

Burlington Development Review Board

Department of Permitting & Inspections

645 Pine Street

Burlington, VT 05401

www.burlingtonvt.gov/DPI/DRB

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Development Review Board

Tuesday, August 6, 2024, 5:00 PM

645 Pine Street, Front Conference Room or Remote on Zoom:

Please click the link below to join the webinar:

Zoom: <https://us02web.zoom.us/j/83225696227?pwd=SGQ0bTdnS000Wkc3c2J4WWw1dzMxUT09>

Webinar ID: 832 2569 6227

Passcode: 969186

Telephone: US +1 929 205 6099 or +1 301 715 8592 or +1 312 626 6799 or +1 669 900 6833 or +1 253 215 8782 or +1 346 248 7799

1. Agenda

2. Communications

3. Minutes

4. Public Hearing

4.1.

ZAP-24-5; 151 Ledge Road (RL, Ward 6) J. Kathleen Tracy

Appeal of administrative denial, ZP-24-176, to replace existing wooden clapboard siding with vinyl siding. (Project Manager, Mary O'Neil)

5. Certificate of Appropriateness

5.1.

ZP-24-256; 311 North Avenue (RCO-RG, Ward 7) City of Burlington / Farrell Properties

Proposed installation of recreation path, fencing, and associated stormwater improvements. (Project Manager, Scott Gustin)

5.2.

ZP-24-276; 206-208 Dale Road (RL, Ward 4) Wild Dale, LLC / Matt Brouillard

Proposed construction of a new duplex on existing vacant lot created under ZP-24-159. (Project Manager, Mary O'Neil)

6. Adjournment

7. Informational and Non-Discrimination Statements

7.1.

Plans may be viewed upon request by contacting the Department of Permitting & Inspections between the hours of 8:00 a.m. and 4:30 p.m. Participation in the DRB proceeding is a prerequisite to the right to take any subsequent appeal. Please note that ANYTHING submitted to the Zoning office is considered public and cannot be kept confidential. This may not be the final order in which items will be heard. Please view final Agenda, at www.burlingtonvt.gov/dpi/drb/agendas or the office notice board, one week before the hearing for the order in which items will be heard.

The City of Burlington will not tolerate unlawful harassment or discrimination on the basis of political or religious affiliation, race, color, national origin, place of birth, ancestry, age, sex, sexual orientation, gender identity, marital status, veteran status, disability, HIV positive status, crime victim status or genetic information. The City is also committed to providing proper access to services, facilities, and employment opportunities. For accessibility information or alternative formats, please contact Human Resources Department at (802) 540-2505.

Department of Permitting and Inspections

Zoning Division

645 Pine Street

Burlington, VT 05401

<https://www.burlingtonvt.gov/DPI/Zoning-Permits>

Telephone: (802) 865-7188

(802) 865-7195 (FAX)

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Garret King, Associate Planner
Steven Cormier, Zoning Compliance Officer
Joseph Cava, Planning Technician
Ted Boylan, Permit Administrator



MEMORANDUM

To: Development Review Board
From: Mary O'Neil, AICP, Principal Planner
Date: August 6, 2024
RE: ZAP-24-5; 151 Ledge Road

Note: These are staff comments only. Decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

File: ZAP-24-5

Location: 151 Ledge Road

Zone: RL **Ward:** 6

Date application accepted: July 3, 2024

Applicant/ Owner: Jo Kathleen Tracy

Request: Appeal of ZP-24-176, Administrative Denial for proposed replacement of existing wooden clapboard/vertical siding with vinyl siding. Replace trim with pvc product.



Background:

- **Zoning Permit 24-176**, replacement of wood clapboard (and vertical wood siding) with vinyl. Administratively denied June 25, 2024.
- **Zoning Permit 16-0150CA/15-570 OG**; Replace one basement and one attic window. August 2015.

The programs and services of the City of Burlington are accessible to people with disabilities. For accessibility information call 865-7188 (for TTY users 865-7142).

- **Zoning Permit 00-277;** Construction of an attached three car garage to the existing single family home. Existing garage space to be converted to storage/Utility area and additional living space for the sfr. Proposal includes expanded driveway to access. November 1999.
- **Zoning Permit 85-323;** Second story addition (35' x 16') over existing first floor on the east elevation. Construct 2nd story addition (17' x 30') with basement on the south side. Construct single story addition (7' x 17") on south side. Construct deck on south side with stairs. July 1985.
- **Zoning Permit 79-214;** reshingle half of roof, repair wood deck and add bedroom by converting attic space (10' x 15'). May 1979.

Overview:

The application to remove existing clapboard siding and replace with vinyl siding (and installation of vinyl trim) was received May 3, 2024. The applicant was informed of the Vermont Historic Sites and Structures Survey work and the inclusion of 151 Ledge Road in the 2005-6 Survey plan; a multi-year historic structures survey that encompassed Prospect Park North, Middle and South. After several weeks of communication, it was suggested to the applicant that they seek a Determination of Eligibility (DOE) from the Vermont Division for Historic Preservation, as their office has both funded the Historic Sites and Structure Survey, and had accepted the research at the conclusion of the survey work. That office declined to offer comment.

Based on the inclusion of 151 Ledge Road in the 2005 Historic Sites and Survey report for Prospect Park South, and a determination of eligibility within the survey report, the application was denied as contrary to the standards of Section 5.4.8 (b), and Sections 6.2.2 (d) and 6.3.2 (b) of the Comprehensive Development Ordinance. See attached Reasons for Denial per articulated regulations, the Historic Sites and Structures Survey Report for Prospect Park South, the discrete narrative for 151 Ledge Road included within that Survey and the specific identification of the building's eligibility associated with the work of Freeman French Freeman within the survey report.

Recommended motion: Uphold administrative denial and deny appeal based on the following Findings:

I. Findings

Article 5: Citywide General Regulations

Section 5.4.8 Historic Buildings and Sites

The City seeks to preserve, maintain, and enhance those aspects of the city having historical, architectural, archaeological, and cultural merit. Specifically, these regulations seek to achieve the following goals:

To preserve, maintain and enhance Burlington's historic character, scale, architectural integrity, and cultural resources;

To foster the preservation of Burlington's historic and cultural resources as part of an attractive, vibrant, and livable community in which to live, work and visit;

To promote a sense of community based on understanding the city's historic growth and development, and maintaining the city's sense of place by protecting its historic and cultural resources; and,

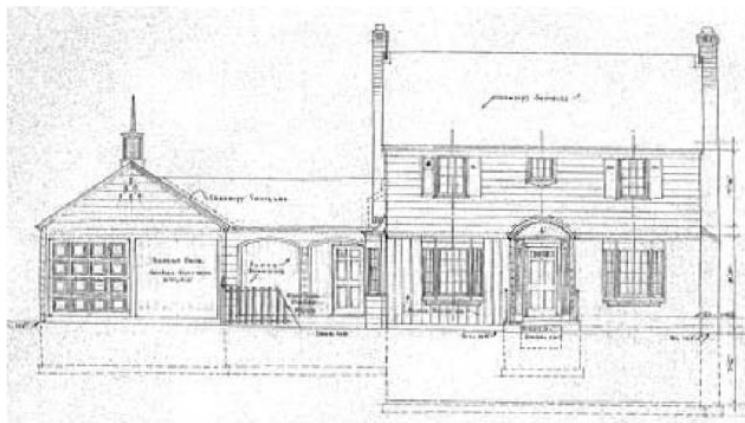
To promote the adaptive re-use of historic buildings and sites.

(a) Applicability:

*These regulations shall apply to all buildings and sites in the city that are listed, or **eligible for listing**, on the State or National Register of Historic Places.*

The Prospect Park South Survey report defines the district as eligible for inclusion on the National Register under Criteria A (association with events that have made a significant contribution to the broad patterns of our history) and Criteria C (embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinct.)¹ With an identification of eligibility within the Prospect Park South Survey report (and associated connections to research within the Prospect Park North and Middle Survey), the standards of Section 5.4.8 apply.

(b) Standards and Guidelines

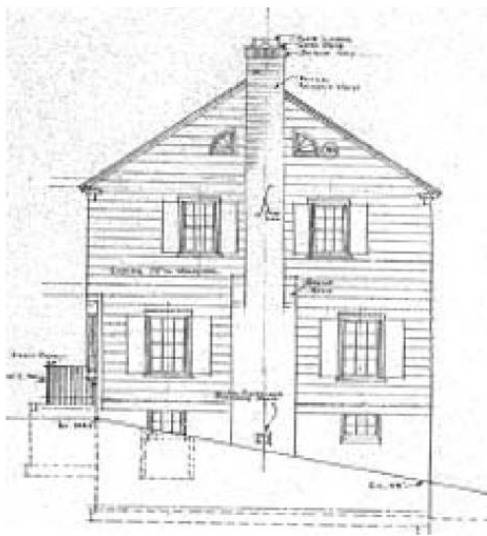


Original rendering, Freeman French Freeman archives,
University of Vermont Silver Special Collections

¹ Mary Elizabeth Andre, *Burlington Surveys of Prospect Park South and Strong Street*, (CLG Grant 05-02, 2005). 10.

2. *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*

151 Ledge Road was designed by the architectural firm of Freeman, French Freeman and constructed c. 1936 in the popular Colonial Revival style.² It features a number of Classical details not often found during this interwar era of construction, namely the intricately detailed door surround. At the same time, the house reflects the modest, mass-produced Colonial Revival structures made popular in the 1920s and 1930s by mail-order catalogs. Constructed in the inter-war years, it marks the separation of historic, traditionally rooted architecture to the post-war housing styles that embraced a more modern aesthetic. The Survey report notes both elaborate and subdued examples of Colonial Revival style as designed by Freeman French Freeman occur within the Prospect Park South survey area, with a heavy concentration of the former on Hillcrest Road.³ 151 Ledge Road sits on the corner of Hillcrest.



VERMONT DIV. FOR HISTORIC PRESERVATION
151 Ledge Road: West Elevation; Architectural Rendering
Property Name: 151 Ledge, west elevation Survey #: 7 Direction of View:
Filename: 151_Ledge_west_elevation.jpg Photographer: Freeman, French, Freeman

While some alteration has occurred (namely the 2nd floor over the garage, a 1985 large rear addition, with additional garages, 1999), the essential form, character and historic integrity remain intact. The house is easily recognizable, with the majority of the alterations on the side and/or rear.

While material replacement may be considered for the more recent building additions, the replacement of existing original wood clapboard and vertical siding on the principal structure is contrary to this standard. **Adverse finding.**

5. *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*

The removal of existing clapboard and vertical siding and replacement with modern vinyl siding is contrary to this standard. Wood clapboard is a sheathing material inherently associated with Burlington's historic residential structures, as it was milled and distributed locally. **Adverse finding.**

6. *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the*

² The Freeman French Freeman archive is archived at the University of Vermont, Silver Special Collections Library. This project is Number 44 - A.E. Dietrich Residence, Ledge Road, Burlington.
https://scfindingaids.uvm.edu/repositories/2/archival_objects/5985

³ Mary Elizabeth Andre, *Burlington Surveys of Prospect Park South and Strong Street*, (CLG Grant 05-02, 2005). 9.

old in design, color, texture, and where possible, materials recognizing that new technologies may provide an appropriate alternative in order to adapt to ever changing conditions and provide for an efficient contemporary use.

The removal of traditional clapboard and vertical siding, and covering with modern vinyl siding will significantly diminish the character and intentional architectural detail of this 1930s home, designed by Freeman French Freeman. The alteration is compounded with the proposed replacement of door and window trim with a white polyvinyl chloride (pvc) product. **Adverse finding.**

9. *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property.*

Replacement of clapboard with vinyl siding is contrary to this standard. **Adverse finding.**

Section 6.2.2 Site Plan Design Standards

(d) Protection of Important Cultural Resources

*Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves sites listed **or eligible for listing** on a state or National Register of Historic Places, the applicant shall meet the applicable development and design standards pursuant to Section 5.4.8 (b).*

See above. **Adverse finding.**

Section 6.3.2 Architectural Design Standards

(b) Protection of Important Architectural Resources

*Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed **or eligible for listing** on a state or National Register of Historic Places, the applicant shall meet the applicable development and design standards pursuant to Section 5.4.8 (b).*

See above. **Adverse finding.**

Article 12: Variances and Appeals

Part 2: Appeals

Section 12.2.2 Appeals of Administrative Office

Zoning Denial of ZP-24-176 was issued June 25, 2024; the appeal was filed July 3, 2024; within the required 15 day appeal period. The appeal is timely. The Appeal Hearing has been set within 60 days of the filing of the notice of appeal. **Affirmative finding.**

Additional notes: The appeal challenges, in part, the date of the home's construction. Reference is made to the City of Burlington Land Records, Vol. 100:635 for the plan of Prospect Park (151 Ledge Road is parcel #97; Warranty Deed to Arthur and Gladys Dietrich as recorded

in Vol 104:649-651 (1935) and Mortgage Deed to the same Vol. 113:94 (January 1939) which includes “all buildings and improvements made thereon.”

At the time of the Historic Sites and Structures Survey, homeowners were introduced to the survey project with a hand-delivered letter. The Survey information and research results have been available to the public via the City Webpage:

<https://www.burlingtonvt.gov/DPI/Historic-Sites-and-Structures-Surveys>

NOTE: These are staff comments only. The Development Review Board, who may approve, table, modify, or deny projects, makes decisions.

















PROPOSAL

TO: Kate Tracy

Project: Vinyl Siding - 151 Ledge
Address:

Date: 4/2/2024

We propose to furnish all materials, equipment, and labor, subject to any exclusions listed below, required to complete the following:

1. Exterior Siding & Trim

\$71,390.00

Description of Services:

Demo existing siding and underlayment and properly dispose of material.

Install new Tygar underlayment.

Install new Norandex Summit Manor D4 siding and J channel at all openings.

Install 1x4 white pvc door and window trim (level starter, sloped, and vertical trim)

Excludes soffit, fascia, and chime boards. Any additional trim work the client elects to do will be billed at a time and material rate outlined below. Any necessary rot repair will be billed at the time and material rate below in addition to the base bid.

Subtotal:	\$71,390.00
*0% Tax:	\$0.00
TOTAL:	\$71,390.00

Terms and Conditions

General Conditions:

- Provide all materials, equipment, labor necessary for project completion.
- Remove and dispose of all construction debris.
- Broom clean and leave the job site in a professional manner.
- Porta potty to be provided on site for work crew - dependent upon job type.
- Building permits are to be arranged and obtained by the client unless otherwise stated in this

contract.

Site Conditions:

- Site to allow for lay down area for tool and material storage.
- Site to allow for reserved space for contractor parking.
- Vermont Construction to remove all waste, clean job site on a daily basis and provide final cleaning of project areas.
- Proposal assumes access to water, power, and heat on site throughout project duration.
- Price assumes all work areas will be free of personal property of fixtures.
- Any necessary rot repair will be tracked at the time and material cost detailed below.

Pricing and Payment:

Payment will be collected based on the scope and type of billing dependent upon the following schedule unless otherwise noted

- Project will require a 20% deposit due at the acceptance of this proposal to schedule the project and purchase materials
- The remaining balance will be invoiced on a monthly basis until completion of the project
- A progress invoice may be submitted at a higher frequency than monthly at Vermont Construction Company's discretion
- Deposit checks can be made payable to Vermont Construction Company and mailed to 182 Hegeman Ave, Colchester, VT 05446 and made attention to the accounting department.

Any work outside the scope of this proposal will be billed at the rates and according to the conditions below. Work will be billed on a time and material basis at the below rates, or as at an agreed upon fixed price.

- Any time and material work directly related to the project, performed by Vermont Construction employees will be billed at:
 - \$85.00 per man hour for carpenters and project management.
 - Specialty trades may be performed at different rates. Owner will be notified of different rates.
 - The materials, consumables, subcontractors, and ancillary services purchased or retained by Vermont Construction which are directly related to the project will be marked up 20% or at the above rates.
 - Requests for work made by the owner outside the scope of the contract made to workers on site without authorization by a Vermont Construction project manager will be billed at 1.5x normal rates.
- All invoices for work completed or stored materials to be paid upon receipt, or as otherwise agreed.
- Any Warranties/Guarantees will take effect on the date of substantial completion; but will not be honored/issued until payment is made in full.
- Unpaid accounts will be billed 5% per month on outstanding balances.
- A bill for a given time period does not necessarily reflect all costs associated with that time period.

Vermont Construction Company · 182 Hegeman Ave Ste 1 · Colchester, VT 05446

-
- Deposits to be credited to the final bill.

Allowances (if applicable to this proposal):

- General assumptions must be made when developing a proposal where client selection of specific materials must be made. The final price invoiced to the client may fluctuate in the instance where an allowance is included in the proposal depending on the client's final selection of material or design.

Project Meetings/Coordination:

- Due to the nature and schedule of this project, construction will proceed regardless of changes to scope or circumstances until explicitly halted by the owners.

Changes In the Work:

- The owner and architect will be notified in a timely manner of any impacts arising from changes in the work, due either to changes in scope directed by the architect and owner, or changes required by discovered conditions of the project.
- The owner or individual liable for payment is responsible for paying the full amount of the bill, including changes in the cost of the work.

Transparency:

- Receipts for time and material work to be compiled for project expenses and will be available to the owner for review at their discretion.
- Labor journals for time and material work to be updated regularly and will be available to the owner for review at their discretion.

Warranty/Guarantees:

- Any Warranties/Guarantees will take effect on the date of substantial completion; but will not be honored/issued until payment is made in full.
- Vermont Construction will return to remedy any defects in work completed by Vermont Construction Company or its affiliates free of charge for a period of 1 year if those defects are the result of errors in the installation or workmanship provided by Vermont Construction Company or its affiliates.
- Owner will allow Vermont Construction Company to make any corrective work that it deems fit.

Additional Terms:

- Client to allow Vermont Construction Company to photographed finish space for use in advertising
- Client to allow Vermont Construction Company to place a business sign in a conspicuous place in front of the property for advertising purposes.
- Client agrees to Vermont binding arbitration on any disputes within 60 days of dispute and waives rights to litigation. Cost of collection, including but not limited to attorney's fees to be

paid by client.

- Client will notify Vermont Construction Company of any disputes within 48 hours of discovery.
- Client agrees to indemnify Vermont Construction Company from any injury or damages resulting from unauthorized access to the site.

Expiration:

- Proposal expires on month after issuance

Contractor: Shawn Williams 4/2/2024
Vermont Construction Company Date

ACCEPTANCE OF PROPOSAL: The above prices, scope, specifications and conditions are satisfactory and hereby accepted. You are authorized to do the work specified.

Client: Kate Tracy
Kate Tracy Date

STATE OF VERMONT Division for Historic Preservation Montpelier, VT 05602 HISTORIC SITES & STRUCTURES SURVEY Individual Structure Survey Form		SURVEY NUMBER: 7	
COUNTY: Chittenden		Part of: ☐ District _____ ☐ Complex _____ Contributing ☐ Non-Contributing ☐	
TOWN: Burlington VILLAGE:		Listed on: State Register of Historic Places National Register of Historic Places	
LOCATION: 151 Ledge Road		CRITERIA: A ☐ B ☐ C ☐ D ☐	
PROPERTY TYPE: House		NEGATIVE FILE NUMBER:	
OWNER: Alan D. Port ADDRESS:		COORDINATES: UTM (ZONE 18) E 0 N 0 VSP (NAD 83) E 444115.57355 N 218237.51621 E911 E N	
ACCESSIBILITY TO PUBLIC: Yes ☐ No ☒ Restricted ☐		PRESENT FORMAL NAME:	
HISTORIC CONTEXT: Automobile Suburbs; Physical Patterns of Communities; Notable Architect/Builder		COMMON NAME: 151 Ledge Road	
SIGNIFICANCE: Architectural ☒ Historic ☐ Archeological ☐ Engineering ☐		ORIGINAL FORMAL NAME:	
LEVEL OF SIGNIFICANCE: Local ☒ State ☐ National ☐		PRESENT USE: House	
PHYSICAL CONDITION OF STRUCTURE: Excellent ☒ Good ☐ Fair ☐ Poor ☐		ORIGINAL USE: House	
GENERAL DESCRIPTION:		ARCHITECT/ENGINEER: Freeman French Freeman	
1. Foundation: Stone ☐ Brick ☐ Concrete ☒ Concrete Block ☐		BUILDER/CONTRACTOR:	
2. Wall Structure: a. Wood Frame: Post & Beam ☐ Balloon ☒ b. Load Bearing Masonry: Brick ☐ Stone ☐ Concrete ☐ Concrete Block ☐ Bonding Pattern: c. Iron ☐ Steel ☐ e. Other:		STYLE: Colonial Revival;	
3. Wall Covering: Clapboard ☒ Board & Batten ☐ Wood Shingle ☐ Shiplap ☐ Novelty ☐ Asbestos Shingle ☐ Sheet Metal ☐ Aluminum & Asphal Siding ☐ Brick Veneer ☒ Stone Veneer ☐ Bonding Pattern: Other:		PLAN: Georgian plan	
4. Roof Structure: a. Truss: Wood ☒ Iron ☐ Steel ☐ Concrete ☐ b. Other:		DATE BUILT: ca.1936	
5. Roof Covering Slate ☒ Wood Shingle ☐ Asphalt Shingle ☐ Sheet Metal ☐ Built Up ☐ Rolled ☐ Tile ☐ Other:			
6. Engineering Structure:		7. Other:	
8. Appendages: Porches ☐ Towers ☐ Cupolas ☐ Dormers ☐ Chimneys ☒ Shed ☐ Ells ☐ Wings ☒ Bay Window ☒ Other:			
9. Roof Styles: Gable ☒ Hip ☐ Shed ☐ Flat ☐ Mansard ☐ Gambrel ☐ Jerkinhead ☐ Saw Tooth ☐ With Monitor ☐ With Bellcast ☐ With Parapet ☐ With False Front ☐ Other:			
Number of Stories: 2		Entrance Location: eave center	
Number of Bays: 3x2		Approximate Dimensions: 50x18	

ADDITIONAL ARCHITECTURAL OR STRUCTURAL DESCRIPTION:

Additional Features:

entry pediment; 6/6; bay window; gable fanlight; fluted entry pilasters; entry entablature

Additional Description:

151 Ledge Road is a two-story Colonial Revival structure. The slight second-story overhang is further emphasized by the use of clapboards on the upper story and brick veneer on the lower story. Six-over-six, double-hung sash windows abut the wide frieze boards beneath the eaves, and large bay windows flank the centrally located entrance, which is adorned with a segmentally-arched pediment with dentils; fluted, flat pilasters, each with a sunburst molding in the capital; and corner quoins. Broken, semi-circular lights open into the gable peaks, and symmetrical end chimneys abut the gable façades. A large, two-story, ell-plan wing extends off the easterly façade, and a three-bay garage, with overhead doors and fanlights, extends easterly off the wing.

