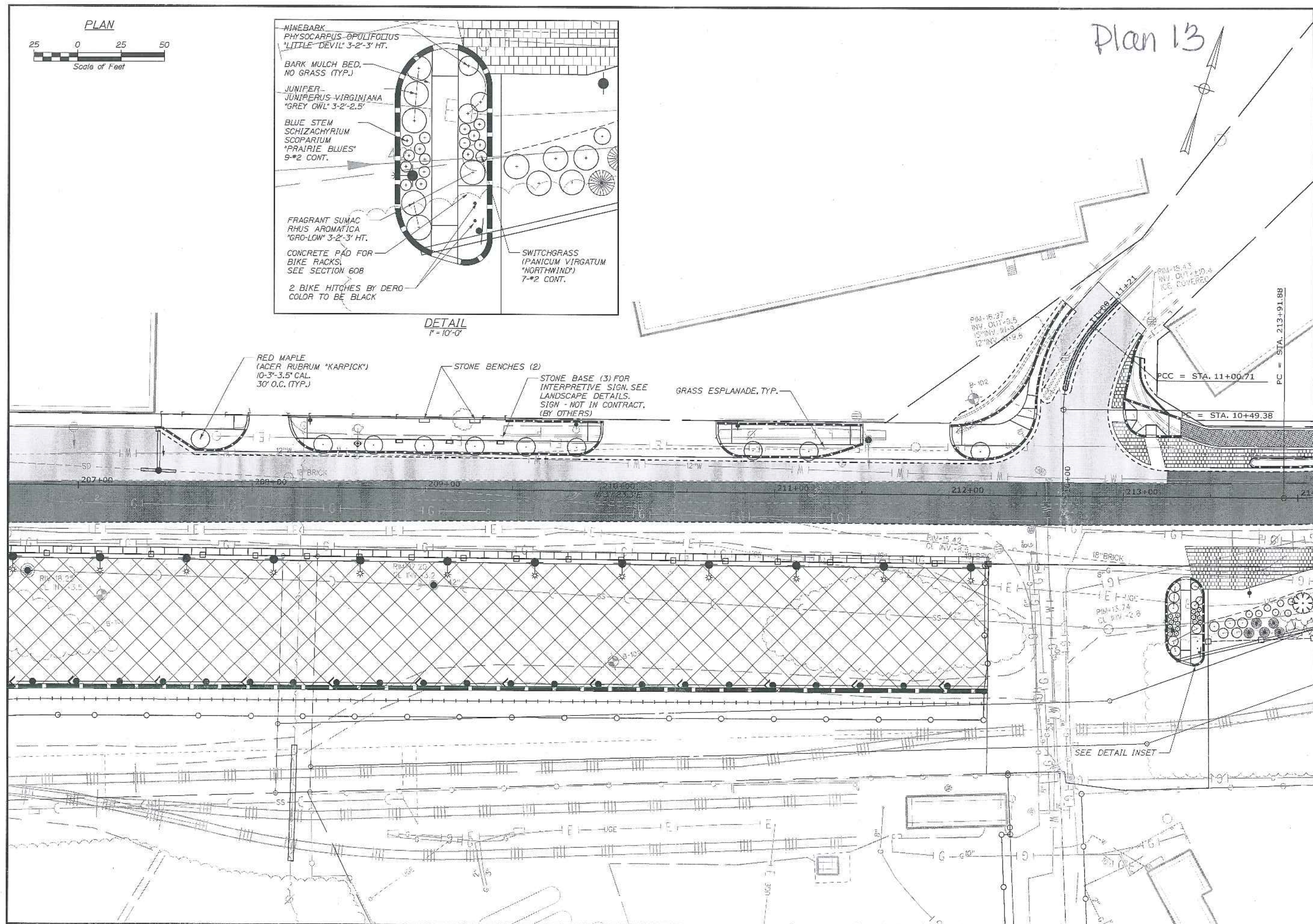
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN
022809.20

PROJ. MANAGER	J. KITTREDGE	DATE	06/24/14
DESIGN DETAIL	MM	DATE	06/24/14
DESIGN REVIEW	SEM	DATE	06/24/14
DESIGN APPROVAL	SEM	DATE	06/24/14
REVISIONS			
1			
2			
3			
4			
FIELD CHANGES			

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
CUMBERLAND COUNTY
PORTLAND
FENCING, HYDRANT, LIGHT POLE
AND BOLLARD GEOMETRICS

SHEET NUMBER
C18

21 OF 116



Date: 6/26/2014

Username:

Division:

Filename: 026_LandscapeDetails&Notes.dgn

NOTES: REMOVE ALL LABELS, TAGS AND OTHER FOREIGN MATERIAL FROM LIMBS.