RELATED STRUCTURES:

Garage - Attached Garage; Garage - Multi-bay Garage

STATEMENT OF SIGNIFICANCE:

Arthur E. Dietrich, sales manager for E.S. Adsit Coal Company, is most likely the first owner and resident of 151 Ledge Road. Around 1940, Dietrich ran his own coal company, A.E. Dietrich Coal Company, out of 151 Ledge Road. Around 1941, Marshall C. Twitchell, Jr., a physician at the University of Vermont, is listed at this location. Twitchell remained at this address until the 1970s.

151 Ledge Road was designed by Freeman, French, Freeman, a prestigious architectural in Burlington that began in the 1920s and still exists today. The house, although largely altered, is exemplary of the Colonial Revival style trends of the 1930s. The main three-by-two bay, symmetrical block remains intact and references, with the second-story overhang and use of clapboards and masonry veneer, the Postmedieval English subtype that gained popularity in the 1930s. This architect designed house features a number of Classical details not often found during this interwar era of construction, namely the intricately detailed door surround. At the same time, the house reflects the modest, mass-produced Colonial Revival structures made popular in the 1920s and 1930s by mail-order catalogs. Unlike its neighbors on Ledge Road, with their elaborate entry porches and large façade, 151 Ledge Road received a more modest façade and the door surround has become the flat, applied ornament popularized during this time period. This structure reflects the evolution of architectural trends seen within Prospect Park and the rest of Burlington from the 1920s through the 1950s.

REFERENCES:

Burlington Annual Reports; Burlington Street Cards, Courtesy of the University of Vermont Library Research Annex; Freeman, French, Freeman archives, Courtesy of the University of Vermont Special Collections; Mannings Burlington City Directories; "Prospect Park", File Folder, Courtesy of the University of Vermont Special Collections; Sanborn Fire Insurance Maps

MAP: (Indicate North in Circle)



SURROUNDING ENVIRONMENT:

- | | |
|--|---|
| Open ☐ | Woodland ☐ |
| Scattered Buildings ☐ | Moderately Built Up ☒ |
| Densely Built Up ☐ | |
| Residential ☒ | Commercial ☐ |
| Agricultural ☐ | Industrial ☐ |
| Roadside Strip Development ☐ | |
| Designed Landscape Features ☐ | |
| Other: | |

RECORDED BY:

Elizabeth Mary Andre

ORGANIZATION:

Burlington Planning & Zoning

DATE RECORDED:

12/01/2005

LAST UPDATED:



VERMONT DIV. FOR HISTORIC PRESERVATION

Location map

Property Name: LocaMap_0605260326_1625 Survey #: Direction of View:

Filename: LocaMap_0605260326_1625jpg Photographer:



VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Three-Quarter View; 2005

Property Name: 151_Ledge_Road_2 Survey #: 7 Direction of View: SE

Filename: 151_Ledge_Road_2.jpg Photographer: Elizabeth Andre



VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Entrance and Windows; 2005

Property Name: 151_Ledge_Road_door Survey #: 7 Direction of View: S

Filename: 151_Ledge_Road_door.jpg Photographer: Elizabeth Andre

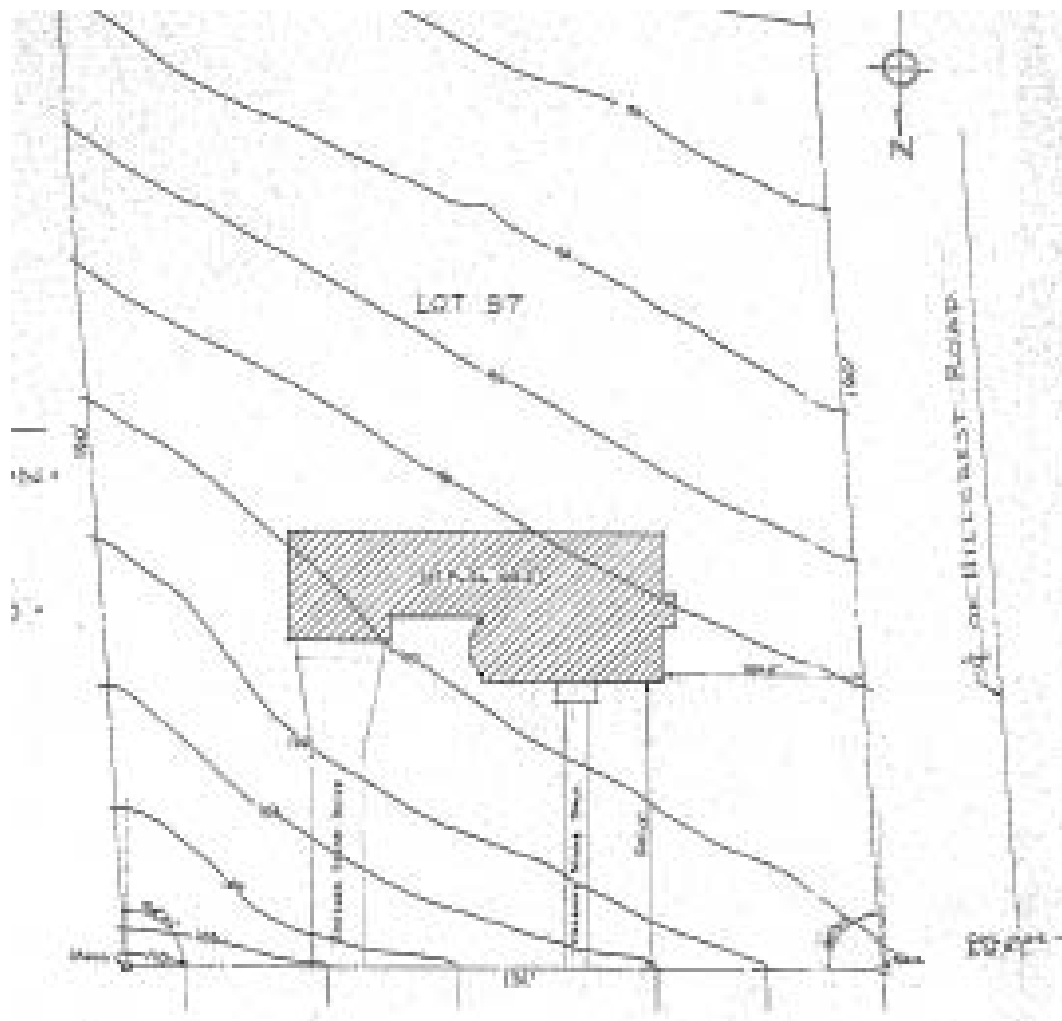


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Garage; 2005

Property Name: 151_Ledge_Road_garage Survey #: 7 Direction of View: S

Filename: 151_Ledge_Road_garage.jpg Photographer: Elizabeth Andre



VERMONT DIV. FOR HISTORIC PRESERVATION
151 Ledge Road; Site Plan; Architectural Rendering
Property Name: 151_Crescent_plot Survey #: 7 Direction of View:
Filename: 151_Crescent_plot.jpg Photographer: Freeman, French, Freeman

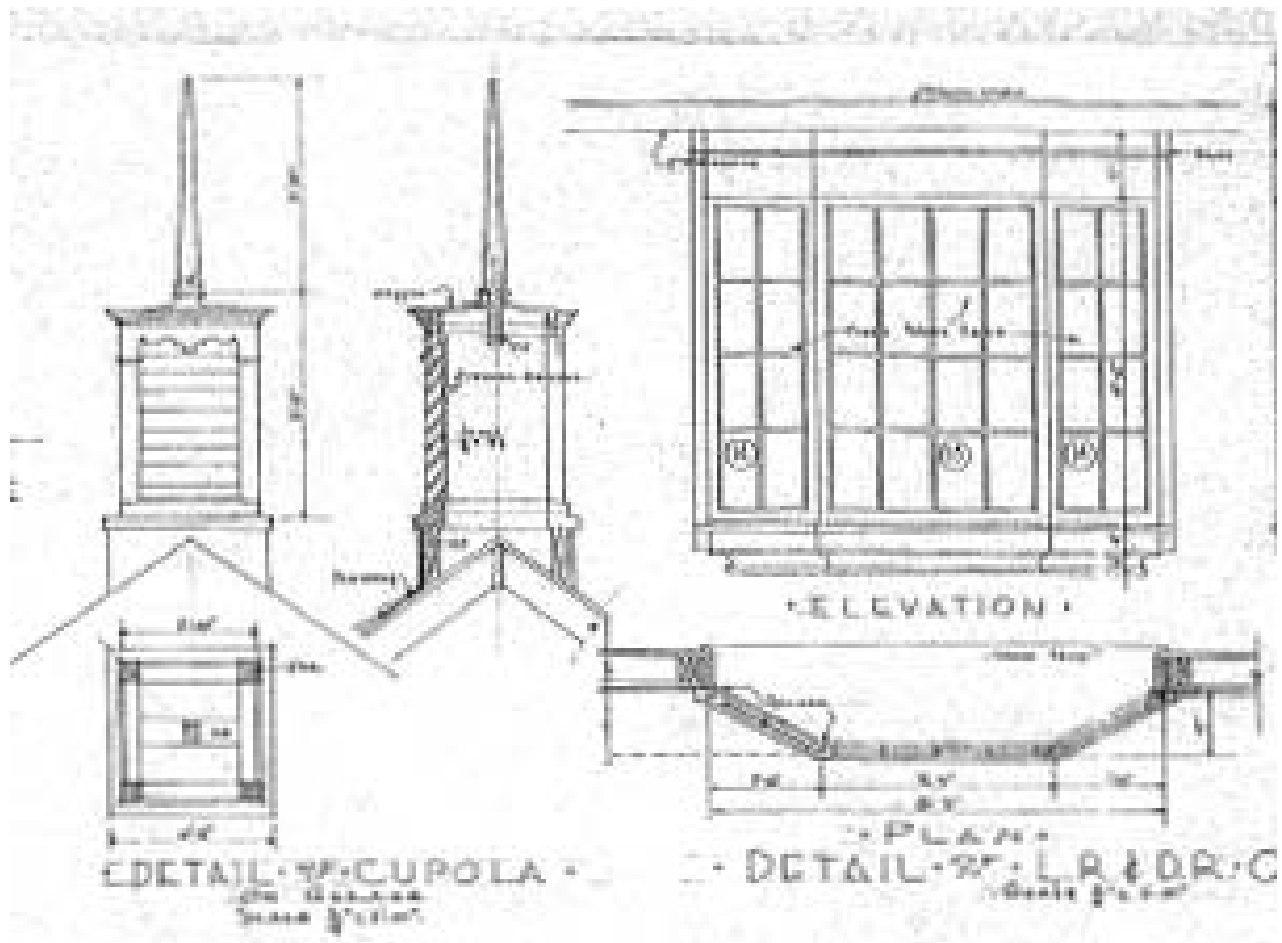


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Bay Window Details; Architectural Rendering

Property Name: 151_Ledge_bay_window Survey #: 7 Direction of View:

Filename: 151_Ledge_bay_window.jpg Photographer: Freeman, French, Freeman

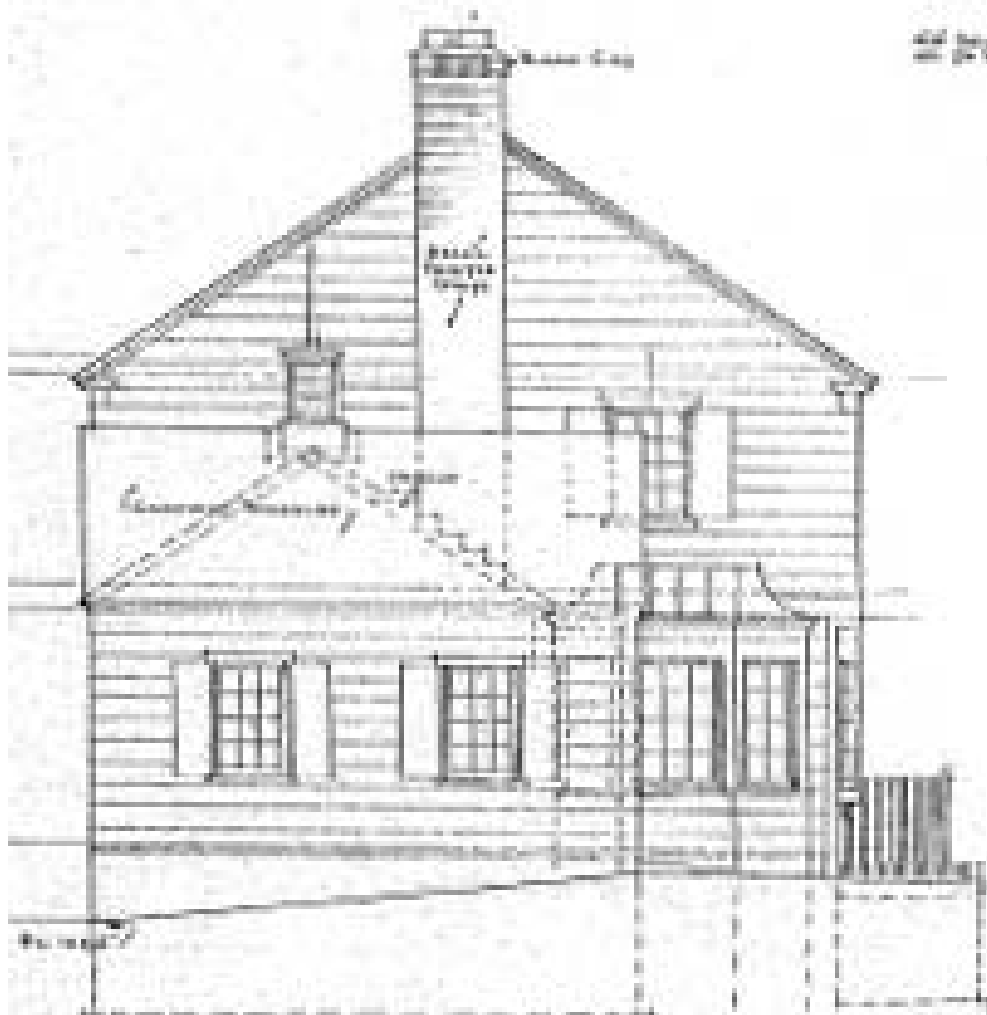


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Cupola and Window Details; Architectural Rendering

Property Name: 151_Ledge_cupola_and_window Survey #: 7 Direction of View:

Filename: 151_Ledge_cupola_and_window.jpg Photographer: Freeman, French, Freeman



VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; East Elevation; Architectural Rendering

Property Name: 151_Ledge_east_elevation Survey #: 7 Direction of View:

Filename: 151_Ledge_east_elevation.jpg Photographer: Freeman, French, Freeman

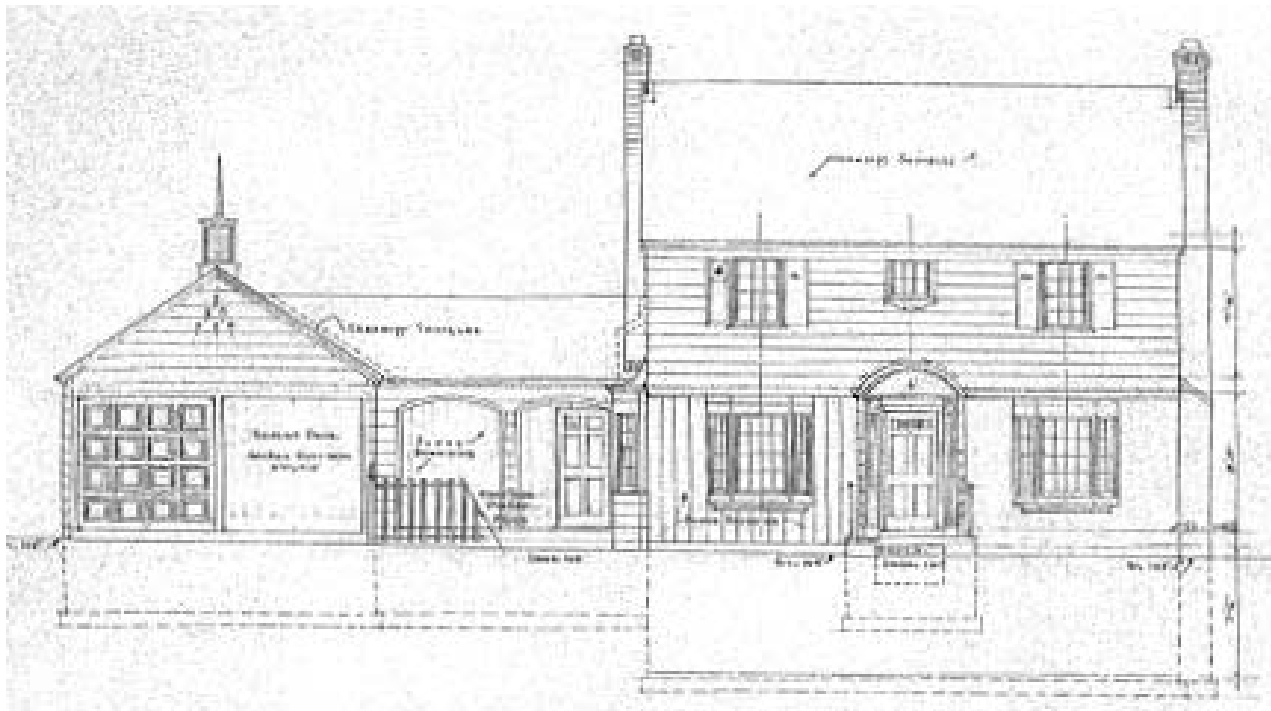


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; Entrance Details; Architectural Rendering

Property Name: 151_Ledge_entrance Survey #: 7 Direction of View:

Filename: 151_Ledge_entrance.jpg Photographer:

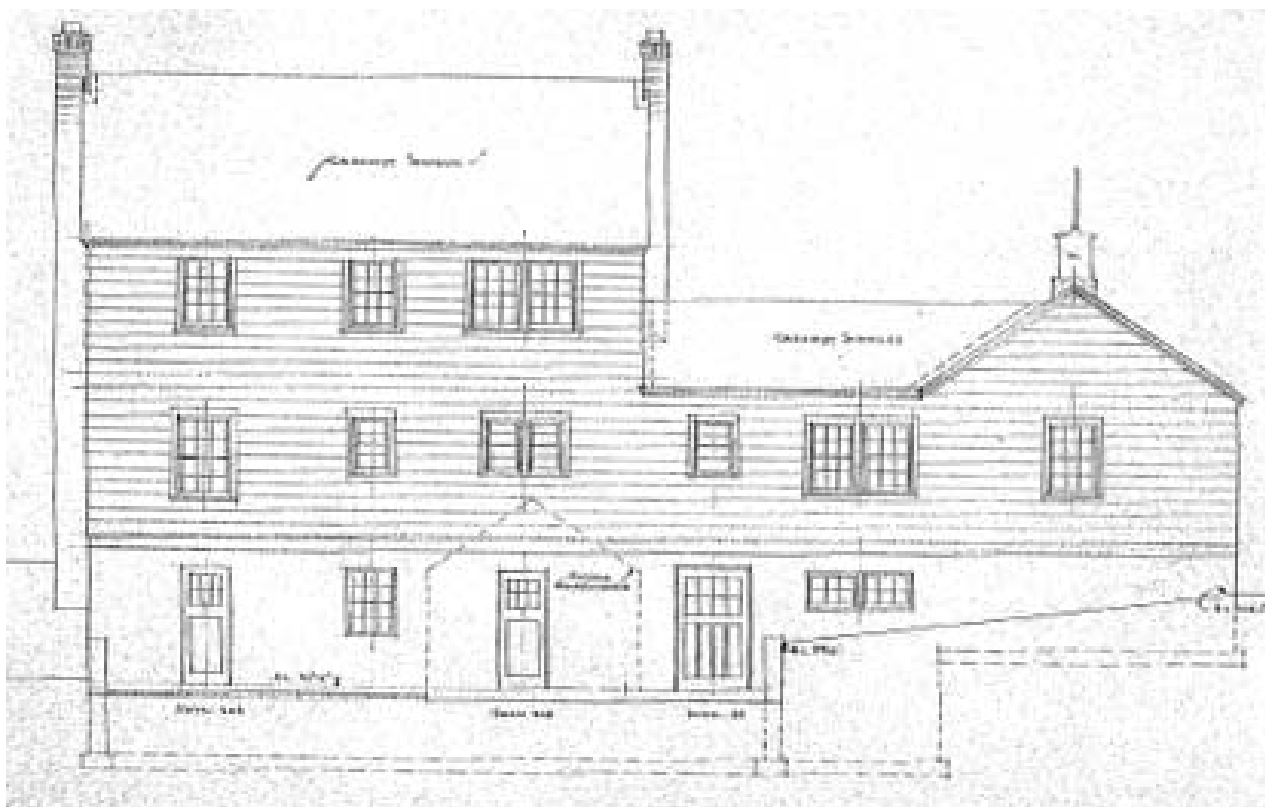


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; North Elevation; Architectural Rendering