TREES UNDER 8' DO NOT REQUIRE STAKING.

PLANT SO THAT TRUNK FLARE IS VISIBLE AND ABOVE FINISHED GRADE.

RUBBER HOSE PROTECTIVE GUARD PER WIRE

NO. 10 WIRE

NOTCH IN STAKE FOR WIRE

2" x 2" STAKE

REMOVE CREPE PAPER WRAP IF PRESENT

3"-4" BARK MULCH RING - 6" DIA. MIN. OR AS SHOWN ON PLAN

FINISHED GRADE

PREPARED SOIL MIX - BACKFILL WITH 3 PARTS CLEAN LOAM TO ONE PART PEAT. MUST BE FREE OF UNDESIRABLE MATERIALS. WATER TO REMOVE AIR POCKETS.

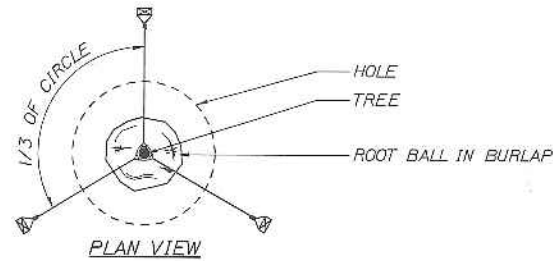
BURLAP, TYING MATERIAL, & WIRE BASKET SHALL BE CAREFULLY REMOVED OR CUT BACK TO THE BOTTOM OF THE PLANTING HOLE.

UNDISTURBED EXISTING SOIL

NO SCARIFICATION BELOW ROOTBALL

SLOW RELEASE FERTILIZER PACKET 6-8" DEPTH, 3 PACKETS REQUIRED

SECTION VIEW



TREE PLANTING DETAIL
NOT TO SCALE

NOTES: SCARIFY ROOTBALL USING A SHARP BLADE EVERY SIX INCHES AROUND THE CIRCUMFERENCE AND TO A DEPTH OF TWO INCHES.

REMOVE ALL LABELS, TAGS AND OTHER FOREIGN MATERIAL FROM LIMBS.

3"-4" BARK MULCH

REMOVE TOP 2/3 OF BURLAP FROM ROOT BALL (TYP.)

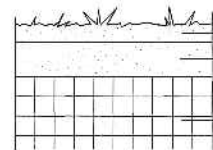
3"-4" RIM

FINISHED GRADE

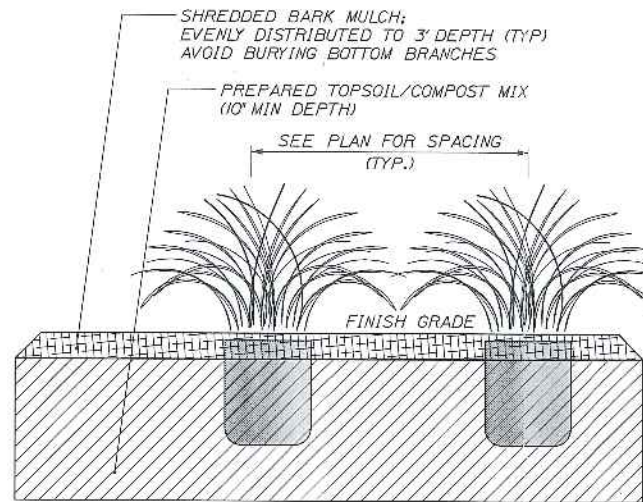
PREPARED SOIL MIX - BACKFILL WITH 3 PARTS CLEAN LOAM TO ONE PART PEAT. MUST BE FREE OF UNDESIRABLE MATERIALS. WATER TO REMOVE AIR POCKETS.

SLOW RELEASE FERTILIZER PACKET 6-8" DEPTH, 1 PACKETS REQUIRED

SHRUB PLANTING DETAIL
NOT TO SCALE

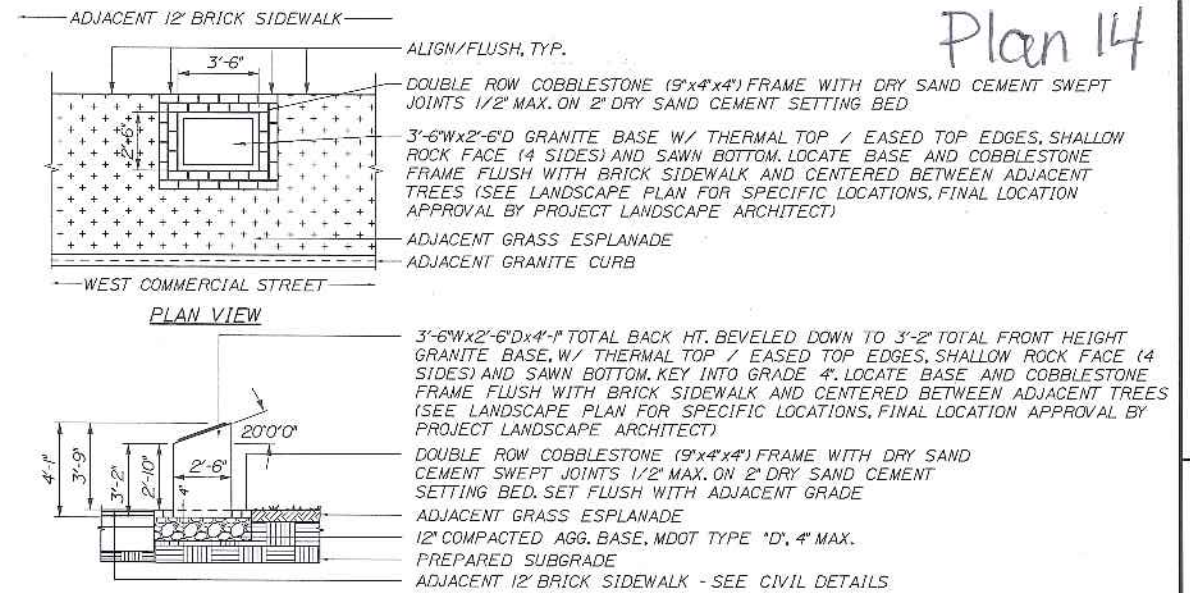


LAWN PLANTING DETAIL
NOT TO SCALE

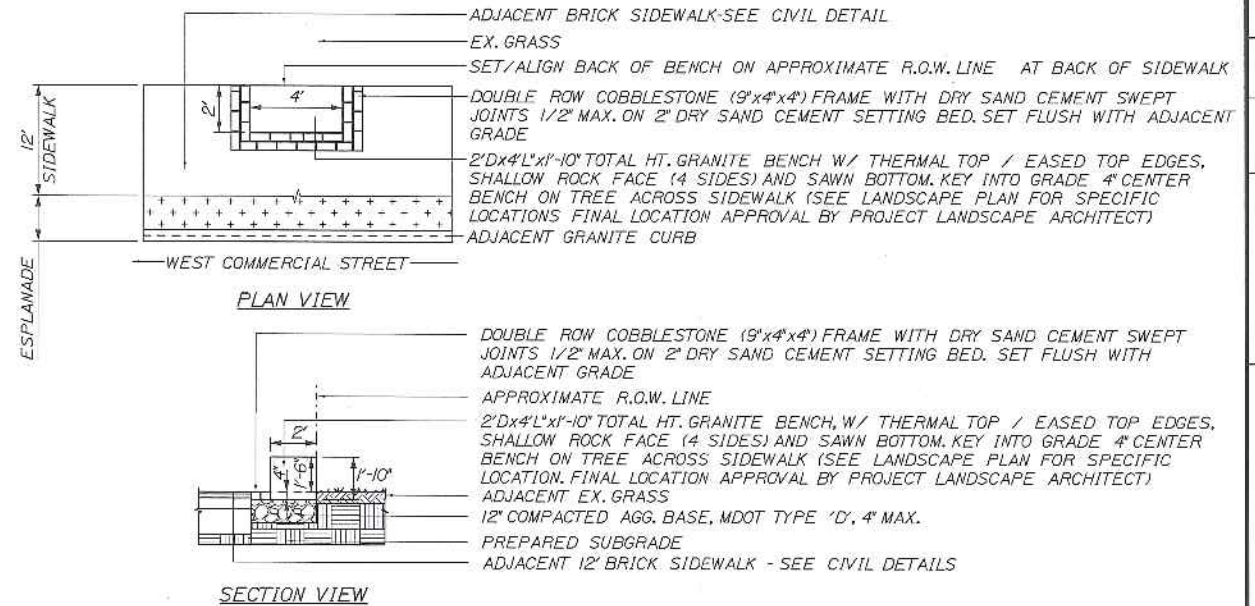


PLANTING PROCEDURE:
EXCAVATE PLANT HOLE TO WIDTH TWICE THE SIZE OF POT (TYP.) CENTER PLANT SQUARELY IN HOLE; PERPENDICULAR TO GRADE BACKFILL BOTTOM 2/3 OF PLANT W/ COMBINATION OF EXCAVATED SOIL AND SOIL/FERTILIZER AMMENDMENT; (CONSULT SPECIFICATIONS FOR SOIL ADMIXTURE CONTENT) COMPACT BACKFILL AROUND PLANT TO PREVENT SHIFTING/SETTLING; WATER PLANT THOROUGHLY; CONTINUE BACKFILLING PLANT TO FINISH GRADE;

PERENNIAL PLANTING DETAIL
NOT TO SCALE



GRANITE BASE FOR SIGN DETAIL
NOT TO SCALE



GRANITE BENCH DETAIL
NOT TO SCALE

PLANTING NOTES

1. CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
2. CONTRACTOR SHALL SUPPLY PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON THE PLAN. ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN IN THE PLANT SCHEDULE AND THOSE REQUIRED ON THE PLAN SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL REMUNERATION. ANY DISCREPANCIES SHALL BE CLARIFIED WITH THE LANDSCAPE ARCHITECT PRIOR TO ORDERING PLANT MATERIAL.
3. ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THE ORIGINAL GRADES BEFORE DIGGING.
5. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
6. ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE.
7. ALL PLANT BEDS SHALL MEET MINIMUM TOPSOIL REQUIREMENTS (SEE SPECIFICATIONS).
8. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRUBBING, BED PREPARATION, AND FINISH GRADING HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