Property Name: 151_Ledge_north_elevation Survey #: 7 Direction of View:

Filename: 151_Ledge_north_elevation.jpg Photographer: Freeman, French, Freeman

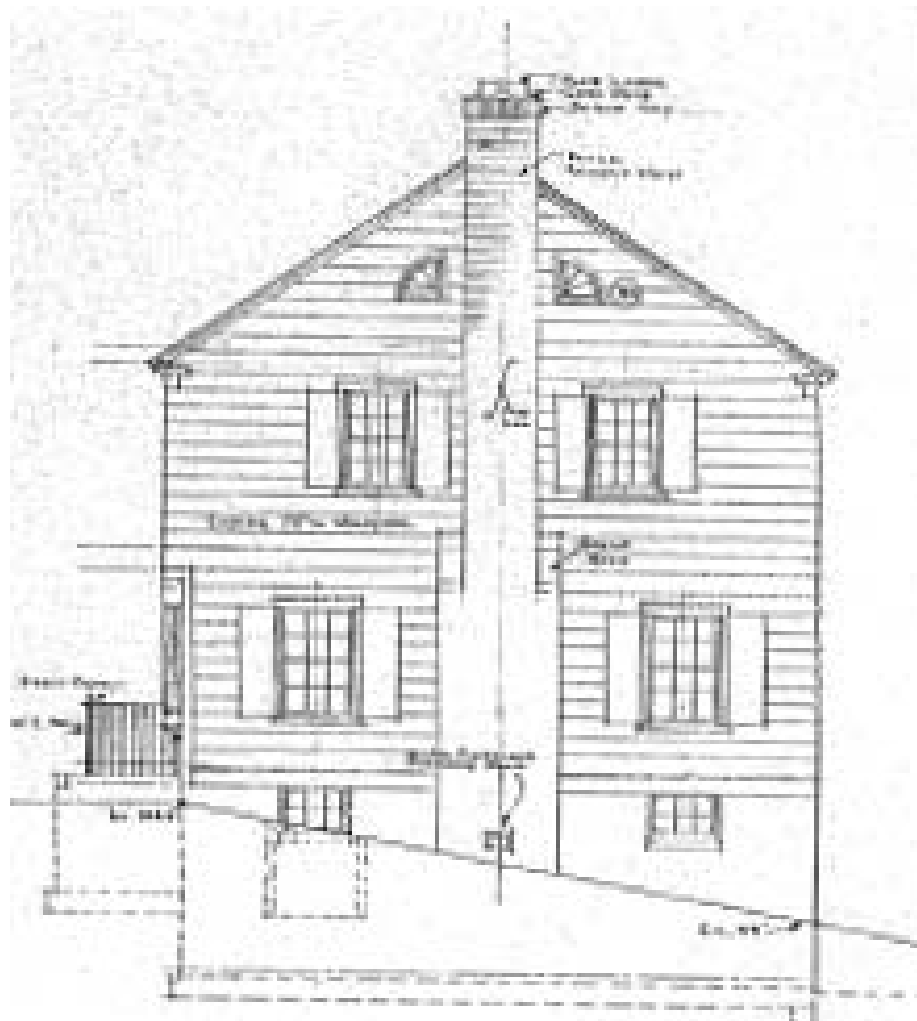


VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; South Elevation; Architectural Rendering

Property Name: 151_Ledge_south_elevation Survey #: 7 Direction of View:

Filename: 151_Ledge_south_elevation.jpg Photographer: Freeman, French, Freeman



VERMONT DIV. FOR HISTORIC PRESERVATION

151 Ledge Road; West Elevation; Architectural Rendering

Property Name: 151_Ledge_west_elevation Survey #: 7 Direction of View:

Filename: 151_Ledge_west_elevation.jpg Photographer: Freeman, French, Freeman



City of
Burlington, Vermont
645 Pine Street

Zoning Permit – Reasons for Denial

ZP #: 24-176

Tax ID: 054-2-116-000

Issue Date: June 25, 2024

Decision: Denied

Property Address: 151 Ledge Road

Description: Proposed replacement of existing wooden clapboard with vinyl siding.

Reasons for Denial:

151 Ledge Road was included within the Prospect Park Historic Sites and Structures Survey (specifically, *Prospect Park South*, CLG Grant 05-02) following the survey work started under previous CLG grants and following the recommendations of the *Burlington Historic Sites and Structures Survey Plan* completed by Daly & Associates in May 2000. The purpose of the Historic Sites and Structures Survey is to identify and document significant historic and prehistoric resources throughout Vermont that meet the criteria for inclusion in the State Register of Historic Places. The criteria for inclusion includes; architectural merit; engineering merit; association with important historic events, trends, or patterns; and the association with significant persons or groups in Vermont's historic past. Within the Prospect Park South Survey, 151 Ledge Road was identified as being eligible for historic designation within the context of the entire Prospect Park neighborhood; North, Middle and South.

From the Survey report: *The Prospect Park South neighborhood contains 69 buildings that may be considered eligible for listing on the National Register of Historic Places within a historic district.*¹

151 Ledge Road is specifically identified as among the significant examples of the work of Freeman French Freeman Architects within this survey area.²

Residences designed by Freeman French Freeman Architects within the Prospect Park South neighborhood survey area:

Street Number	Street Name	Year constructed
46	Crescent Road	1953
68	Crescent Road	1951
125	Crescent Road	1952
137	Crescent Road	1953
165	Crescent Road	1949
26	Hillcrest Road	1934
35	Hillcrest Road	1937
47	Hillcrest Road	1936
50	Hillcrest Road	1936
77	Ledge Road	1943
151	Ledge Road	1936

¹ Andre, Elizabeth Mary: *Burlington Surveys of Prospect Park South and Strong Street; CLG Grant 05-02 Phase 4 Survey Report*; 2006, p.9.

² Ibid, p.10.

4	Mount View Court	1951
25	Woodcrest Lane	1951

From **Section 5.4.8 Historic Buildings and Sites**

The City seeks to preserve, maintain, and enhance those aspects of the city having historical, architectural, archaeological, and cultural merit. Specifically, these regulations seek to achieve the following goals:

To preserve, maintain and enhance Burlington's historic character, scale, architectural integrity, and cultural resources;

To foster the preservation of Burlington's historic and cultural resources as part of an attractive, vibrant, and livable community in which to live, work and visit;

To promote a sense of community based on understanding the city's historic growth and development, and maintaining the city's sense of place by protecting its historic and cultural resources; and,

To promote the adaptive re-use of historic buildings and sites.

(a) Applicability:

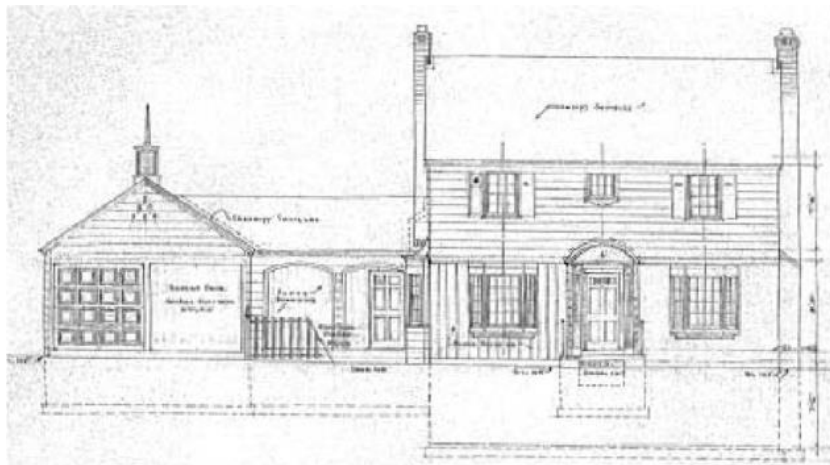
*These regulations shall apply to all buildings and sites in the city that are listed, or **eligible for listing**, on the State or National Register of Historic Places.*

With an identification of eligibility within the Survey report, the standards of Section 5.4.8 apply.

(b) Standards and Guidelines

2. *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.*

151 Ledge Road was designed by the architectural firm of Freeman, French Freeman and constructed c. 1936 in the popular Colonial Revival style. It features a number of Classical details not often found during this interwar era of construction, namely the intricately detailed door surround. At the same



Original rendering, Freeman French Freeman archives,
University of Vermont Special Collections

time, the house reflects the modest, mass-produced Colonial Revival structures made popular in the 1920s and 1930s by mail-order catalogs. Constructed in the inter-war years, it marks the separation of

historic, traditionally rooted architecture to the post-war housing styles that embraced a more modern aesthetic.

While some alteration has occurred (namely the 2nd floor over the garage, and a 1985 large rear addition, with additional garages, 1999), the essential form, character and historic integrity remain intact.

While material replacement may be considered for the more recent building additions, the replacement of existing wood clapboard and vertical siding on the principal structure is contrary to this standard.

Adverse finding.

5. ***Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.***

The removal of existing clapboard and vertical siding and replacement with modern vinyl siding is contrary to this standard. **Adverse finding.**

6. ***Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and where possible, materials recognizing that new technologies may provide an appropriate alternative in order to adapt to ever changing conditions and provide for an efficient contemporary use.***

The removal of traditional clapboard and vertical siding, and covering with modern vinyl siding will significantly diminish the character and intentional architectural detail of this 1936 home, designed by Freeman French Freeman. **Adverse finding.**

9. ***New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property.***

Replacement of clapboard with vinyl siding is contrary to this standard.

Adverse finding.

Section 6.2.2 Site Plan Design Standards

(d) Protection of Important Cultural Resources

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves sites listed or eligible for listing on a state or National Register of Historic Places, the applicant shall meet the applicable development and design standards pursuant to Section 5.4.8 (b).

See above. **Adverse finding.**

Section 6.3.2 Architectural Design Standards

(b) Protection of Important Architectural Resources

Burlington's architectural and cultural heritage shall be protected through sensitive and respectful redevelopment, rehabilitation, and infill. Where the proposed development involves buildings listed or eligible for listing on a state or National Register of Historic Places, the applicant shall meet the applicable development and design standards pursuant to Section 5.4.8 (b).

See above. **Adverse finding.**

An interested person may appeal a decision of the Zoning Administrator to the Development Review Board within 15 days after the decision date per Sec. 12.2.2, *Appeals of Administrative Officer Decisions*. Appeals may be filed online at [burlingtonvt.viewpointcloud.com/categories/1098](https://www.burlingtonvt.viewpointcloud.com/categories/1098) or in-person at 645 Pine Street, Burlington, Vermont.

<https://www.burlingtonvt.gov/DPI/Appealing-a-Zoning-Decision>

Notice of Appeal: Permit Denial for ZP# 24-176

Name and address of the appellant:

JO KATHLEEN TRACY, PHD; owner
151 Ledge Rd
Burlington, VT 05401

Brief description of the property with respect to which the appeal is taken:

The home at 151 Ledge Rd is a single family, residential house. According to online property records and documents *provided to me during the purchasing process*, the original house was built in 1945. **The Prospect Park survey from 2005-2006 that serves as the basis of the permit denial incorrectly states that the house was built in 1936.**

According to property records available for 151 Ledge Rd, the original house was approximately 1600 square feet built in the colonial style. The colonial style has been common to the New England region since the 1600-1700s <https://www.housebeautiful.com/design-inspiration/a23647602/american-colonial-style-houses-facts/>. Colonial style homes are ubiquitous to New England, and by 1945, there was clearly nothing particularly unique about a colonial design. In fact, as noted in the denial document, by the 1920s and 1930s colonial styles were being mass-produced further undermining the assertion that the house of is potential historic significance for either the Vermont or National Historic Registries.

The current total finished square footage is 5,846. Major additions were made to the original house in 1985 and again in 1999, making the original house roughly 27% of the total finished square footage of the current house.

Reference to the regulatory provisions applicable to that appeal:

As I understand the zoning laws for the city, it's my understanding that Section 5.4.8 a) 1-3 of the zoning bylaw governs the determination. "...a building or site may be eligible for listing on the state or national register of historic places and subject to the provisions if **all** of the following conditions are present:

1) The building is 50 years old or older. [partially applies]
27% of the house was built in 1945 and 73% of the current house was built in the last 40 years. The vast majority of the house is less than 50 years old.

2) The building or site is deemed to possess significance in illustrating or interpreting the heritage of the City, state, or nation in history, architecture, archeology, technology, and culture because one or more of the following is present:

- a) Association with events...[does not apply]
- b) Association with the lives of person significant in the past [does not apply]
- c) Embodiment of distinctive characteristics of a type, period, or method of construction, or representation of a master, or possession of high artistic values, or representation of a significant or distinguishable entity whose components may lack individual distinction [does not apply]
- d) Maintenance of an exceptionally high degree of integrity, original site orientation, and virtually all character defining elements intact [does not apply]
- e) Yielding, or may be likely to yield, information important to prehistory [does not apply]

3) The building or site possess a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association [does not apply]

Relief requested by the appellant:

Respectfully request that approval to remove clapboard siding and replace with vinyl siding be permitted to optimally preserve the underlying structure of the house and improve energy efficiency (Tyvac underlayment will be placed under siding. I further request that the house be removed from the list of homes of "potentially historic significance" for the reasons outlined in my responses to the specific adverse findings.

Alleged grounds why such requested relief is believed proper under the circumstances:

1) The requirement that building is 50 years old or older is only partially true and is untrue for the majority of the structure at 151 Ledge Rd. **27% of the house was built in 1945 and 73% of the current house was built in the last 39 years. The vast majority of the house is less than 50 years old.**

I do not believe that any of Section 5.4.8 subpart 2 requirements apply, and since all 3 components of the bylaw are not met, it is reasonable to be permitted to upgrade the exterior siding from wood to vinyl to better protect the structure.

a) Association with events...

No known significant events occurred at this property.

b) Association with the lives of person significant in the past.

No known person of significance is associated with this property.

c) Embodiment of distinctive characteristics of a type, period, or method of construction, or representation of a master, or possession of high artistic values, or representation of a significant or distinguishable entity whose components may lack individual distinction.

As noted above, the colonial style dates the 1600-1700s in the US and is particularly ubiquitous in New England and Vermont. There is nothing particularly distinctive about the design--not even the front door entrance that is similar to the home shown in the House Beautiful article provided at the link above.

The clapboard siding on the house was not used for historic purpose or significance, but rather because that was the least expensive siding option available at the time of construction

<https://klauer.com/about/blog/a-history-of-residential-exterior-siding> Clapboard siding is still in use today and is not of particular historic significance.

Vinyl siding was first produced in the late 1950s by Crane Plastics, an independent manufacturing plant in Columbus, Ohio. Given that the original house was built in 1945, vinyl siding has been around nearly as long as the original home and is vastly better at protecting the home against the weather, water damage, and pests. That is especially true for the harsher winters of New England.

d) Maintenance of an exceptionally high degree of integrity, original site orientation, and virtually all character defining elements intact.

As noted above the original house represents less than 30% of the total finished square footage of the home and an even smaller percentage (24%) of the total structure if the 3-car garage (which is a major part of the primary facing view of the house) is included.

e) Yielding, or may be likely to yield, information important to prehistory.

There is no known evidence of important information related to prehistory.

Section 5.4.8 (b) Standards and Guidelines

Standard 2: Historic character

As has been noted, the original house is a colonial design with features that are common to colonial houses all over New England and designs that continue to be built. Original bay windows are being retained as a feature and will not be impacted by change to vinyl siding. The door surround will not be impacted by change to vinyl siding and will not be changed from current state.

The adverse finding noted in the denial states that "some alteration has occurred" to the original house-- **70% of the current house was built since 1985**--it would be more accurate to say that the vast majority of the house was built in the last 39 years. It would be esthetically odd to side 70% of the house and to leave a small percentage of the house in different materials.

Standard 5. Distinctive materials. Like the colonial design, wooden clapboard is not a distinctive material. Many houses throughout New England have clapboard siding, and clapboard is still a material used in homebuilding today.

Standard 6. Deteriorated historic features. The denial contends that change from wooden clapboard to vinyl siding will "significantly diminish the character and architectural detail..." Vinyl siding is expressly made to mimic clapboard. From a distance of little over 20 feet, it is difficult to tell whether siding is clapboard or vinyl so house will continue to have similar look and feel.

Standard 9. "...Not destroy historic materials, features, and spatial relationships"

Wooden clapboard siding is still in use today and doesn't in and of itself constitute an historic material. As mentioned in the response to Standard 2 unique features of bay windows and door surround will not be affected by change to vinyl siding.

Section 6.2.2 Site Plan Design Standards (d) and Section 6.3.2 (b) Architectural Design Standards

In my review of Vermont historic registry data, only 1 home on Ledge Rd has met the criteria for inclusion on the state registry. Given the significant additions that were made to the original home, I don't believe the home meets the criteria laid out in Section 5.4.8 for being eligible for historic listing. I would go so far as to say that the survey that was done was over-broad about what constitutes "potentially eligible for listing." Further, given the ubiquity of colonial style homes with clapboard siding in Vermont and the >70% change to the original house through a series of additions, I think it is extremely doubtful that the home will ever be placed on any historic registry. Given the low likelihood of ever being placed on the state or national registry, I am appealing the decision so that I can maximally preserve my home. There is an extremely low statistical probability that the house will ever meet standards for inclusion on the Vermont State Historic Registry and even lower probability that it would meet standards for the National Historic Registry. These standards have been misguidedly applied to the house at 151 Ledge Rd.

Summary:

Given the low likelihood of ever being placed on the state or national registry, I am appealing the decision so that I can maximally preserve my home.

There is an extremely low statistical probability that the house will ever meet standards for inclusion on the Vermont State Historic Registry and even lower probability that it would meet standards for the National Historic Registry. These standards have been misguidedly applied to the house at 151 Ledge Rd.

NOTE: I moved to Vermont in 2023 from an area of Maryland that is famous for its planned community and onerous home owners' associations. Because the previous owners of 151 Ledge neglected care and upkeep of the house in recent years. I asked my realtor if there were any home owners' association rules,

local covenants, or other restrictions ***that would make it difficult for me to make the obvious repairs that would need to be done if I proceeded with purchase***. My realtor told me there were no restrictions on the house. No disclosures about "potential historic significance" were made to me by the previous owner or their agent prior to purchase or as part of the purchase process. In trying to understand feedback from the Zoning group during this process, I spent time looking for information that would've alerted me to the survey being used to deny my application. The information about the survey was not easy to find. This has been a particularly disappointing and disconcerting part of relocating to Burlington and my experience of buying a home in Burlington.

Department of Planning and Zoning

149 Church Street, City Hall
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Michael La Place, AICP, PP, Director
Ken Lerner, Assistant Director
David White, AICP, Comprehensive Planner
Jay Appleton, Project Planner/GIS
Scott Gustin, Senior Planner
Mary O'Neil, Associate Planner
Kathy Parrott, Zoning Clerk
Elsie Tillotson, Department Secretary



Greetings,

I would like to introduce to you **Elizabeth Andre**. Elizabeth is a graduate student in historic preservation at the University of Vermont, and has been hired by the City of Burlington to conduct a Historic Sites and Structures Survey in your neighborhood this summer and fall. She will be working with staff from the Dept. of Planning & Zoning researching building and neighborhood history, recording architectural styles and details, and photographing individual buildings for the City's *Historic Sites and Structures Survey*.

This survey is an inventory of historic structures that is used to assist city & state officials, researchers, and property owners in planning for the protection, preservation, interpretation, and promotion of important cultural and architectural resources. Of the cities over 10,000 buildings, less than 3,000 have been inventoried for their potential national, state, or local historic significance. Much of the original survey work in Burlington was completed in the 1970's by the VT Division for Historic Preservation as part of a statewide initiative. Subsequent surveying has been completed more recently in the Old North End and along Shelburne Street by the City using grants made available by the VT Division for Historic Preservation and the National Park Service.

This project is being managed by the City's Dept. of Planning & Zoning, and is authorized under Vermont law pursuant to 24 VSA §4325. Additional information regarding the City's CLG Program can be found at www.ci.burlington.vt.us/planning/. If you have any questions or would like more information, you can call me at the Burlington Planning & Zoning Department at 865-7194, or send me an email at DEWhite@ci.burlington.vt.us.

Thank you for your interest in conserving and celebrating Burlington's historic architecture!

David E. White, AICP, Comprehensive Planner and CLG Coordinator

*The programs and services of the City of Burlington are accessible to people with disabilities. For accessibility information, contact the Dept. of Planning & Zoning at 865-7188 (TTY users: 865-7142).
An Equal Opportunity Employer.*

Department of Permitting & Inspections

Zoning Division
645 Pine Street
Burlington, VT 05401
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William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Garret King, Associate Planner
Joseph Cava, Permit Technician
Ted Miles, Code Compliance Officer
Ted Boylan, DPI Administrator



TO: Development Review Board
FROM: Scott Gustin
DATE: August 6, 2024
RE: ZP-24-256; 311 North Avenue

=====

Note: These are staff comments only; decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

Zone: RCO-RG Ward: 7

Owner/Applicant: City of Burlington / Farrell Properties

Request: Proposed installation of recreation path, fencing, and associated stormwater improvements.