9. ALL PLANTS BEDS AND TREE WELLS SHALL HAVE A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH.
10. CONTRACTOR SHALL SUBMIT SOIL SAMPLE AND TEST OF TOPSOIL TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SOIL ADMIXTURE SHALL BE ADDED TO EXISTING SOIL (BY CONTRACTOR) IF DEEMED NECESSARY BY SOIL TEST RESULTS.
11. ROUGH GRADING AND BED PREPARATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO REQUIRED SITE VISIT.
12. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. ALL ROOT WRAPPING AND CONTAINER MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
13. ALL BROAD LEAF EVERGREEN PLANTS SHALL BE SPRAYED WITH AN ANTI-DESSICANT AT THE BEGINNING OF THEIR FIRST WINTER.
14. ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. CONTRACTOR SHALL STAKE TREES IF DEEMED NECESSARY BY LANDSCAPE ARCHITECT.
16. THE LANDSCAPE CONTRACTOR SHALL PROVIDE LOAM FILL AS PER THE CONTRACT SPECIFICATIONS.
17. ALL PLANTS SHALL THEN BE WATERED BY THE CONTRACTOR, AS NECESSARY TO INSURE HEALTH UNTIL FINAL ACCEPTANCE.
18. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST AND PLANTING SPECIFICATIONS FOR SEASONAL REQUIREMENTS AND OTHER RESTRICTIONS RELATED TO THE TIME AND SEASON OF PLANTING.

Plan 14

STATE OF MAINE DEPARTMENT OF TRANSPORTATION PROJECT NUMBER 022809.20 WIN 022809.20	SIGNATURE		P.E. NUMBER		DATE	
	DATE		DATE		DATE	
	DATE		DATE		DATE	
	DATE		DATE		DATE	
PORTLAND INTERNATIONAL MARINE TERMINAL EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION PORTLAND CUMBERLAND COUNTY LANDSCAPING DETAILS AND NOTES	DESIGN	DATE	BY	DATE	DATE	DATE
	CHECKED	DATE	DATE	DATE	DATE	DATE
	DESIGNED	DATE	DATE	DATE	DATE	DATE
	REVISED	DATE	DATE	DATE	DATE	DATE
SHEET NUMBER		C23				
		26 OF 116				

Plan 15

Portland, Maine

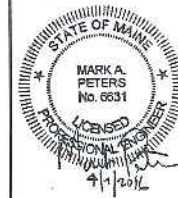
Portland, Maine 04101

Portland, Maine 04101



NT:

<u>SHEET NO.</u>	<u>DWG. NO.</u>	<u>DRAWING TITLE</u>
1	G-101	TITLE SHEET
2	C-100	EXISTING CONDITIONS PLAN
3	C-101	EROSION & SEDIMENT CONTROL PLAN
4	C-501	SITE AND EROSION & SEDIMENT CONTROL DETAILS
5	C-502	EROSION & SEDIMENT CONTROL NOTES

[illegible]

UNITIL REGULATOR & METER STATION RELOCATION PROJECT
40 WEST COMMERCIAL STREET
ROSELAND, NJ 07068

TITLE SHEET



Whiteley
Environment & Infrastructure, Int'l.
511 Congress Street, Suite 200

VERIFY SCALE

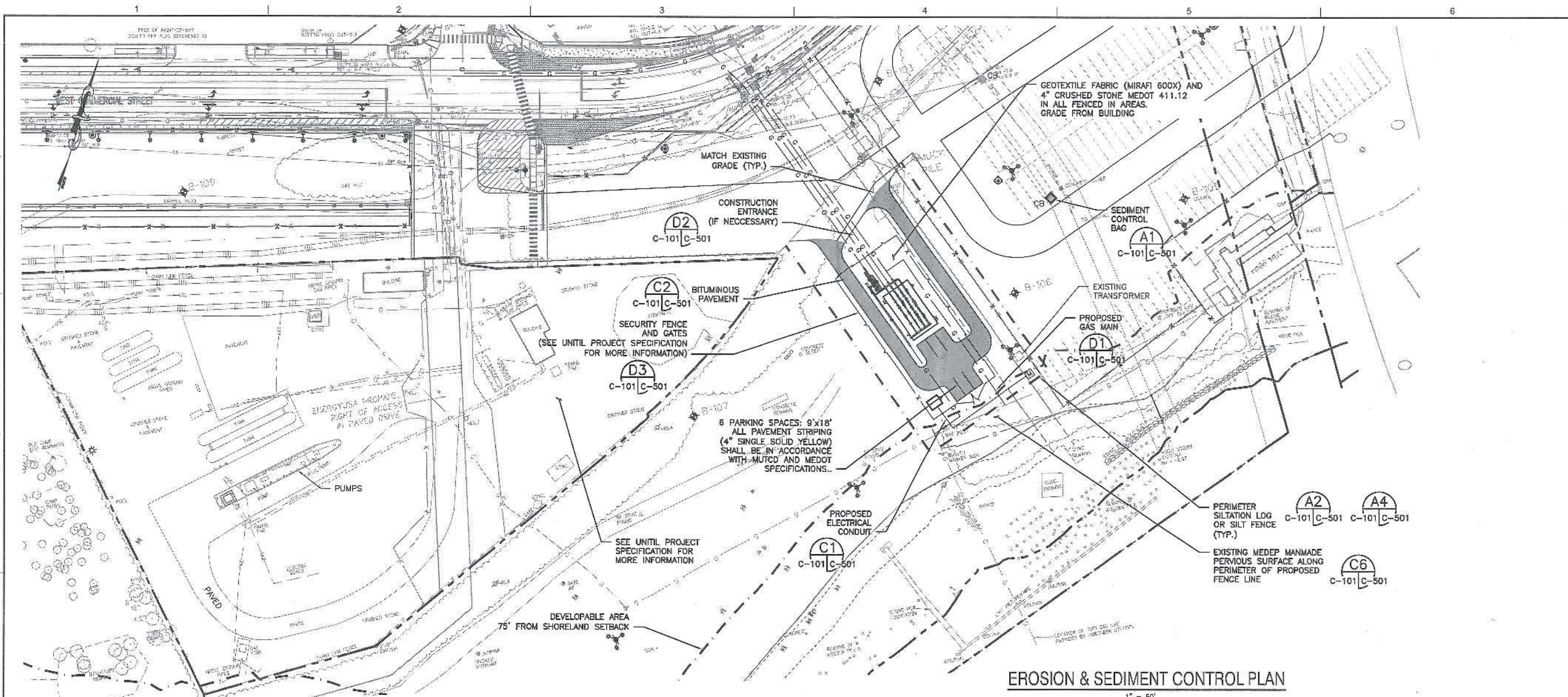
BAR IS ONE INCH ON
ORIGINAL DRAWING

DATE 04/08/1

DATE	3/1/2015
PROJ	3612-15-230

DWG	G-00
-----	------

SHEET	1 OF
-------	------



UTILITY NOTES:

- EXISTING UTILITIES SHOWN ON THE PROJECT DRAWINGS ARE LOCATED BY OTHERS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ALL DISTURBED UTILITIES DURING CONSTRUCTION AT NO EXPENSE TO THE MEDOT AND CITY.
- EXISTING UTILITIES TO REMAIN IN OPERATION SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. ANY DAMAGE TO EXISTING UTILITIES TO REMAIN SHALL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE MEDOT AND CITY.
- THE CONTRACTOR IS RESPONSIBLE FOR CALLING DIG-SAFE (1-800-344-7233) 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS ALSO RESPONSIBLE FOR CONTACTING OTHER NON DIG-SAFE MEMBER UTILITIES FOR UTILITY LOCATES 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- WHERE CONTRACTOR REMOVES EXISTING SITE FEATURES, THAT ARE TO REMAIN TO FACILITATE INSTALLATION OF WORK OF THIS PROJECT, CONTRACTOR SHALL REPLACE SUCH SITE FEATURES AT NO COST TO MEDOT AND CITY.

CONSTRUCTION NOTES:

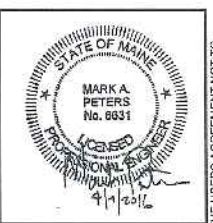
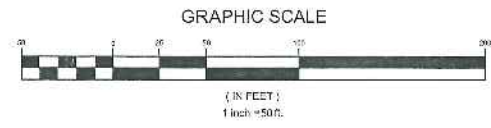
- THE CONTRACTOR SHALL COORDINATE MATERIAL STORAGE AND LAYDOWN AREAS WITH MDOT REPRESENTATIVE. PARKING FOR CONTRACTOR EMPLOYEES AND SUBCONTRACTOR EMPLOYEES SHALL BE IN THE MATERIAL STORAGE AND LAYDOWN AREA. CONTRACTOR PARKING WITHIN THE WORK AREA OR IN THE ROAD RIGHT OF WAY WILL NOT BE PERMITTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW DURING THE CONSTRUCTION.
- ALL CONSTRUCTION MATERIALS SHALL BE TRANSPORTED TO AND FROM THE SITE IN COVERED VEHICLES. THE CONTRACTOR SHALL SWEEP WITH A STREET SWEEPER TO KEEP TRAFFIC AREAS CLEAN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SECURITY AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE O.S.H.A. REGULATIONS AND SAFETY REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL ON SITE CAPABLE OF PROVIDING HORIZONTAL AND VERTICAL CONTROL.
- EXISTING PROPERTY AND RIGHT OF WAY PINS AND MONUMENTATION SHALL NOT BE DISTURBED BY CONSTRUCTION. IF DISTURBED, THEY SHALL BE RESET TO THEIR ORIGINAL LOCATIONS AT THE CONTRACTOR'S EXPENSE BY A REGISTERED MAINE PROFESSIONAL LAND SURVEYOR.
- EXCESS SURPLUS EXCAVATED MATERIAL SHALL BE REMOVED FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL EXISTING LOCAL, STATE AND FEDERAL REGULATIONS AT CONTRACTORS EXPENSE.
- ALL UTILITY PIPE AND STRUCTURES REMOVED AS PART OF THE CONSTRUCTION SHALL BE DISPOSED OF OFF SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS AT THE CONTRACTORS EXPENSE.
- WORKING HOURS SHALL COMPLY WITH THE REQUIREMENTS OF MEDOT AND CITY.
- CONSTRUCTION SHALL NOT BEGIN UNTIL ALL OF THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES, AS SPECIFIED ON THE PLANS, HAVE BEEN INSTALLED.

NOTE:

- THE APPROXIMATELY 0.38 ACRE WATERSHED FOR THE UNTIL STATION RELOCATION PROJECT IS BOUNDED BY THE PROPOSED FENCE LINE AND EDGE OF PROPOSED PAVEMENT FOR AREAS OUTSIDE THE PROPOSED FENCE LINE.