Applicable Regulations:

Article 4 (Maps & Districts), Article 5 (Citywide General Regulations), Article 6 (Development Criteria & Guidelines)

Background Information:

The applicant is seeking approval to construct a new recreation path that will connect the new Cambrian Rise development to the waterfront recreation path. This path has been contemplated in Cambrian Rise project plans since the beginning but has not yet been reviewed and permitted. The proposed path will wind its way through the ~12 acre Kieslich Park now owned and operated by the City. Much of the project is focused on landscaping (existing and proposed) and stormwater management.

The subject property is municipally owned and operated and is, therefore, subject to only limited zoning review per 24 VSA, Sec. 4413, *Limitations on Municipal Bylaws*. This application may be reviewed only with respect to location, size, height, building bulk, yards, courts, setbacks, density of buildings, off-street parking, loading facilities, traffic, noise, lighting, landscaping, and screening requirements, and only to the extent that the regulations do not have the effect of interfering with the intended functional use.

The Conservation Board will review this application at their August 5, 2024 meeting. Recommendations of that Board will be noted to the Development Review Board at their August 6, 2024 meeting.

Previous zoning actions for this property are as follows:

- 4/26/22, Approval to install Kieslich Park sign
- 3/15/22, Approval of comprehensive building renovations

- 4/10/17, Approval to convert use to community house
- 1/20/17, Approval to install replacement windows
- 5/31/16, Approval to install replacement garage doors and siding
- 4/6/16, Approval to install a garden shed
- 1/21/16, Approval of subsequent boundary line adjustment with 329 North Avenue
- 12/7/14, Approval of boundary line adjustment with 329 North Avenue
- 7/12/12, Approval to install fencing around community garden
- 2/16/12, Approval to install freestanding sign
- 12/16/11, Approval to install replacement windows
- 11/3/10, Approval to convert existing group home to post-secondary school

Recommendation: Initial project review and continuation to allow completion of the lot coverage assessment as noted below

I. Findings

Article 4: Maps & Districts

Sec. 4.4.6, Recreation, Conservation, and Open Space Districts:

(a) Purpose

(2) RCO-Recreation/Greenspace (RCO-RG)

The subject property is located in the RCO-RG zone. This zone is intended primarily for a diversity of active and passive recreational opportunities and urban green spaces that provide for public use and enjoyment. The subject property contains urban wild space, community gardens, and other community spaces. The proposed recreation path will add another public amenity to this parcel and is consistent with the intent of the district. **(Affirmative finding)**

(b) Dimensional Standards & Density

Based on the entire parcel size, lot coverage will increase from 2.1% to 6%. As the property is greater than 2 acres and is located in an RCO district, steep slope areas need to be deducted from the lot coverage calculations. This assessment has not yet been done but is pending. Up to 10% lot coverage is permissible on this parcel per Table 4.4.6-2, *City Park Lot Coverage Maximum Standards*.

Setbacks are moot, as pathways are allowed to encroach into them.

Height limitations are moot, as no part of this application includes vertical structures. **(No finding possible)**

(c) Permitted & Conditional Uses

The city park is a permitted use. The proposed recreation path will be an amenity within that park, and the use will not change. **(Affirmative finding)**

(d) District Specific Regulations

Not applicable.

Article 5: Citywide General Regulations

Sec. 5.2.3, Lot Coverage Requirements

See Sec. 4.4.6 (b) above.

Sec. 5.2.4, Buildable Area Calculation
(Not applicable)

Sec. 5.2.5, Setbacks

See Sec. 4.4.6 (b) above.

Sec. 5.2.6, Building Height Limits

See Sec. 4.4.6 (b) above.

Sec. 5.2.7, Density Calculations

See Sec. 4.4.6 (b) above.

Sec. 5.2.4, Buildable Area Calculation & Steep Slopes Overlay District

(b) Steep Slopes Overlay District

Much of the project area is included in the steep slopes overlay district. Detailed existing and proposed topographic information is included in the project plans. As required, the steep slope overlay boundaries are depicted, as are finished slopes over 30%. Finished slopes exceeding 30%, are subject to review and approval by the city engineer, and project plans have been provided for review.

As with all projects within steep slope areas, prior to construction, the applicant shall provide a geotechnical analysis prepared and stamped by a professional geotechnical engineer that determines the suitability of the steep slopes for the proposed development. **(Affirmative finding as conditioned)**

Sec. 5.5.1, Nuisance Regulations

Nothing in the proposal appears to result in creating a nuisance under this criterion. **(Affirmative finding)**

Sec. 5.5.2, Outdoor Lighting

No new outdoor lighting is included in this proposal. **(Not applicable)**

Sec. 5.5.3, Stormwater and Erosion Control

Post construction stormwater management will consist of a network of dry swales alongside the new path and a discharge point in the event of large storm events generating overflow. The stormwater measures will take advantage of the sandy soils onsite and will infiltrate much of the stormwater into the ground.

An erosion control plan has also been provided for implementation during construction. Typical measures such as silt fencing, stone check dams, and erosion matting are included. This plan and the stormwater management plan are pending review and approval by the Conservation Board and the city's stormwater program. **(Affirmative finding as conditioned)**

Article 6: Development Review Standards

Part 1, Land Division Design Standards

Not applicable.

Part 2, Site Plan Design Standards

Sec. 6.2.2, Review Standards

(a) Protection of important natural features

The subject property is not included in the Natural Resources Protection Overlay; however, it contains an ecologically diverse mix of woodlands, emerging woodlands, and open meadows. Much of the area where the recreation path will go is wooded. A comprehensive tree protection plan is included and provides standards for identifying tree protection zones, root pruning, and limits of disturbance. Collaboration with the city arborist and land steward is cited within the tree protection plan. **(Affirmative finding)**

(b) Topographical alterations

Not applicable per 24 VSA, Sec. 4413.

(c) Protection of important public views

Not applicable per 24 VSA, Sec. 4413.

(d) Protection of important cultural resources

Not applicable per 24 VSA, Sec. 4413.

(e) Supporting the use of alternative energy

Not applicable per 24 VSA, Sec. 4413.

(f) Brownfield sites

Not applicable per 24 VSA, Sec. 4413.

(g) Provide for nature's events

As required, plans for erosion prevention and sediment control and for post construction stormwater management have been provided. See Sec. 5.5.3 for details. **(Affirmative finding)**

(h) Building location and orientation

Not applicable per 24 VSA, Sec. 4413.

(i) Vehicular access

Not applicable per 24 VSA, Sec. 4413.

(j) Pedestrian access

Not applicable per 24 VSA, Sec. 4413.

(k) Accessibility for the handicapped

Not applicable per 24 VSA, Sec. 4413. Applicable accessibility requirements under the City's building code continue to apply. **(Affirmative finding as conditioned)**

(l) Parking and circulation

Existing parking and circulation remain unchanged. **(Not applicable)**

(m) Landscaping, fences, and retaining walls

In addition to protection of existing vegetation onsite, extensive new plantings are included in this project. Reflecting existing conditions, the proposed plantings contain a variety of regionally

appropriate species. Plantings include trees, shrubs, forbs, and grasses. The plantings will be installed within disturbed areas and into the surrounding vegetated areas.

Several sections of 3-rail pedestrian fencing will be installed along the path. Specifications are in the “details” of the civil project plans. **(Affirmative finding)**

(n) Public plazas and open space

No public plaza or open space is included or required in this proposal. **(Not applicable)**

(o) Outdoor lighting

See Sec. 5.5.2.

(p) Integrate infrastructure into the design

Infrastructure associated with this project is limited to that for stormwater management. See Sec. 5.5.3.

Part 3, Architectural Design Standards

Sec. 6.3.2, Review Standards

Not applicable.

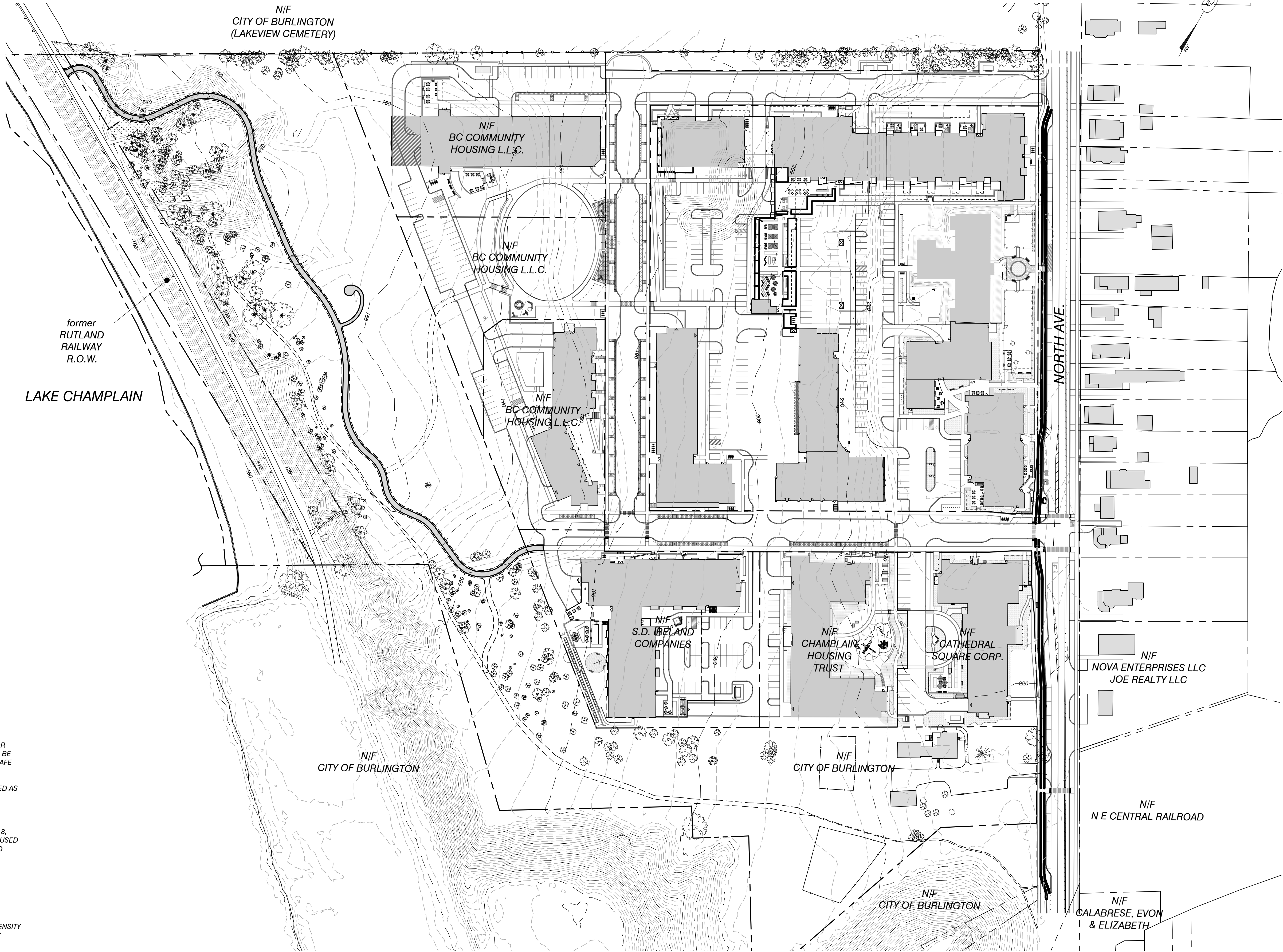
II. Conditions of Approval

In the event that lot coverage information is provided and is compliant, the following conditions are recommended:

1. **Prior to release of the zoning permit**, finished slopes exceeding 30% are subject to review and approval by the city engineer.
2. Prior to construction, the post-construction stormwater management plan and the erosion prevention and sediment control plan shall be reviewed and approved by the Stormwater Administrator.
3. Prior to construction, the applicant shall provide a geotechnical analysis prepared and stamped by a professional geotechnical engineer that determines the suitability of the steep slopes for the proposed development.
4. Standard permit conditions 1-15.

LEGEND

- APPROXIMATE PROPERTY LINE
APPROXIMATE SETBACK LINE
100
EXISTING CONTOUR
EXISTING CURB
EXISTING CHAINLINK FENCE
EXISTING WIRE FENCE
EXISTING GRAVEL
EXISTING PAVEMENT
EXISTING GUARD RAIL
EXISTING ELECTRIC
EXISTING FORCEMAIN
EXISTING GAS
EXISTING STORM
EXISTING GRAVITY SEWER
EXISTING TELEPHONE
EXISTING WATER
EXISTING SWALE
EXISTING SEWER MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING WELL
EXISTING HYDRANT
EXISTING SHUT OFF
EXISTING UTILITY POLE
EXISTING LIGHT POLE
EXISTING GUY WIRE/POLE
EXISTING SIGN
EXISTING DECIDUOUS TREE
EXISTING CONIFEROUS TREE
EDGE OF BRUSH/WOODS
IRON ROD/PIPE FOUND
CONCRETE MONUMENT FOUND
RAILROAD RAIL FOUND
TEST PIT
PROJECT BENCHMARK



NOTES

- UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT DIG SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION.
- THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE.
- PROPERTY LINE INFORMATION IS BASED PLAT ENTITLED "LOT LINE ADJUSTMENT BETWEEN 329 & 351 NORTH AVE BURLINGTON COLLEGE" PREPARED BY CIVIL ENGINEERING ASSOCIATES, INC. DATED DECEMBER 18, 2014. THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE. MONUMENTATION RECOVERED IS CONSISTENT WITH RECORDED DOCUMENTS.
- SITE INFORMATION IS BASED ON A FIELD SURVEY PERFORMED BY CIVIL ENGINEERING ASSOCIATES, INC. DECEMBER 2014. CIVIL ENGINEERING ASSOCIATES, INC. SURVEY ORIENTATION IS "GRID NORTH", VERMONT COORDINATE SYSTEM OF 1983 (HORIZONTAL) AND NAVD88 (VERTICAL) ESTABLISHED FROM GPS OBSERVATIONS ON SITE.
- THIS PROPERTY LAYS WITHIN THE WATERFRONT RESIDENTIAL MEDIUM DENSITY ZONING DISTRICT AND THE NATURAL RESOURCES PROTECTION OVERLAY DISTRICT.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
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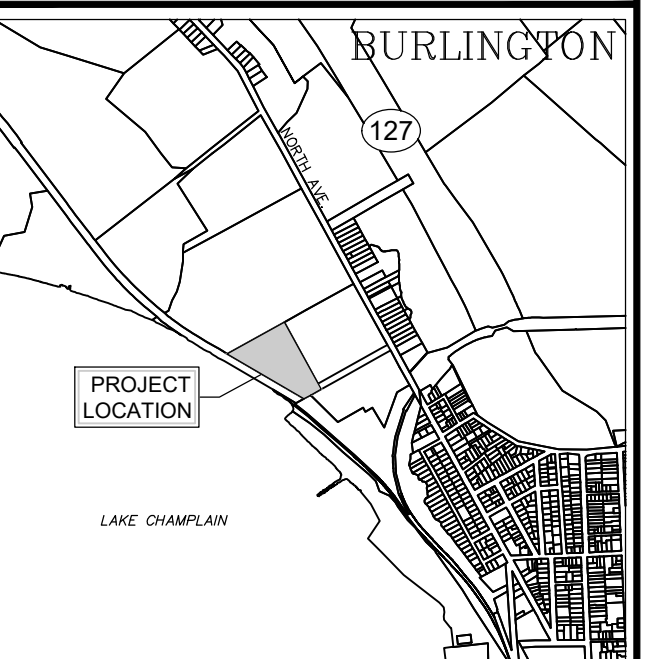
**BURLINGTON PARKS,
RECREATION &
WATERFRONT**

645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

OVERALL SITE PLAN

DATE
JUL., 2024

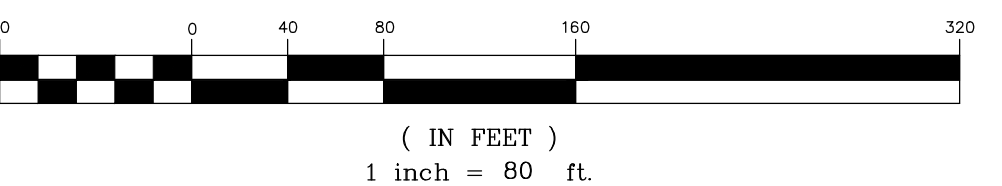
SCALE
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PROJ. NO.
18118

DRAWING NUMBER

C1.0

GRAPHIC SCALE





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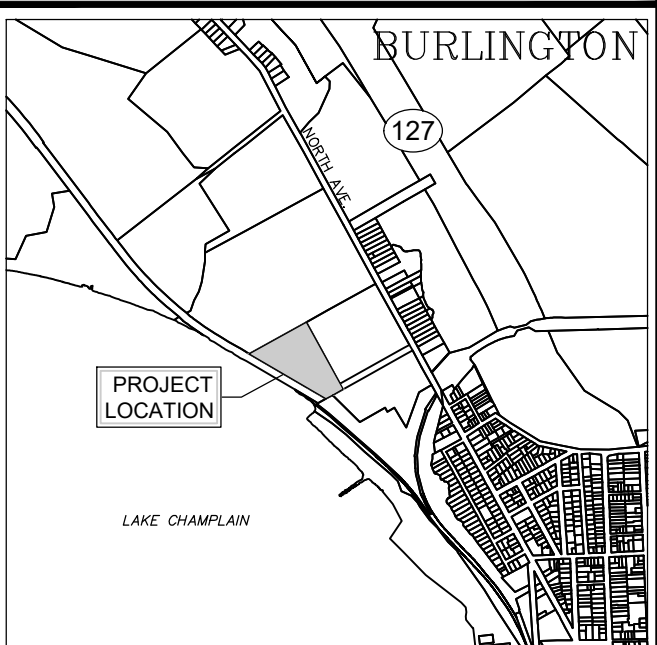
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05401

PROJECT:
**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT


LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

EXISTING
CONDITIONS
SITE PLAN

DATE
JUL., 2024
SCALE
1" = 40'
PROJ. NO.
18118

DRAWING NUMBER
C1.1



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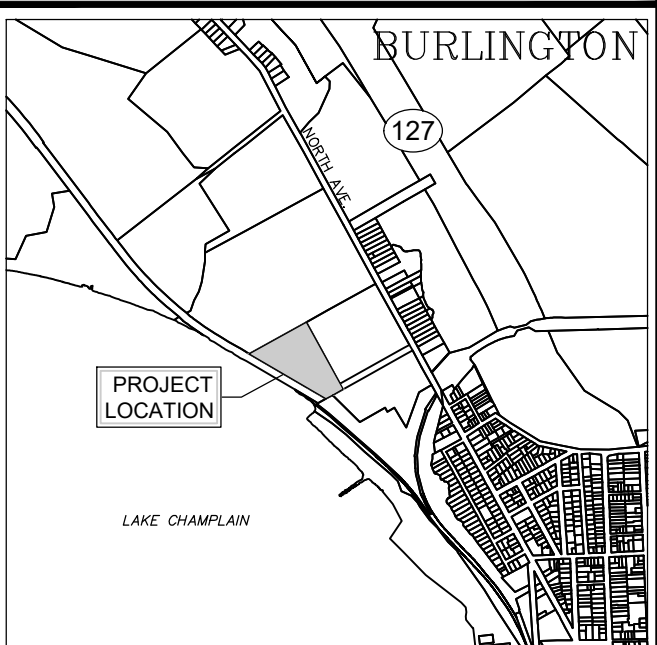
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645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT


LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

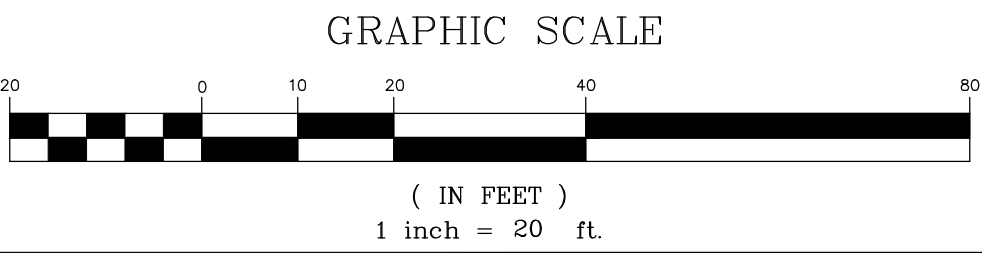
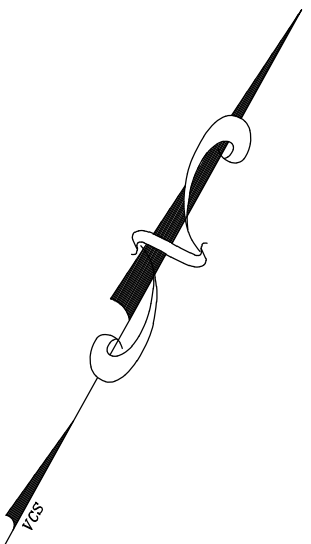
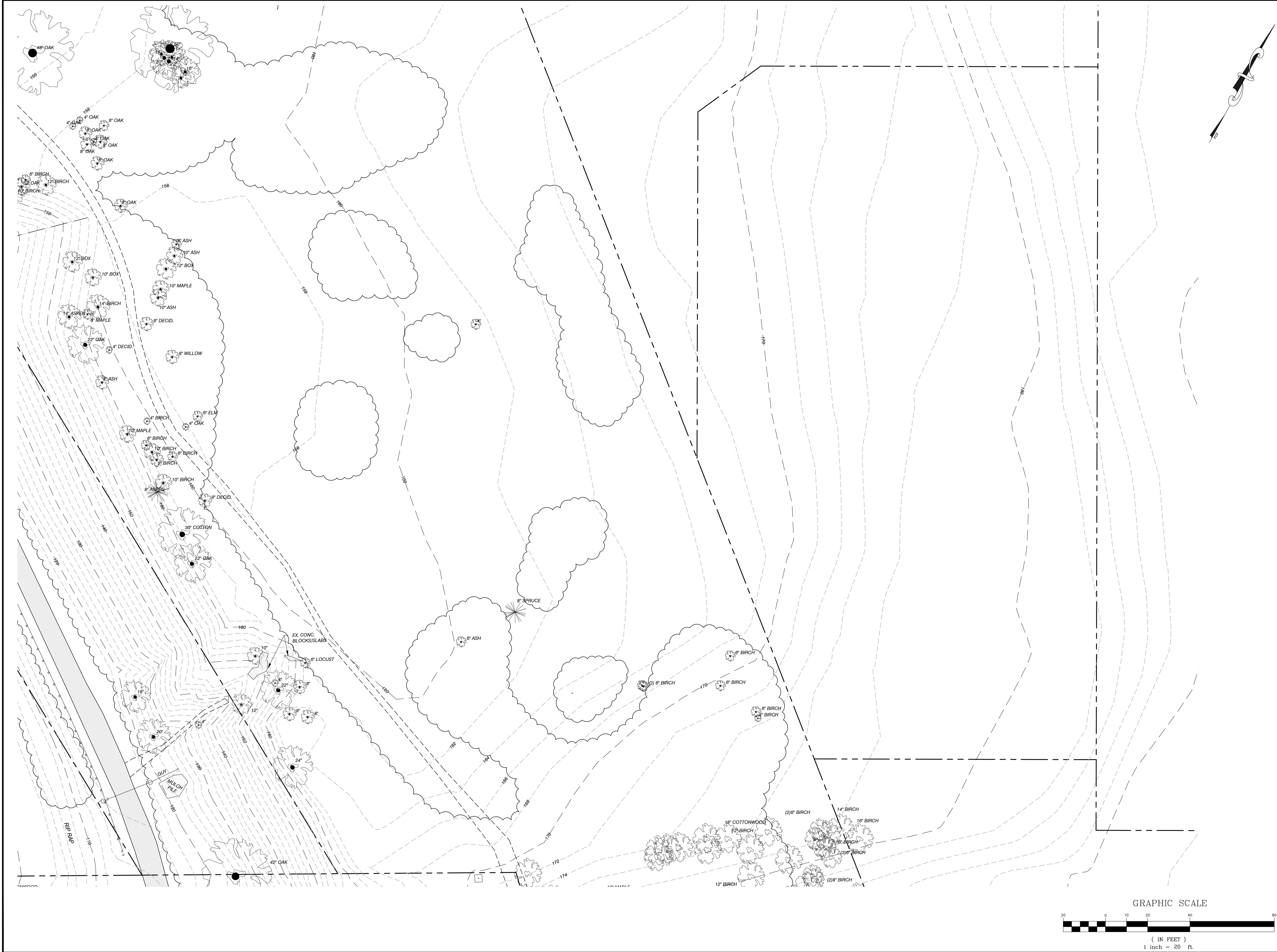
EXISTING
CONDITIONS
PARTIAL SITE PLAN

DATE
JUL., 2024

SCALE
1" = 20'

PROJ. NO.
18118

DRAWING NUMBER
C1.2



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PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

EXISTING
CONDITIONS
PARTIAL SITE PLAN

DATE
JUL., 2024

SCALE
1" = 20'

PROJ. NO.
18118

DRAWING NUMBER

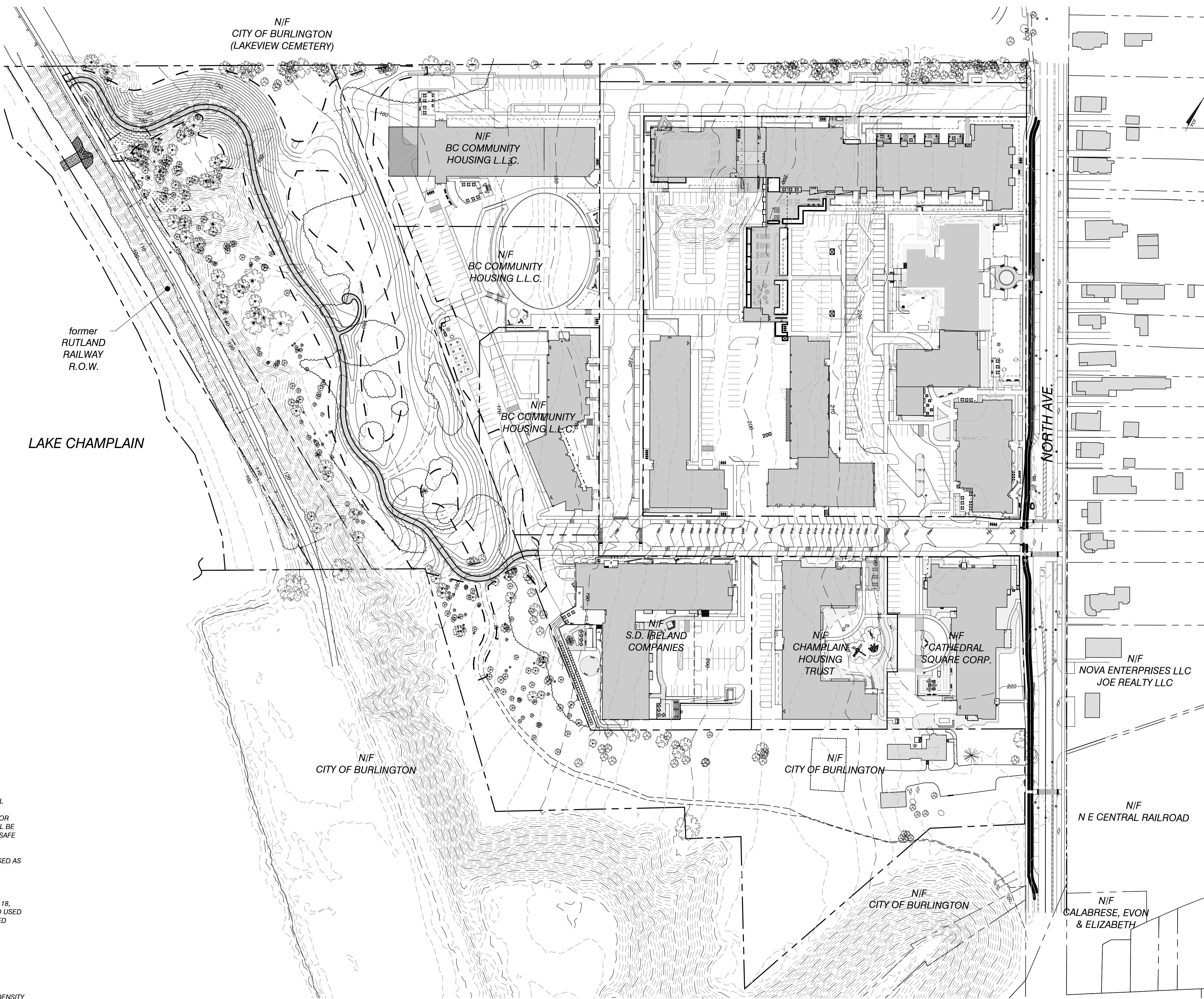
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Page 50 of 133

LEGEND

- APPROXIMATE PROPERTY LINE
APPROXIMATE SETBACK LINE
-100- EXISTING CONTOUR
EXISTING CURB
EXISTING CHAINLINK FENCE
EXISTING WIRE FENCE
EXISTING GRAVEL
EXISTING PAVEMENT
EXISTING GUARD RAIL
EXISTING ELECTRIC
EXISTING FORCEMAIN
EXISTING GAS
ST EXISTING STORM
S EXISTING GRAVITY SEWER
T EXISTING TELEPHONE
W EXISTING WATER
EXISTING SWALE
EXISTING SEWER MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING WELL
EXISTING HYDRANT
EXISTING SHUT OFF
EXISTING UTILITY POLE
EXISTING LIGHT POLE
EXISTING GUY WIRE/POLE
EXISTING SIGN
EXISTING DECIDUOUS TREE
EXISTING CONIFEROUS TREE
EDGE OF BRUSHWOODS
IRON ROD/PIPE FOUND
CONCRETE MONUMENT FOUND
RAILROAD RAIL FOUND
TEST PIT
PROJECT BENCHMARK



NOTES

- UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITY CONFLICTS. ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER. THE CONTRACTOR SHALL CONTACT DIG SAFE (888-344-7233) PRIOR TO ANY CONSTRUCTION.
- THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE.
- PROPERTY LINE INFORMATION IS BASED PLAT ENTITLED "LOT LINE ADJUSTMENT BETWEEN 329 & 351 NORTH AVE BURLINGTON COLLEGE" PREPARED BY CIVIL ENGINEERING ASSOCIATES, INC. DATED DECEMBER 18, 2014. THIS PLAN IS NOT A BOUNDARY SURVEY AND IS NOT INTENDED TO BE USED AS ONE. MONUMENTATION RECOVERED IS CONSISTENT WITH RECORDED DOCUMENTS.
- SITE INFORMATION IS BASED ON A FIELD SURVEY PERFORMED BY CIVIL ENGINEERING ASSOCIATES, INC. DECEMBER 2014. CIVIL ENGINEERING ASSOCIATES, INC. SURVEY ORIENTATION IS "GRID NORTH", VERMONT COORDINATE SYSTEM OF 1983 (HORIZONTAL) AND NAVD88 (VERTICAL) ESTABLISHED FROM GPS OBSERVATIONS ON SITE.
- THIS PROPERTY LAYS WITHIN THE WATERFRONT RESIDENTIAL MEDIUM DENSITY ZONING DISTRICT AND THE NATURAL RESOURCES PROTECTION OVERLAY DISTRICT.

SITE ENGINEER:



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05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

**PROPOSED
CONDITIONS
OVERALL SITE
PLAN**

DATE

JUL., 2024

SCALE

1" = 80'

PROJ. NO.

18118

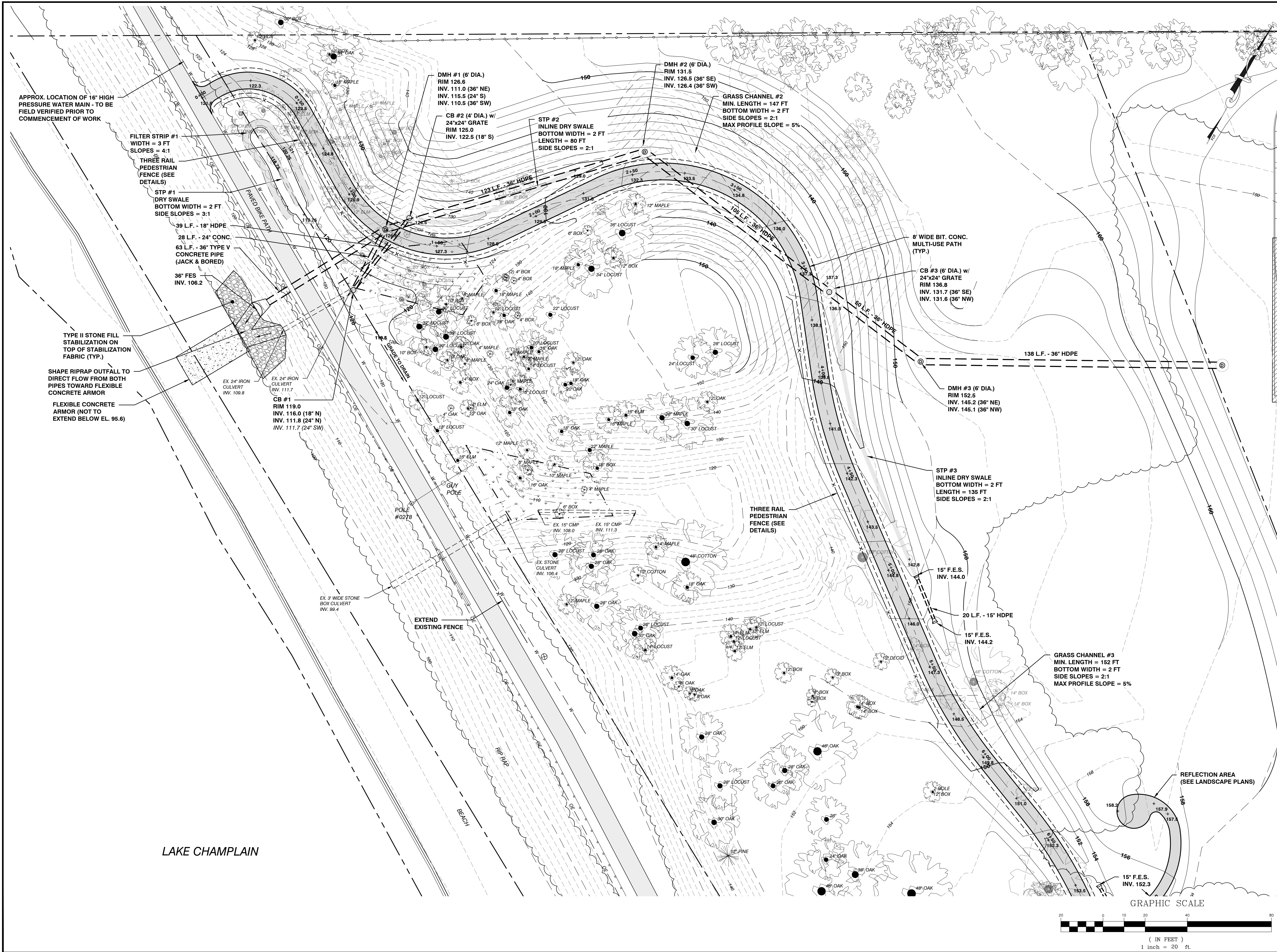
DRAWING NUMBER

C2.0

GRAPHIC SCALE



(IN FEET)
1 inch = 80 ft.



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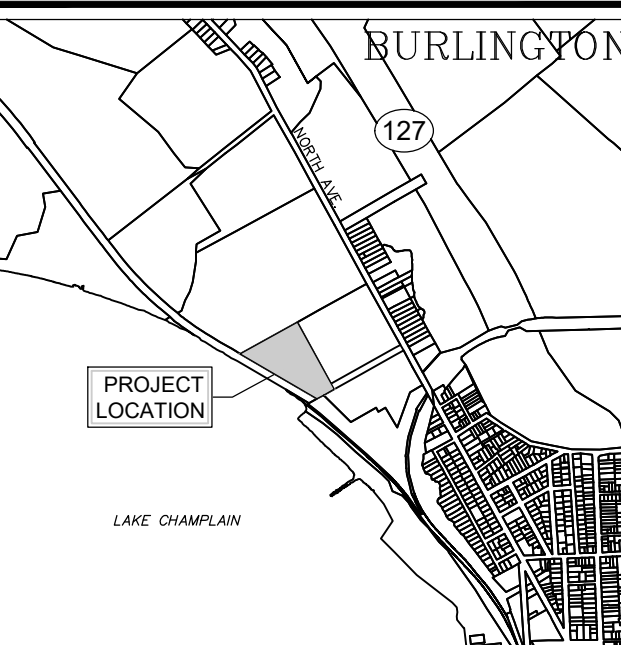
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PROJECT:
**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT


LOCATION MAP
1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

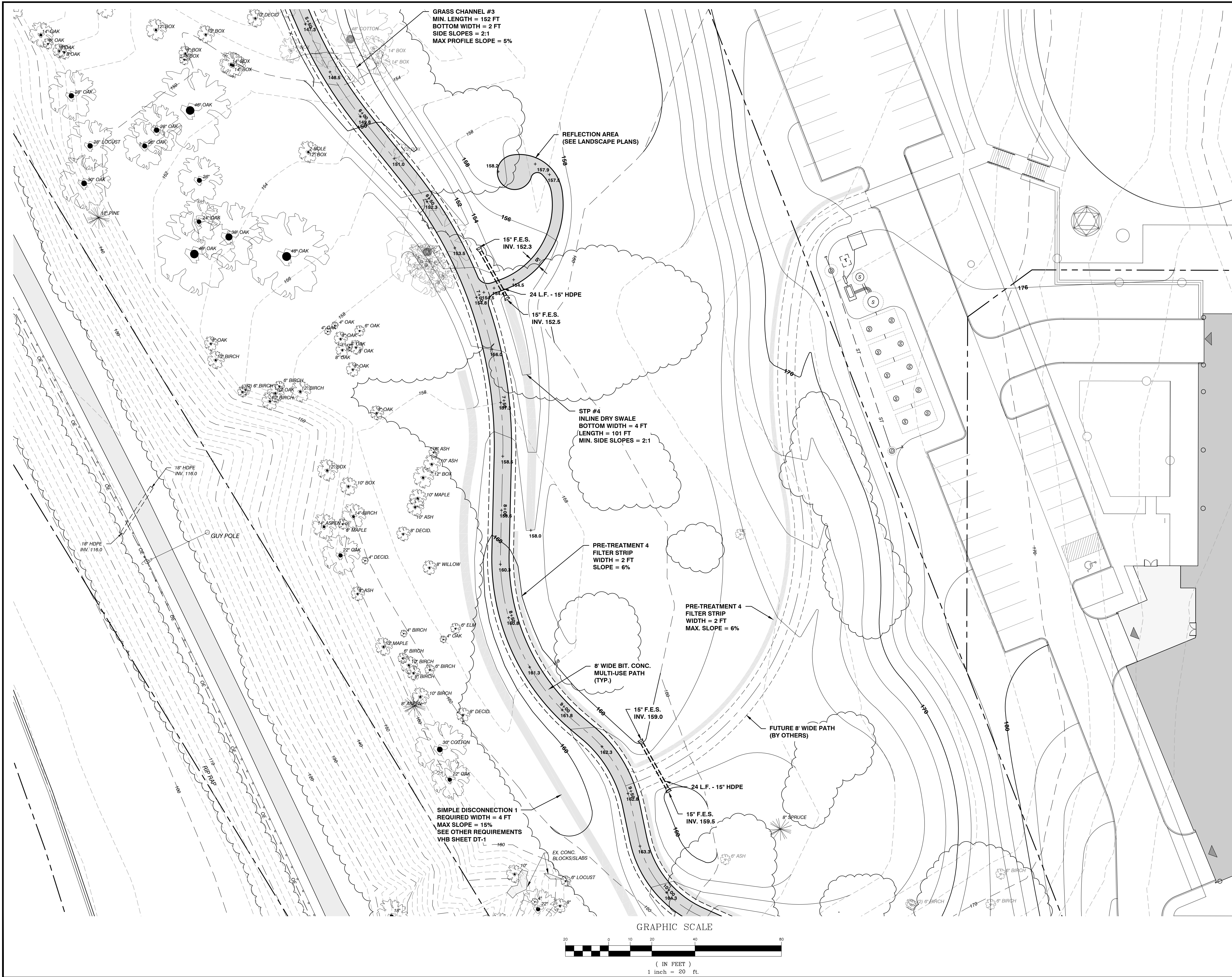
PROPOSED
CONDITIONS
PARTIAL SITE PLAN

DATE
JUL., 2024

SCALE
1" = 20'

PROJ. NO.
18118

DRAWING NUMBER
C2.2



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05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

**PROPOSED
CONDITIONS
PARTIAL SITE PLAN**

DATE

JUL., 2024

SCALE

1" = 20'

PROJ. NO.

18118

DRAWING NUMBER

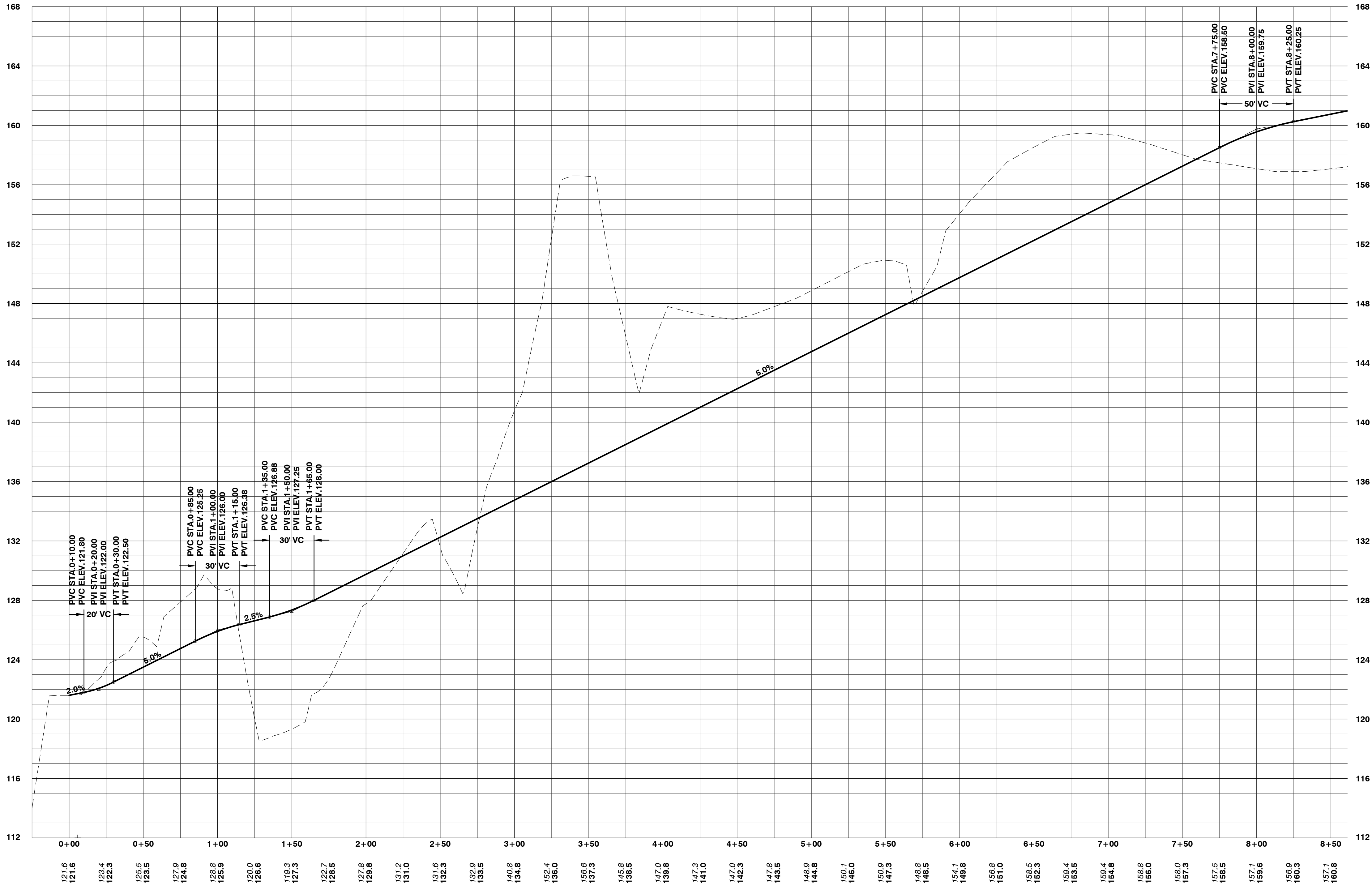
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GRAPHIC SCALE



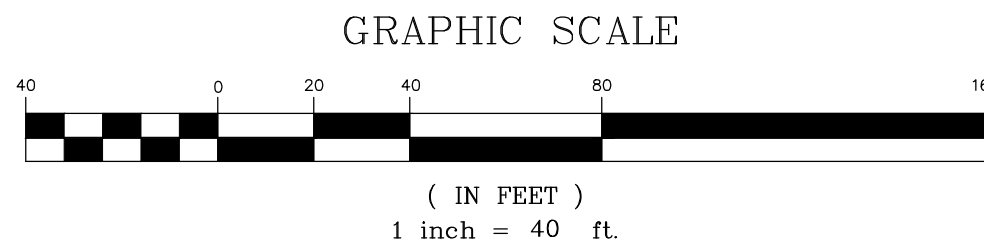
(IN FEET)

1 inch = 20 ft.



PATH PROFILE

HORIZ.: 1"=40'
VERT.: 1"=4'



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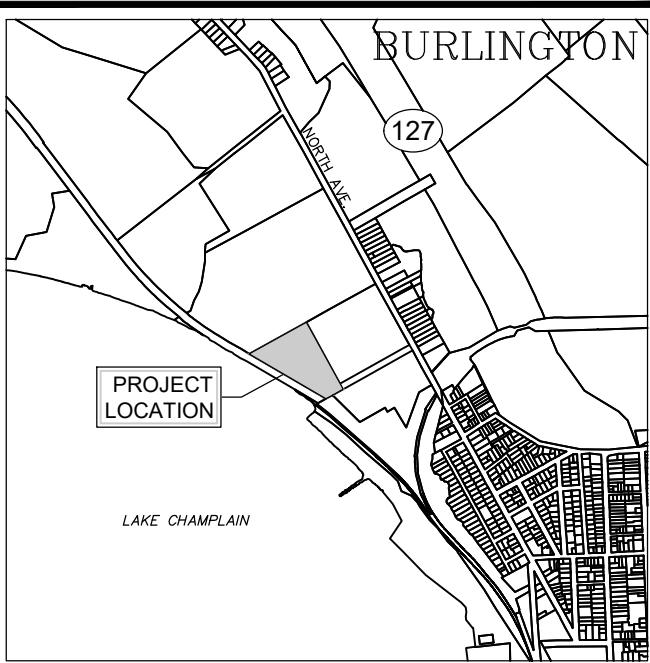
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WATERFRONT**
645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

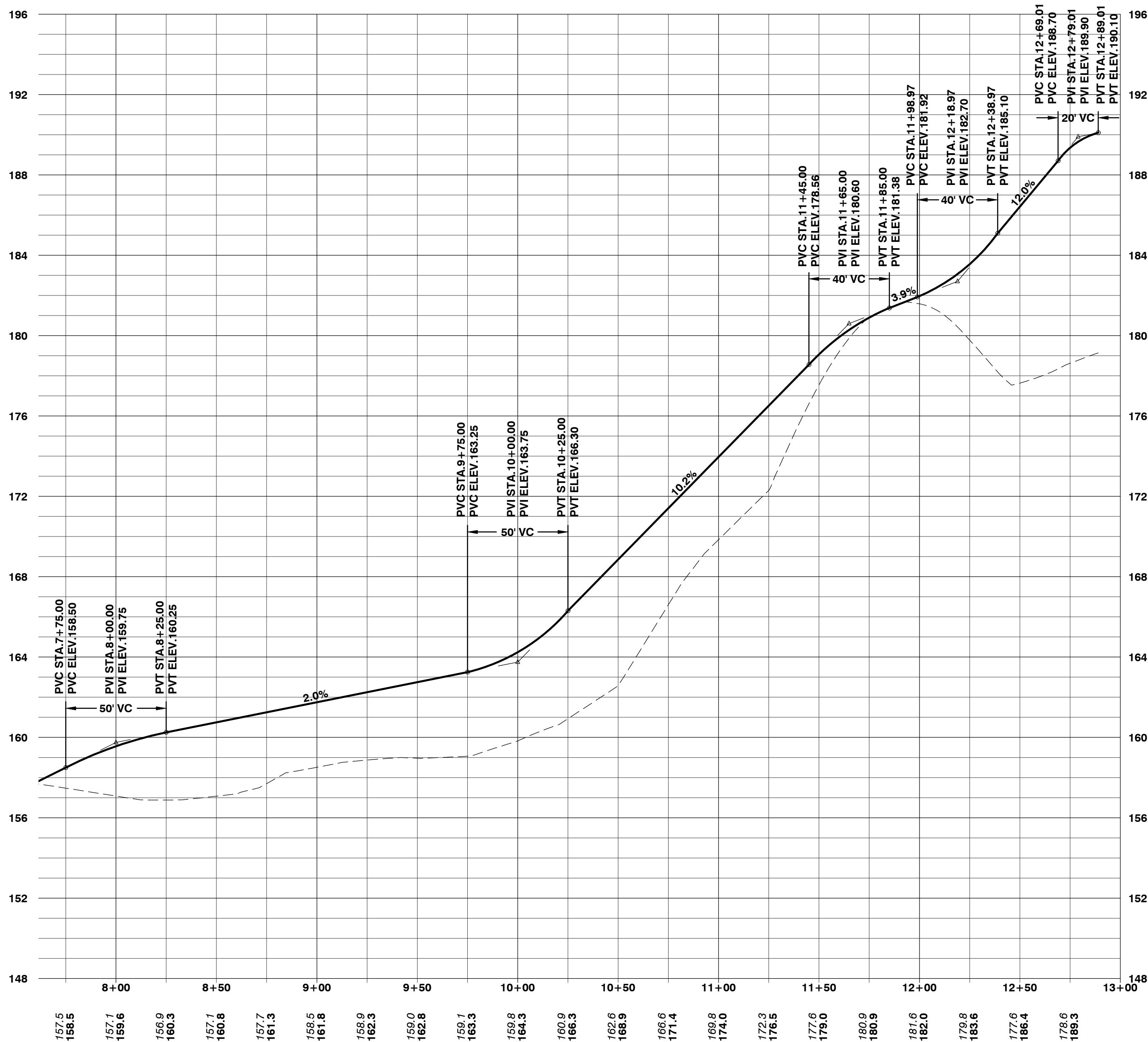
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DATE
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SCALE
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PROJ. NO.
18118

DRAWING NUMBER

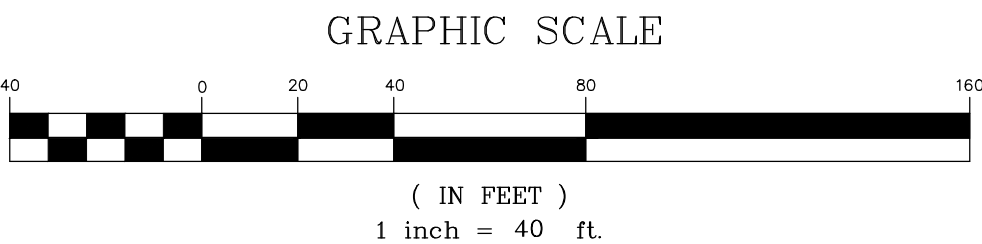
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PATH PROFILE (CONT.)

HORIZ.: 1"=40'
VERT.: 1"=4'



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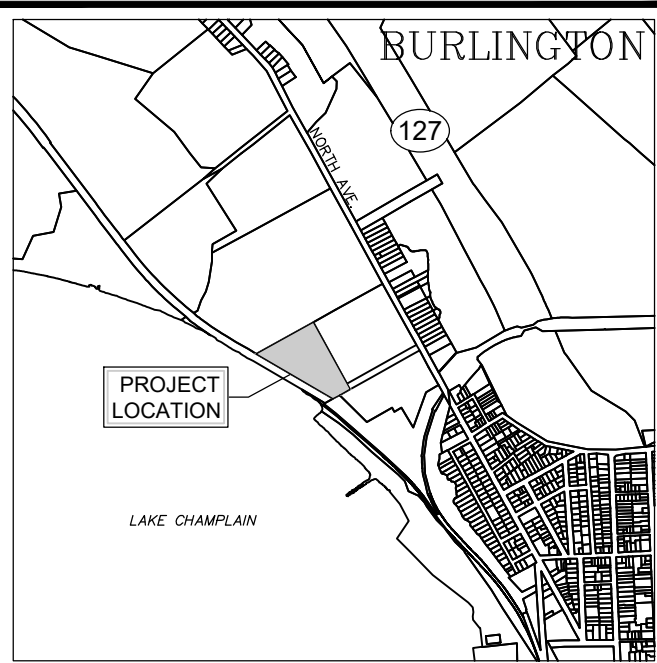
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DSM

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WATERFRONT
645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

311 NORTH AVE.
MULTI-USE PATH
311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

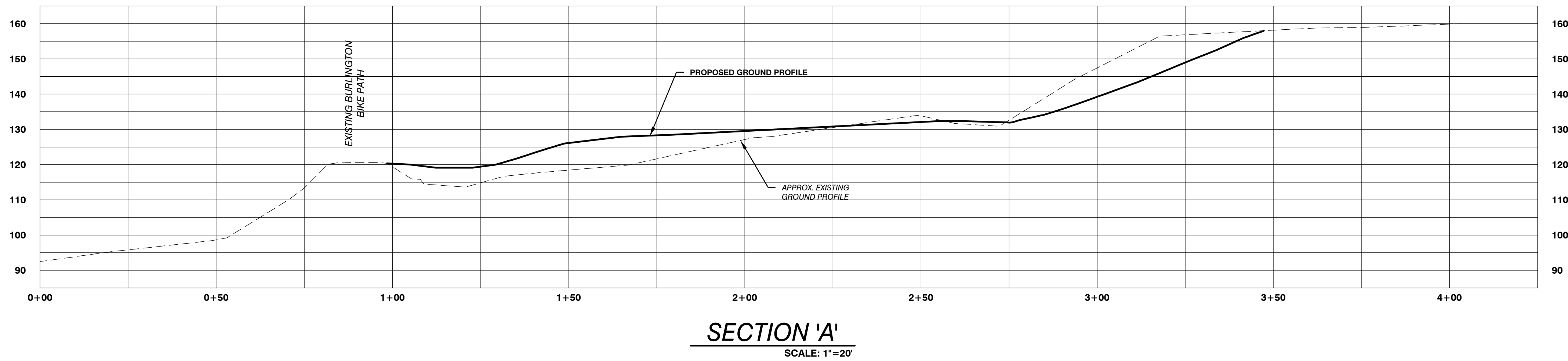
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7/19/24	DSM	PERMIT REVIEW SUBMITTAL

PROFILE (CONT.)

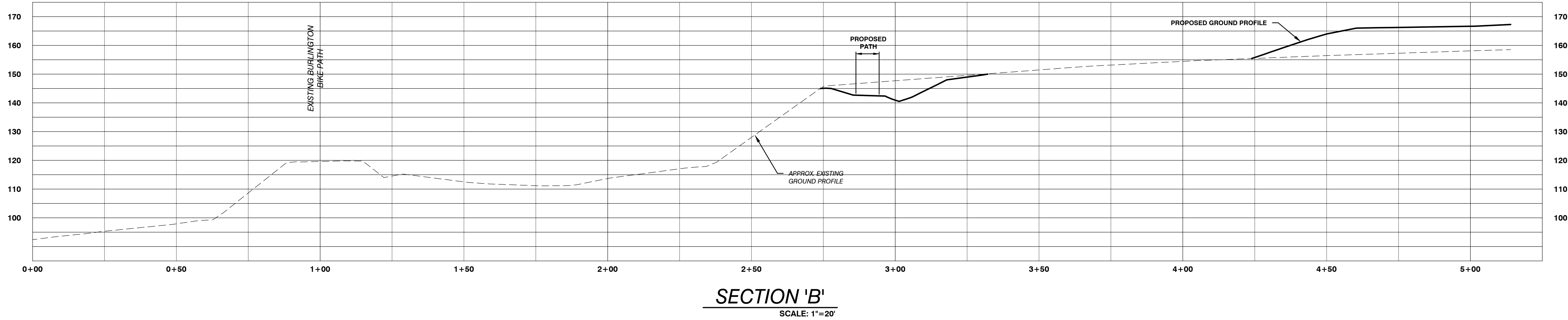
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SCALE
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PROJ. NO.
18118

DRAWING NUMBER

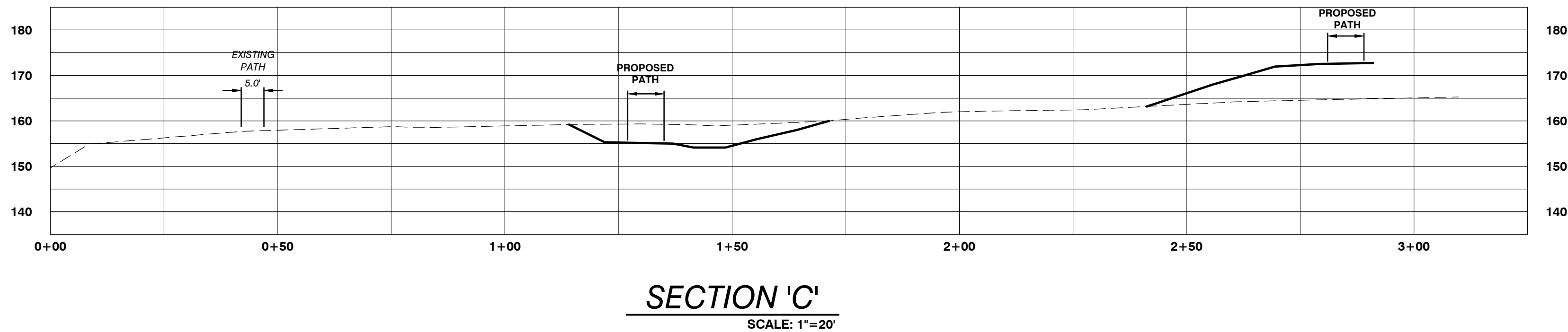
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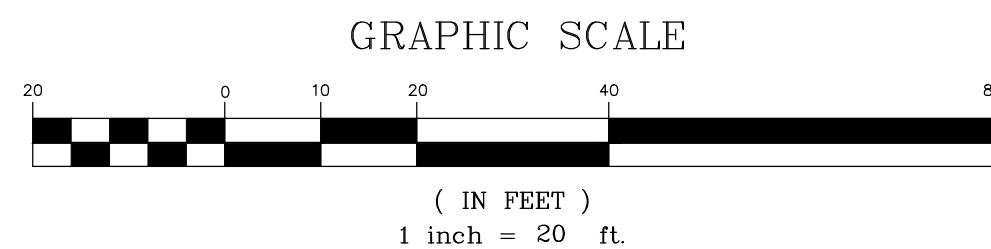
SECTION 'A'
SCALE: 1"=20'



SECTION 'B'
SCALE: 1"=20'



SECTION 'C'
SCALE: 1"=20'



SITE ENGINEER:



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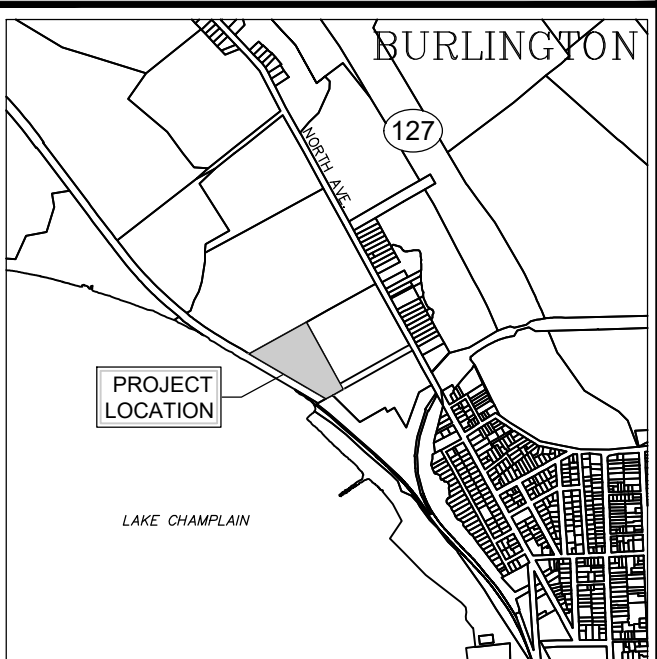
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645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
2/10/21	DSM	ADDED SECTION C - OPTION 2
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

SECTIONS

DATE

JUL., 2024

SCALE

1" = 20'

PROJ. NO.

18118

DRAWING NUMBER

C2.7

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Erosion Prevention and Sediment Control Program

Construction Stormwater Discharge

The development of a new mixed use project by BC Community Housing is to be permitted as a Moderate Risk site under the State of Vermont Construction General Permit (CGP# 3-9020) for Discharges of Stormwater from Construction Sites issued for this project.

Parties associated with the issuance and implementation of the requirements set forth in the General Permit and the details within this document include:

- State of Vermont Department of Environmental Conservation, Water Quality Division (State)
- State of Vermont Environmental Commission (Act 250)
- On-Site Plan Coordinator (OSPC)
- Engineer (E)
- Site Owner (Owner)
- Site Erosion Prevention and Sediment Control Plan Designer (EPSC Designer)
- Owner's Builder/Contractor (Contractor)

This permit has the goal of minimizing discharges of sediment-laden water from the site by implementing appropriate best management practices (BMP's) during construction an stabilization of the site.

The Contractor will be responsible for ensuring compliance with all construction stormwater permit conditions within the entire project construction area.

Groundwater Dewatering

If dewatering of trenches, pits or other excavations is required during construction, the groundwater will be pumped to a suitable settling facility approved by the engineer and the VT DEC.

Inspection Program

The inspection responsibilities of the Contractor and the On-Site Plan Coordinator (OSC) are outlined in the chart below:

Feature	Daily	Weekly	After Rain Event
Storm Sewer Inlets	C	OSPC,	C, OSPC
Silt Fence	C	OSPC,	C, OSPC
Check Dams	C	OSPC,	C, OSPC
Construction Fencing	C	OSPC,	C, OSPC
Construction Entrance	C	OSPC,	C, OSPC
Stabilized Areas	C	OSPC,	C, OSPC
Report	C	OSPC,	OSPC

Cambrion Rise Erosion Protection and Sediment Control Narrative
December 31, 2016

BC Community Housing, LLC proposes a mixed use project located on the former Burlington College property situated at 325, 351 and 375 North Avenue in Burlington, Vermont.

The project proposes to create 11 Lots, construct 11 building structures containing 677 residential units, 46 hotel rooms, 45,000 SF of non-residential support/amenity space, 45,000 SF of neighborhood oriented commercial space, 1093 parking spaces, 2750 LF of public roads and private access drives and associated infrastructure.

BC Community Housing is partnering with Champlain Housing Trust and Cathedral Square Corporation in the development of affordable and elder housing as part of the project.

Existing Conditions – The 33.65 acre property is located in the north end of Burlington between North Avenue and Lake Champlain. The former railroad and existing City bike path rights-of-way bisects the narrow band of land fronting Lake Champlain at the western limits of the property from the main body of the project site.

Of the 33.65 acres of the property, approximately 19.5 acres or 58% of the property is proposed to be disturbed as part of this project.

The site is comprised of a series of terraces all comprised of sandy soils in nature. The NRCS soil mapping of the property is summarized below.