LEGEND

- PROPERTY LINE
- DEVELOPABLE AREA - 75' FROM SHORELAND SETBACK
- PAVEMENT
- SILTATION LOG OR SILTATION FENCE
- PROPOSED GAS LINE
- PROPOSED FENCE



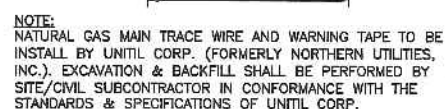
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UNITIL REGULATOR & METER STATION RELOCATION PROJECT
40 WEST COMMERCIAL STREET
PORTLAND, ME

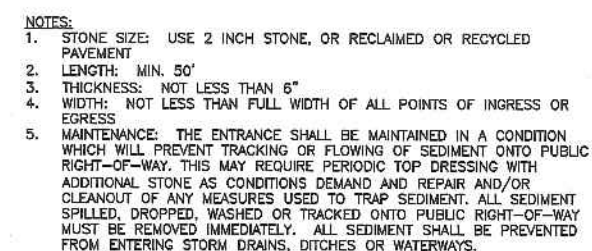
EROSION & SEDIMENT CONTROL PLAN



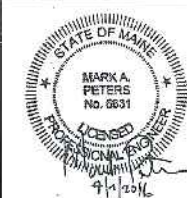
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SHEET 3 OF 5



D1 NATURAL GAS TRENCH
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D2 STABILIZED CONSTRUCTION ENTRANCE
SCALE: NTS



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40 WEST COMMERCIAL STREET
ROCHESTER, N.Y. 14614-1400

SITE AND EROSION & SEDIMENTATION CONTROL DETAILS



Environment & Infrastructure, Inc.
511 Congress Street, Suite 200

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THIS PLAN HAS BEEN DEVELOPED TO PROVIDE A STRATEGY FOR CONTROLLING SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROPOSED DEVELOPMENT. THIS PLAN IS BASED ON STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES, 2003.

THE EQUIPMENT ANTICIPATED TO BE USED FOR THE CONSTRUCTION INCLUDES THE FOLLOWING: BACKHOES, LOADERS, TRUCKS, CRANES, AND COMPACTORS. THE FOLLOWING MEASURES SHALL BE UNDERTAKEN TO PROVIDE MAXIMUM PROTECTION TO THE SOIL, WATER, AND ADJUTING LANDS:

- MONITORING PROGRAM

SEDIMENTATION AND EROSION CONTROL STRUCTURES SHALL BE INSPECTED CONTINUALLY BY THE CONTRACTOR AND ALL STRUCTURES DAMAGED BY CONSTRUCTION EQUIPMENT, VANDALS, OR THE ELEMENTS SHALL BE REPAIRED IMMEDIATELY. FOLLOWING RAINSTORMS AND DURING RUNOFF EVENTS, THE SITE AND ALL STRUCTURES SHALL BE INSPECTED FOR EROSION AND DAMAGE. ALL DAMAGED STRUCTURES SHALL BE REPAIRED AND/OR ADDITIONAL EROSION CONTROL STRUCTURES SHALL BE INSTALLED PRIOR TO CONTINUING THE CONSTRUCTION.

IF DUSTY CONDITIONS OCCUR ON-SITE AS A RESULT OF INCREASED VEHICULAR TRAFFIC DURING DRY CONDITIONS, DUST CONTROL MEASURES SHALL NEED TO BE IMPLEMENTED.

1. WATER: WATER SHOULD BE APPLIED AT A RATE SUFFICIENT ENOUGH TO MOISTEN EXPOSED SOIL TO PREVENT DUST TRANSPORT BUT NOT AT A RATE THAT PRODUCES ANY AMOUNT OF SILT-LADEN RUNOFF OR MUDDY POOLS IN THE TRAVEL WAY.
2. CALCIUM CHLORIDE: LIQUID OF FINE-FLAKED CALCIUM CHLORIDE MAY BE USED. CALCIUM CHLORIDE SHOULD NOT BE APPLIED ADJACENT TO WETLANDS, LAKES, POOLS OR OTHER NATURALLY SENSITIVE AREAS. LIMIT APPLICATION RATES TO 30% CALCIUM CHLORIDE OR AS RECOMMENDED BY MANUFACTURER.