- AdA – Adams and Windsor loamy sands, 0 to 5 percent slopes – 8.5% of the site and 5.8% of the disturbed areas.
- AdB – Adams and Windsor loamy sands, 5 to 12 percent slopes – 73.1% of the site and 82.0% of the disturbed areas.
- AdD – Adams and Windsor loamy sands, 12 to 30 percent slopes – 8.3% of the site and 10.9% of the disturbed areas.
- AdE – Adams and Windsor loamy sands, 30 to 60 percent slopes – 10.0% of the site and 0.8% of the disturbed areas.

All of the soils on the site have been identified through the NRCS WebSoil Survey to have a K value of 0.15. Due to the very low erosion potential and permeability of the soils, there are no Class II or Class III wetlands or drainages located within the main body of the proposed areas of disturbance.

The only drainages located on the property are located at the far west end of the property adjacent to or in association with the steep bluff leading down to the bike path.

The only Class III wetlands within the property limits are located at the far western portion of the site immediately upgradient of the two existing culverts that cross under the existing bike path.

Large portions of the proposed development area are currently in open meadow while approximately ¼ of the proposed development area is wooded. The main development site will be buffered by 12 acres of lands transferred to the City for use as park lands.

The Appendix A scoring did not take advantage of the fact that 95% of the site will benefit from 200' feet of vegetative buffer as there is one component of the project, the replacement of the existing culvert that will bring earth disturbance activities within 50–feet of a receiving water (Lake Champlain) or a wetland.

The topographical mapping for the property was developed from field survey which also located the specimen trees within the perimeter green space areas of the project to be retained.

Areas of Concern – The primary areas of concern for the management of EPSC include (These are depicted on Sheet C6.0):

- 1.The steep slope located immediately west of the existing buildings.
- 2.The Class III wetland where the culvert upgrade is to occur.
- 3.The protection of the trees to be retained along the exterior portion of the property and specifically those along the north border which are subject to a Development Agreement with the City.
- 4.The drainages located at the far west side of the property.

Phasing – The project is proposed to be constructed in Phases beginning in 2016 and, market forces permitting, to be completed in the Spring of 2023. The individual phasing limits are depicted on Sheets C6.10 – C6.15.

The phasing generally begins closest to North Avenue and extends westerly down the slope. Supporting road and utility infrastructure will be constructed with a top down approach as a means of minimizing the amount of disturbance. Most of the phases include earth disturbance activities that range from 2.1 to 4.9 acres in size. The first phase represents the largest amount of disturbance at any one time as it includes multiple partners (Lake Champlain Housing) and supporting infrastructure (construction laydown area) in this phase. The estimate total area of disturbance is 9.7 acres with the requirement that no more than five (5) acres can be disturbed at any one time.

Best Management Practices– The project will use a series of surface water diversion to not only protect those areas under construction but to also temporarily convey stormwater from these sites to a series of stormwater treatment facilities. Each facility will be designed to provide sediment trap removal capacity before sending the water to an infiltration facility. The goal being to collect and manage stormwater before it reaches the previously described drainages.

Sediment Basin – The initial phase of the project will require the use of a sediment basin (Basin A) to comply with the contributory watershed sizing requirements for the project. With the understanding that this facility is designed to double as an infiltration basin, the normal vertical pipe outlet has been replaced with infiltrative capacity through the bottom of the main body of the pond. The emergency outlet will be sized to accommodate the 10-year design storm for the conditions draining to the structure.

Discharge Point and Conveyance – The project has been designed so as to match the operational stormwater 10-year peak event from the property. For storm events greater than the 10-year design storm, additional runoff from the site is expected beyond the match of existing conditions. As a means of protecting the existing steep slope drainages, the project proposes to extend a 36" storm drain line from the project limits down to Lake Champlain. This is the only discharge point for the project.

Based upon the proposed drain inlet locations, this conveyance will include a drainage area of approximately 30 acres.

Project Characteristics – The average slope of the areas of disturbance is 8%.

The project proposes to impact less than 1,000 SF of the Class 3 wetlands adjacent to the existing 24" culvert t be replaced. Normally, this would be a non-reporting activity to the US Army Corps of Engineers, however, as the project proposes the installation of flexible armor from the plunge pool across the beach to the lake edge at an elevation below 98.0, a permit from the USACE will be required.

The project will require the import of approximately 50,000 CY of borrow materials. This material in anticipated to come from existing operating sand pits and supplemental permitting is not projected.

Preconstruction measures will include the use of construction fencing to demarcate the limits of disturbance along those areas where sensitive features are present (e.g. wetlands or tree retention areas), construction flagging for the remaining areas, Construction access (entrances road and laydown areas) stabilization, surveyed tree clearing limits and silt fence. These areas are shown on Sheets C6.1 – C6.4 and C6.10 – C6.16

The on-site temporary measures will include the use of contained sites (e.g. foundation excavation, utility trenching), inlet protection, temporary stabilization of disturbed surfaces through the use of hay mulch.

The temporary off-site measures (outside of specific phase areas) to be employed will include the previously discussed diversion swales and stormwater management facilities. These are shown on Sheets C6.11 – C6.16

The permanent on-site measures to be used to stabilize the site will include, flat roofs, paved roads, concrete walkways, hardscape common areas, lawn and slopes planted with the appropriate grass types. These are shown on Sheets C6.1 – C6.4.

The permanent off-site measures will include the use of a concrete pipe for the overflow conveyance from the project site to the lake, the use of a plunge pool at the outlet of the culvert and a flexible armor from the plunge pool, across the beach and to the lake. These are depicted on Sheet C6.1.

The project will require that within 7 days of initial disturbance that soils be permanently or temporarily stabilized through the use of hay mulch, ECM, or a crushed stone surface unless these areas are part of an on-going earth disturbance activity or are located within a contained area.

Winter Construction – Winter construction activities are proposed for the project and as such are subject to special measures to be employed between October 15 and April 15. This work will likely entail utility installation, excavating and backfilling of buildings. The winter construction requirements are specifically outlined on Sheet C6.9.

EROSION AND SEDIMENT CONTROL STRATEGY – The following techniques are anticipated to be utilized as part of the erosion and sediment control program. The timing and use of each of the techniques is further defined within the Construction Phasing of the project. But will be the responsibility of the contractor to implement on an as needed basis based upon the changing nature of the site disturbance activities only controlled by the site contractor.

1. Use rapidly germinating cover crops prior to seeding when the ground would otherwise be bare.
2. Include rapidly germinating grasses in the seed mixtures when they will not compromise the integrity of the final product.
3. Utilize hydroseeding with mulch when feasible.
4. Utilize erosion control netting or blankets, with or without seed contained in them on slopes greater than 3:1.
5. Utilizing stabilization materials or sodding areas where runoff is rapid or concentrated.
6. Limiting traffic in the vicinity of streams and wetlands and installing as few temporary crossings as possible.
7. Installing water bars (swale/berms) on slopes to and channels before it gains sufficient volume and momentum to cause scouring.

8. Using stone check dams and silt fences once the soil has begun to move.
9. Preserving existing trees and vegetation near and within buffer areas until after the site has been stabilized.
10. Controlling dust by providing parking lots with prepared surfaces, limiting traffic in all possible ways, planting stockpiles with cover crops or protective blankets, using water trucks, refraining from cultivating and smoothing seedbeds until immediately prior to seeding.

Field Protocol – Areas of special concern will be reviewed with the Contractor prior to initiating site clearing activities. These areas will be continually reviewed by the Contractor and the OSPC and any issues will be identified in the daily or weekly reports. All reports shall be distributed via e-mail to all parties in support of the efforts to address areas of concern in a timely manner.

Best Management Practices – BMP's – Examples include, but are not limited to: sediment fence, erosion control matting, seed, and mulch in accordance with the attached Construction Phasing plan and the Vermont Erosion Prevention and Sediment Control Filed Guide.

Installation Sequencing

1. Construction Staking
A. The construction limits are to be staked in the field by a qualified Surveyor.
B. The remaining clearing and site disturbance limits shall be reviewed by the Engineer prior to initiating any clearing. The Engineer shall designate specimen trees and critical vegetative cover along buffer areas that are to remain during the initial phases of construction.

2. Clearing – The clearing limits shall be demarcated in the field with continuous flagging. Construction fencing shall be installed along the edges of any stream or wetland buffer areas adjacent to or on the lot. Prior to any timber being harvested and removed from the site, a construction entrance pad shall be installed at the entrance point to the project site. Chipping of branches and other woody material is allowed but the material must be disposed of in an approved manner.

3. Inlet Protection – Ensure that BMP's are in place and functioning at catch basins, drainage swales, culvert inlets, and other areas as shown on the EPSC site plan.

4. Protection of Adjacent Sites – Install BMP's along the common lot line of adjacent sites. This would include construction fencing to help avoid unintentional encroachment onto the adjacent property and silt fence when the adjacent lot is downgradient of the construction site.

5. Protection of Construction Site – Prior to initiating earthwork on the lot, surface runoff from areas upgradient portions of the construction site shall be diverted from the proposed areas of disturbance using diversion swales, structures, sand bags, curbing, or other approved method. Protect steep exposed slopes from surface runoff by collecting runoff at the top of the slope and diverting it into a stabilized conveyance, such as a slope drain or stabilized swale.

6. Grubbing
a. Grubbing shall occur only after the erosion control measures around the downgradient perimeter of the site has been established. Those locations shall be reviewed with the Environmental Specialist and Independent Engineer. Existing topsoil shall be retained and stockpiled on site for re-use.
B. The Contractor shall remove all remaining woody material and tree stumps and dispose of them utilizing one or more of the following methods:
i. Burning, provided that permits are acquired from the State of Vermont Solid Waste Management Division and the City of South Burlington.
ii. Disposal on site within designated slope disposal areas only after an insignificant waste Disposal Permit is acquired. At these sites the following standards shall be met
a. 3' separation to the seasonal high groundwater table.
b. 100' separation to surface waters.
c. Thorough mixing of soil and woody material to minimize future settlement.

- iii. Covering with a minimum of four (4) feet of cover material.
iii. Chipping with on-site disposal in accordance with Item 5 or disposal off-site in accordance with State requirements.
iv. Disposal at a certified landfill facility.
C. All grubbing of woody materials shall be completed to a depth of at least 12".
D. The Contractor shall remove all medium to large stones and boulders present within the limits of disturbance including future drainage and infrastructure improvements.
i. The larger boulders shall be saved for use in retaining walls.
ii. The smaller stones may be buried in predetermined disposal sites.

7. Soil Stockpiles
A. The Contractor shall strip and stockpile as much as possible of the native topsoil for re-use during a later stage of the project.
B. Each topsoil stockpile shall be placed in locations respective of existing environmental features of the site. Special consideration shall be made to maximize the distance (minimum 100') to the nearest water course.
C. Each topsoil pile shall be surrounded on the downgradient side by a row of silt fence.
D. Any topsoil pile which is to remain in place for greater than 15 days shall be temporarily seeded with winter rye to preserve the integrity and minimize the erosion of the soil constituents and release of soluble nutrients.
E. The Contractor shall locate stockpiles on the uphill side of the disturbed areas, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion.

8. Earth Excavation/Grading
A. Mass earth placement to create the building plateau shall commence only after all remaining EPSC measures depicted on the plans are installed.
B. Surface water diversion BMP's shall employed at the high point of the site until the new drainage swale/hollow is installed.
C. The Contractor shall also limit the soil disturbance and seeding application dates to between April 16th and September 15th.

- D. All exposed soils areas (not including structural fill soils or stabilized stone areas) shall be protected prior to any forecasted rain event with mulch or erosion control matting. Pin matting with wire staples in accordance with the manufacturers recommendations to ensure full bonding with soil surface.
E. Install stone check dams in grass-lined swales 50 feet on center to prevent silt from washing into the drainage system during construction. Check dams are to be removed when vegetation is established.

9. Temporary Construction Entrance – Required for entrance and egress points from the site.

10. Planting Preparation, Seed, Mulch, Germination, Maintenance
A. The preparation of the topsoil for planting includes final smoothing and removal of small stones. This work shall occur immediately prior to seeding or placement of EC matting so as to avoid exposure to erosion damage and to reduce the amount of dust generated as part of this process.
B. Planting is to occur immediately after the topsoil preparation with special caution being given to upcoming storm events that may displace the seed/soil.
C. The planted areas shall be water regularly to protect the new plants but not over watered so as to cause excess runoff and erosion.
D. All ditches that are not stone-lined shall be topsoiled, and stabilized with erosion control matting. Any area which shows signs of erosion shall be restabilized immediately and maintained until permanent vegetation is established. of
E. Maintenance:
1. All erosion control measures shall be inspected weekly and repaired and/or replaced as needed.
2. All erosion control measures shall be inspected after periods of heavy rain.
3. The stabilized road entrance shall be top dressed with additional stone should the existing stone become clogged with sediment.
4. Hay or straw mulch is subject to wind action. Mulch, where permitted) may require anchoring as the weather conditions warrant.

11. Surface Stabilization – The following stabilization methods are required:
A. Temporary stabilization – Straw mulch (during the earliest phases of the project) or erosion control matting placement is required on all non-contained disturbed areas prior to forecasted rain events.
B. Install stone check dams in drainage swales 50 feet on a center to prevent silt from washing into the drainage system during construction. Check dams shall be removed when vegetation is established.
C. Control dust through the application of water. The exact number of applications and amount shall be based upon field and weather conditions. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.
D. Install crushed stone apron of at least 15' width around the perimeter of the building following backfill of the foundation walls.
E. Install temporary (sacrificial) crushed stone on all access ways and laydown areas. These areas will be covered later with the roadway/perking lot base materials or with topsoil.
F. Permanent Stabilization – Required of all surfaces at the completion of construction. The Contractor will install 4" topsoil, sod, seed (where permitted), fertilize, lime, and mulch (seeded areas) the disturbed areas as soon as possible following completion of construction.

1. Use rapidly germinating cover crops prior to seeding when the ground would otherwise be bare.
2. Include rapidly germinating grasses in the seed mixtures when they will not compromise the integrity of the final product.
3. Utilize hydroseeding with mulch when feasible.

Owner/Contractor Responsibilities

1. The Owner/Contractor (O/C) is responsible for the on-going maintenance of all lot specific erosion prevention and sediment control devices and practices. Any subcontractor conducting earth disturbance activities on the project site shall review the EPSC plan and General Permit and shall complete an application and file with the State a request for Co-Permittee status.

2. Periodic inspections shall be performed in accordance with the above schedule to ensure that the erosion and sediment control measures are functioning as required. In addition to the standard periodic inspections, inspections of all of the on-site systems shall be conducted after a rain event causing stormwater to leave the site. Any problems noted during these inspections shall be corrected immediately.

3. Once construction has commenced, the O/C is responsible for the maintenance of erosion and sediment control measures protecting nearby stormwater collection systems and water courses. It is critical that sediment not be allowed to invade the receiving waters.

4. The temporary construction entrance provides a place for parking vehicles off-street and a spot where material can be off-loaded. The intent of the requirement is to provide a stable surface for parking vehicles where mud and debris is not likely to be tracked onto the street. Proper maintenance of the area is required until such time as a permanent driveway can be put into place.

5. During the entire construction process, the O/C is responsible for ensuring that mud, dirt, rocks, and other debris are not allowed to erode or be tracked onto the street system by construction vehicles. Should any mud or other debris find its way to the road system, the O/C shall take immediate steps to have it removed.

CONTINUED ON TO C6.6 EPSC

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CLIENT:

**BURLINGTON PARKS,
RECREATION &
WATERFRONT**
645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

EPSC NARRATIVE

DATE JUL., 2024	DRAWING NUMBER
SCALE AS SHOWN	C3.3
PROJ. NO. 18118	

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6. Maintenance – Silt Fence

- A. Inspect sediment fences daily to ensure that construction activities have not impacted their operability and after each rainfall event causing runoff from the site.
- B. Should the fabric of the sediment fence collapse, tear, decompose, or become ineffective, replace promptly.
- C. Remove the sediment deposits as necessary to provide adequate storage volume for the next rain event and to reduce pressure on the fence. Take care to avoid damaging or undermining the fence during clean-out.
- D. If the utilities are installed after BMP's have been put into place, the permit holder is responsible for control of erosion and sediment during the construction process and for ensuring that all BMP devices are re-installed per the original design.

On-Site Plan Coordinator Inspections

1. The OSPC will normally inspect erosion prevention and sediment control measures in conjunction with routine inspections. Inspections will ensure that proper placement and installation of the erosion prevention and sediment control measures are in place.

2. The first inspection will occur prior to clearing of the site to ensure that proper BMP's are in place, including proper demarcation of the clearing limits, installation of construction fencing along the stream/wetland buffer limits, and any other devices required to protect the receiving waters from sediment deposition during the clearing phase.

3. Prior to initiating grubbing and mass earth excavation, the OSPC shall inspect the site to ensure that the construction fencing, silt fence, construction entrance, and other required BMP's are in place.

4. The OSPC will conduct weekly inspections and will prepare weekly reports which are to remain on-site until final stabilization is achieved.

Additional Requirements:

1. All sediment removed from sediment control practices as part of maintenance shall be disposed of in an area that is:
- Less than 5% slope.
 - At least 100ft from any downslope water body or conveyance to a waterbody (including storm drain inlet or ditch)
 - Area shall be vegetated

2. Stabilize Exposed Soil

Purpose:
Seeding and mulching, applying erosion control matting, and hydroseeding are all methods to stabilize exposed soil. Mulches and matting protect the soil surface while grass is establishing.

Requirements:
All areas of disturbance must have temporary or permanent stabilization within 7 days of initial disturbance, as stated in the project authorization. After this time, any disturbance in the area must be stabilized at the end of each work day.

The following exceptions apply:

- Stabilization is not required if earthwork is to continue in the area within the next 24 hours and there is no precipitation forecast for the next 24 hours.
- Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches).

All areas of disturbance must have permanent stabilization within 48 hours of reaching final grade.

How to comply:
Prepare bare soil for seeding by grading the top 3 to 6 inches of soil and removing any large rocks or debris.

Seeding Rates for Temporary Stabilization
April 15 – Sept. 15 --- Ryegrass (annual or perennial: 20 lbs/acre)
Sept. 15 – April 15 --- Winter rye: 120 lbs/acre

Seeding Rates for Final Stabilization: Choose – See Sheet C6.6

Mulching Rates
April 15 – Sept.15 --- Hay or Straw: 1 inch deep (1–2 bales/1000 s.f.)
Sept.15 – April 15 --- Hay or Straw: 2 in. deep (2–4 bales/1000 s.f.)

Erosion Control Matting
As per manufacturer's instructions

Hydroseed
As per manufacturer's instructions

3. Stabilize Soil at Final Grade

Purpose:
Stabilizing the site with seed and mulch or erosion control matting when it reaches final grade is the best way to prevent erosion while construction continues.

Requirements:
Within 48 hours of final grading, the exposed soil must be seeded and mulched or covered with erosion control matting.

How to comply:
Bring the site or sections of the site to final grade as soon as possible after construction is completed. This will reduce the need for additional sediment and erosion control measures and will reduce the total disturbed area.
For seeding and mulching rates, follow the specifications under Rule 8, Stabilizing Exposed Soil.

4. Dewatering Activities

Purpose:
Treat water pumped from dewatering activities so that it is clear when leaving the construction site.

Requirements:
Water from dewatering activities that flows off of the construction site must be clear. Water must not be pumped into storm sewers, lakes, or wetlands unless the water is clear.

How to comply:
Using sock filters or sediment filter bags on dewatering discharge hoses or pipes, discharge water into silt fence enclosures installed in vegetated areas away from waterways. Remove accumulated sediment after the water has dispersed and stabilize the area with seed and mulch.

END OF SECTION ESPC NARRATIVE

SECTION 02150 – EROSION CONTROL

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
- The work under this section includes but is not limited to providing all labor, equipment and materials for the installation of all required site related erosion control measures. If not otherwise directed on the plans, erosion control shall be in strict conformity with the latest revision of the "Vermont Erosion Prevention and Sediment Control Field Guide" available from the Stormwater Section of the Vermont Water Quality Division.

- B. Related sections:
- Section 02210 – Site Earthwork
 - Section 02936 – Permanent Seeding

1.02 GENERAL NOTES

A. The discharge of sediment laden water from the project site is prohibited. All discharged water from dewatering operations shall discharge into a temporary sedimentation basin.

B. Contractor shall install all erosion control measures as depicted on plans and details or as recommended by the Stormwater Section of the Vermont Water Quality Division prior to any construction. Contractor shall also be responsible for inspecting and maintaining all erosion control measures until project is completed.

C. Contractor shall also limit the soil disturbance and seeding application dates to between April 15th and September 15th. If soil disturbance occurs later than October 15th and prior to April 15th, winter erosion control measures will be necessary. Contractor shall consult with the Engineer for additional site specific winter erosion control measures.

D. All stockpile material (topsoil, borrow, etc.) will have a silt fence constructed around the perimeter. Seed and mulch stockpiled material as soon as possible to prevent soil erosion and sedimentation off site. Locate stockpiles on the uphill side of the disturbed areas, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion.

E. Slopes greater than 3:1 (H:V) shall have erosion control matting installed to stabilize the slope and reduce the erosion potential. Install matting so that all parts are in contact with the underlying soil. Pin matting with wire staples 3' o.c. to ensure full bonding with soil surface. Matting shall be installed in accordance with manufacturer's recommendations.

F. Control dust through the application of calcium chloride or water. An average application of one pound of calcium chloride per square yard of exposed area should be considered for each treatment. The exact number of applications and amount of dust controller shall be based upon field and weather conditions. It shall be spread in such manner and by such devices that uniform distribution is attained over the entire area on which it is ordered placed.