THE WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15. IF THE CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75 % MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15 THEN THE SITE NEEDS TO BE PROTECTED WITH OVER-WINTER STABILIZATION. AN AREA CONSIDERED OPEN IS ANY AREA NOT STABILIZED WITH PAVEMENT; VEGETATION, MULCHING, EROSION CONTROL MATS, RIPRAP OR GRAVEL BASE ON A ROAD. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SUCH THAT NO MORE THAN 1 MOFT OF EXPOSED SOIL WITHOUT STABILIZATION AT ANY ONE TIME. LIMIT THE EXPOSED AREA TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDER TAKEN DURING THE FOLLOWING 15 DAYS AND THAT CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT. ALL AREA SHALL BE CONSIDERED TO BE DENUDED UNTIL THE SUBBASE GRAVEL IS INSTALLED IN ROADWAY AREAS OR THE AREAS OF FUTURE LOAM AND SEED HAVE BEEN LOADED, SEEDED AND MULCHED. HAY AND STRAW MULCH RATE SHALL BE A MINIMUM OF 150 LBS./1,000 S.F. (3 TONS/ACRE) TO 4" THICK AND SHALL BE PROPERLY ANCHORED. THE CONTRACTOR SHALL INSTALL ADDITIONAL MEASURES WHICH MAY BE NECESSARY TO CONTROL EROSION/SEDIMENTATION FROM THE SITE DURING THE UPDURING OF THE ACTUAL CONSTRUCTION CONDITIONS. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED, IN ORDER TO MINIMIZE AREAS WITHOUT EROSION CONTROL PROTECTION.

1. **SOIL STOCKPILES**
STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR AT 150 LBS/1,000 S.F. (3 TONS PER ACRE) OR WITH A FOUR-INCH LAYER OF WOOD WASTE EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCK PILING AND REESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL. SOIL STOCKPILES SHALL NOT BE PLACED (EVEN COVERED WITH HAY OR STRAW) WITHIN 100 FEET FROM ANY NATURAL RESOURCES.
2. **NATURAL RESOURCES PROTECTION**
AREAS WITHIN 100 FEET FROM NATURAL RESOURCES, IF NOT STABILIZED WITH A MINIMUM OF 75 % MATURE VEGETATION CATCH, SHALL BE MULCHED BY DECEMBER 1 AND ANCHORED WITH PLASTIC NETTING OR PROTECTED WITH EROSION CONTROL MATS. DURING WINTER CONSTRUCTION, A DOUBLE LINE OF SEDIMENT BARRIERS (I.E. SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX) SHALL BE PLACED BETWEEN ANY NATURAL RESOURCE AND THE DISTURBED AREA. PROJECTS CROSSING THE NATURAL RESOURCE SHALL BE PROTECTED A MINIMUM DISTANCE OF 100 FEET ON EITHER SIDE FROM THE RESOURCE. EXISTING PROJECTS NOT STABILIZED BY DECEMBER 1 SHALL BE PROTECTED WITH THE SECOND LINE OF SEDIMENT BARRIER TO ENSURE FUNCTIONALITY DURING THE SPRING THAW AND RAINS.
3. **SEDIMENT BARRIERS**
DURING FROZEN CONDITIONS, SEDIMENT BARRIERS SHALL CONSIST OF WOOD WASTE FILTER BERMS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES AND SEDIMENT SILT FENCES.
4. **TRENCH DEWATERING AND TEMPORARY STREAM DIVERSION**
WATER FROM CONSTRUCTION TRENCH DEWATERING OR TEMPORARY STREAM DIVERSION SHALL PASS FIRST THROUGH A FILTER BAG OR SIMILAR DEVICE. THE DISCHARGE SITE SHALL BE SELECTED TO AVOID FLOODING, ICING, AND SEDIMENT DISCHARGES TO A PROTECTED RESOURCE. IN NO CASE SHALL THE FILTER BAG OR CONTAINMENT STRUCTURE BE LOCATED WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE.



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UNITIL REGULATOR & METER STATION RELOCATION PROJECT
40 WEST COMMERCIAL STREET
PORTLAND, ME

EROSION & SEDIMENTATION CONTROL NOTES



Environment & Infrastructure, Inc.,
511 Congress Street, Suite 230
Portland, ME, 04112, (207) 775-54

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SHEET 5 OF 5