PART 2 – PRODUCTS

2.01 EROSION CONTROL NETTING

A. Jute netting shall consist of undyed and unbleached yarn woven into a uniform open plain weave mesh.

2.02 EROSION CONTROL MATTING

A. Where required on the plans or where directed by the Engineer, erosion control blankets (matting) shall be North American Green S150BN for swales and slope stabilization, or approved equal, for all areas for permanent installation, and C125 and SC150 where matting is being used as temporary protection of disturbed soils until a final surface stabilization method is employed.

2.03 FILTER FABRIC

A. When filter fabric is required, it shall conform to the requirements of Mirafi 500X or approved equivalent.

2.04 CALCIUM CHLORIDE

A. Calcium chloride shall conform to the requirements of AASHTO M 144. Either regular flake calcium chloride, Type 1 or concentrated flake, pellet or other granular calcium chloride, Type 2, may be used.

2.05 WATER

A. All water used shall be clean and free of harmful amounts of oil, salt, acids, alkalies, sugar, organic matter and other substances injurious to the finished product, plant life or the establishment of vegetation.

2.06 SEDIMENT WATTLES

A. Sediment wattles shall be King Fibre Corporation silt trapper sediment wattles or approved equal.

2.07 POLYACRUMIDE

A. Polyacrumide (polymer) logs (blocks) shall only be used with permission from the Engineer and VT ANR Water Quality Division. Type shall be Applied Polymer Systems, Inc. floc log or approved equal. The type of floc log used shall be based upon a site specific testing of the native soils.

2.08 STONE CHECK DAMS

A. Stone check dams should be constructed of 2 to 3 inch stone. Hand or mechanical placement will be necessary to achieve complete coverage of the ditch or swale and to ensure that the center of the dam is lower than the edges. The maximum contributing drainage area from any one check dam shall not exceed two acres. See the detail drawing in the Erosion Control Details Drawings for the proper installation of stone check dams.

PART 3 – EXECUTION

3.01 HAY BALE CHECK DAM AND INLET PROTECTION

A. Hay bales shall not be used to construct check dams or as a means of inlet protection.

3.02 SILT FENCES

A. The silt fences shall be constructed in accordance with the construction detail. The fence shall generally be placed 10 feet from the toe of the slope or as shown on the plans. The ends of the fence shall be placed uphill to form a horseshoe shape to trap all runoff. Silt fence shall not be placed across areas of concentrated flow.

B. The silt fences shall be inspected periodically for damage or build-up of sediments. All damaged fences shall be repaired or replaced. Sediment deposits shall be removed from the fence as they build up and be placed in an area where there is no danger of further erosion.

3.03 EROSION MATTING

A. Erosion matting shall be placed on all grass-lined ditches with profile grades exceeding 5.0% and all other areas called out on the plans, and shall be placed and maintained in accordance with the Vermont Agency of Transportation Standard Specifications Sections 654 and 755.07.

3.04 RESTORATION

A. As soon as construction is completed in a given area, it shall be topsoiled, seeded, fertilized and mulched as specified in Section 02936 – Permanent Seeding.

3.05 STABILIZED ROAD ENTRANCE

A. A stabilized pad of crushed stone located at any point where traffic will be entering or leaving the construction site to or from a public right-of-way or street or as shown on the drawings shall be constructed for the purpose of preventing the tracking of sediment onto public rights-of-way.

- B. Design Criteria:
- Use 1.5 to 2.5 inch stone.
 - Use 8 inch layer of stone.
 - Stone pad shall be full width of entrance.
 - Minimum length shall be 50 feet.

3.06 GRASS-LINED DITCHES

A. All ditches that are not stone-lined shall be topsoiled, seeded, fertilized and mulched. Any area which shows signs of erosion shall be reseeded immediately and maintained until permanent vegetation is established.

3.07 MAINTENANCE

A. All erosion control measures shall be inspected daily and repaired and/or replaced as needed.

B. All erosion control measures shall be inspected after periods of heavy rain.

C. The stabilized road entrance shall be top dressed with additional stone should the existing stone become clogged with sediment.

D. Hay or straw mulch is subject to wind action. Mulch may require anchoring as the weather conditions warrant.

3.08 STONE CHECK DAMS

A. The drainage area of the ditch or swale being protected should not exceed 10 acres.

B. The drainage area to any check dam shall not exceed 2 acres.

C. The maximum height of the check dam should be 2 feet. The center of the check dam must be at least 6 inches lower than the outer edges. The maximum spacing between the dams should be such that the toe of the upstream dam is at the same elevation as the top of the downstream dam.

D. Check dams should be installed before runoff is directed to the swale or drainage ditch.

3.09 DEWATERING METHODS

A. All dewatering methods associated with this project are to be approved by the VT DEC and the engineer prior to use.

END OF SECTION 02150

SECTION 02936 – PERMANENT SEEDING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
- Furnishing all labor, materials, and equipment to complete all seeding work as shown on the drawings and specified herein.
 - Except where otherwise shown or specified, the Contractor shall seed all areas where new contours are shown on the drawings and all areas where existing ground cover has been disturbed by the Contractor's operations.

B. All work and materials of this Section shall conform to the applicable requirements of the VAOT Standard Specifications, Division 600.

1.02 SUBMITTALS

- A. Provide the following for approval prior to delivery to the site:
- Supplier's Certificate of Compliance attesting that lime, fertilizer and seed meet the requirements specified.
 - The Contractor shall provide representative topsoil samples for testing and approval, deliver samples to a public extension service agency testing laboratory, have testing report sent directly to the Engineer and pay all costs. Testing shall report on mechanical and chemical (pH soluble salts) analysis. Report shall be submitted at least one month before any loaming is to be done.

1.03 SEEDING SEASONS

A. Seeding and initial fertilizing shall be done between April 1 and June 1, between August 15 and October 15, or as permitted. Seeding shall not be done during windy weather or when the ground is frozen, excessively wet, or otherwise untillable. If seeding is done during July or August, additional mulch material may be required by the Engineer.

PART 2 – PRODUCTS

2.01 LIME

A. Lime shall be standard, ground dolomite limestone, agricultural grade, containing a minimum of 95% of calcium and magnesium carbonates. 100% shall pass the 10 mesh sieve; minimum 90% shall pass the 20 mesh sieve; minimum 40% shall pass the 100 mesh sieve.

2.02 FERTILIZER

A. Fertilizer shall be commercial grade granular fertilizer as required for soil conditions as specified in Section 643 of the VAOT Standard Specifications. The fertilizer shall be delivered to the project in new, clean, sealed containers which bear a label fully describing the contents, the chemical analysis of each nutrient, the fertilizer grade, the net bulk, the brand and the name and address of the manufacturer. The fertilizer and labels shall conform to all existing State and Federal regulations, and shall meet the standards of the Association of Official Agricultural Chemists.

2.03 GRASS SEED

A. Provide fresh, clean, new-crop seed of the grass species, proportions and minimum percentages of purity, germination and maximum percentage of weed seed as follows:

1. Park seed shall normally be used on loam areas. This seed mixture shall conform to the following table:

Kind of Seed	Minimum Purity	Minimum Germination	Lbs/Acre
Creeping Red Fescue	96%	85%	40
Perennial Ryegrass	98%	90%	50
Kentucky Bluegrass	97%	85%	25
Redtop	95%	80%	5
TOTAL =			120

2. Slope seed shall normally be used for all slope work, usually 3:1 or steeper and shall conform to the following table:

Kind of Seed	Minimum Purity	Minimum Germination	Lbs/Acre
Creeping Red Fescue	96%	85%	35
Perennial Ryegrass	98%	90%	30
Redtop	95%	80%	5
Alsike Clover	97%	90%	5
Birdsfoot Trefoil	98%	80%	5
TOTAL =			80

3. Shade seed shall normally be used in shaded areas in or along the edge of wooded areas. This seed mixture shall conform to the following table:

Kind of Seed	Minimum Purity	Minimum Germination	Lbs/Acre
Creeping Red Fescue	95%	80%	30
Tall Fescue	96%	80%	20
Crownvetch	95%	80%	30
TOTAL =			80

B. The seed mixture shall be delivered in new, clean, sealed containers. Labels and contents shall conform to all State and Federal regulations. Seed shall be subject to the testing provisions of the Association of Official Seed Analysts.

C. Seed that has become wet, moldy, or otherwise damaged will be rejected.

2.04 MULCH

- A. Mulch must be installed on all seeded areas. The following mulches are acceptable for use.
- Hay mulch free of weeds and coarse matter at a rate of 90 pounds per 1,000 square feet.
 - Wood fiber applied in a slurry (1/6" or longer) at a rate of 40 pounds per 1,000 square feet.

2.05 WATER

A. All water used shall be obtained from fresh water sources and shall be free from injurious chemical and other toxic substances harmful to plant life. No water which is brackish will be permitted at any time. The Contractor shall identify to the Engineer all sources of water at least two weeks prior to use. The Engineer, at his discretion, may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source which is disapproved by the Engineer following such tests.

PART 3 – EXECUTION

3.01 PREPARATION

A. Examine finish surfaces and grades. Do not start seeding work until unsatisfactory conditions are corrected. Perform seeding work only after planting and other work affecting ground surface has been completed.

B. Notify Landscape Architect at least seven (7) working days prior to starting seeding.

- C. Prepare areas immediately prior to seeding as follows:
- Loosen soil of seed areas to a minimum depth of 4".
 - Remove stones over 1" in any diameter and sticks, roots, rubbish and extraneous matter.
 - Remove existing weeds and grasses by pulling or tilling under.
 - Grade areas to be seeded to a smooth, free draining even surface with a loose, moderately coarse texture.
 - Remove ridges and fill depressions as required to drain.
 - Restore prepared areas if eroded or disturbed prior to seeding.

3.02 SEEDING CONDITIONS

A. Seeding shall not be done when the ground is frozen, snow covered, muddy, or in any other unsatisfactory condition for planting. No seeding operations shall be conducted under adverse weather conditions or when soil moisture conditions are unfavorable (too wet or too dry) or when winds exceed 5 MPH.

B. Construction methods shall be those established as agronomically acceptable and feasible. The Contractor shall keep all equipment and vehicular and pedestrian traffic off areas that have been seeded to prevent excessive compaction and damage to young plants. Where such compaction has occurred, the Contractor shall rework the soil to make a suitable seed bed; then reseed and mulch such areas with the full amounts of the specified materials, at no extra expense to the Owner.

C. Surface and seepage water should be drained or diverted from the site to prevent drowning or winter killing of the plants.

D. All areas and parts of areas which fail to show a uniform stand of grass for any reason whatsoever shall be reseeded, and such areas and parts of areas shall be seeded repeatedly until all areas are covered with a satisfactory growth of grass.

E. Watering is considered a necessary element for establishment and survival.

F. Where ryegrass has been planted for temporary erosion control and has not been eliminated prior to the completion of the work, such areas shall be discd at least 3 inches deep and seeded to permanent grasses to prevent the ryegrass from reseeding and becoming competitive with and retarding development of the permanent cover.

CONTINUED ON SHEET C6.7

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DATE	CHECKED	REVISION
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EPSC NARRATIVE

DATE

JUL., 2024

SCALE

AS SHOWN

PROJ. NO.

18118

DRAWING NUMBER

C3.4

3.02 SEEDING

A. Lime and fertilizer should be applied prior to or at the time of seeding and incorporated into the soil. Kinds and amounts of lime and fertilizer should be based on an evaluation of soil tests. When a soil test is not available, the following minimum amounts should be applied:

- Agricultural limestone, 2 tons per acre or 100 lbs. per 1,000 square feet.
- Nitrogen (N), 50 lbs. per acre or 1.1 lbs. per 1,000 square feet.
- Phosphate (P205), 100 lbs. per acre or 2.2 lbs. per 1,000 square feet.
- Potash (K2O), 100 lbs. per acre or 2.2 lbs. per 1,000 square feet.

(Note: This is the equivalent of 500 lbs. per acre of 10–20–20 fertilizer or 1,000 lbs. per acre 5–10–10).

B. Seed should be spread uniformly by the method most appropriate for the site. Methods include broadcasting and hydroseeding as follows:

1. Broadcasting: Sow seed using mechanical spreader at a rate of 4 lbs./1,000 square feet. Distribute seed evenly over entire area by sowing equal quantity in tow directions at right angles to each other. Rake seed lightly into top 1/8" of topsoil, roll lightly and water with a fine spray.

2. Hydroseeding: Mix specified seed, fertilize and pulverize mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application. Apply slurry uniformly to all areas to be seeded. Rate of application as required to obtain specified seed sowing rate.

3.03 MULCHING

- A. Mulch materials shall be spread uniformly by hand or machine at a rate of two 50 lb. bales per 1,000 square feet.
- B. Organic Mulch Anchoring – Straw or hay mulch must be anchored immediately after spreading to prevent wind blowing.

3.04 MAINTENANCE

- A. The maintenance period shall begin immediately after seeding and shall continue until acceptance.
- B. All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. Where erosion is observed, additional mulch shall be applied. Net should be inspected after rainstorms for dislocation or failure. If washouts or breakage occur, reinstall net as necessary after repairing damage to the slope. Inspections should take place until grasses are firmly established. Grasses shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and to survive severe weather conditions. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface; repair as needed.
- C. Seeding areas shall be protected and maintained by watering, reseeding, mowing, weeding, rolling, insect or disease control measures, re-fertilizing and repair of washouts which are necessary.
- D. The Contractor shall maintain all seeded areas until full vegetation is established.
- E. All seeded areas shall be kept free from weeds and debris, such as stones, cables, baling wire, and all slopes 4:1 or less (flatter) and level turf shall be mowed in the following manner:
1. When grass reaches a height of 4–6", mow to a height of 3".
2. At least two cuttings shall be made prior to final acceptance.
- F. Following mowing, all permanent seeding grass areas (mowed and unmowed) shall receive a uniform application of slow release fertilizer hydraulically placed at the rate of 10 pounds per 100 square feet.

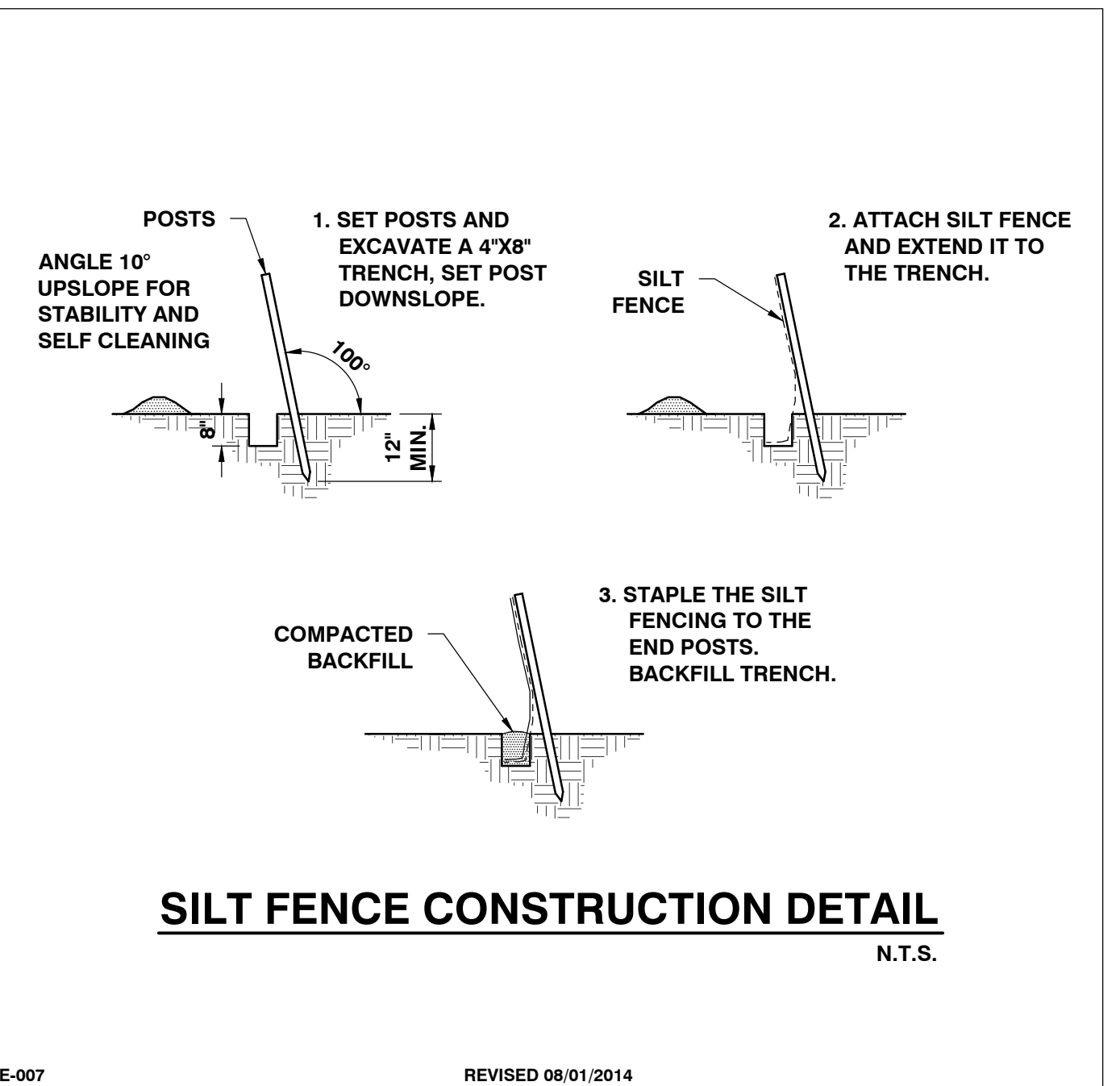
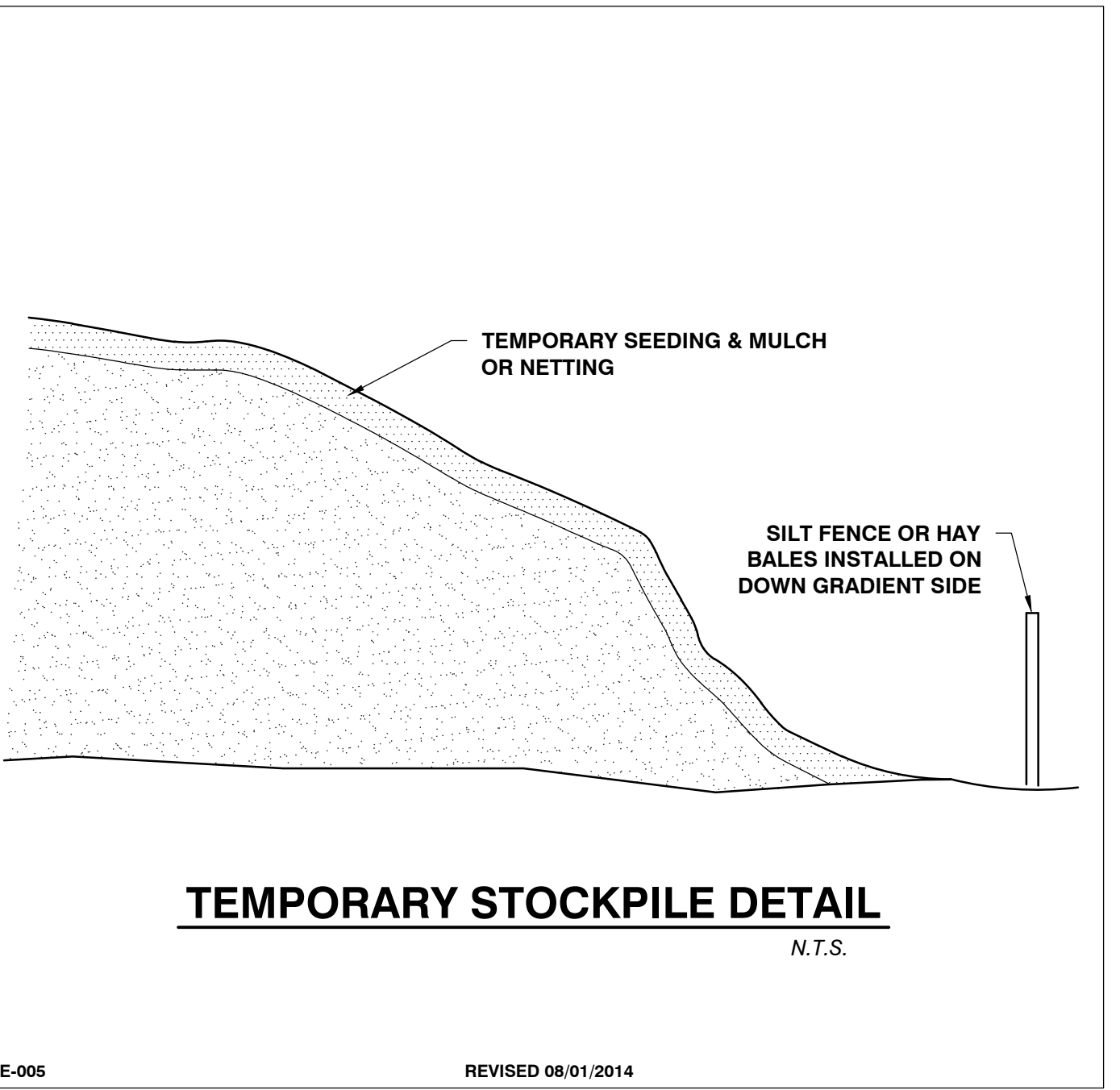
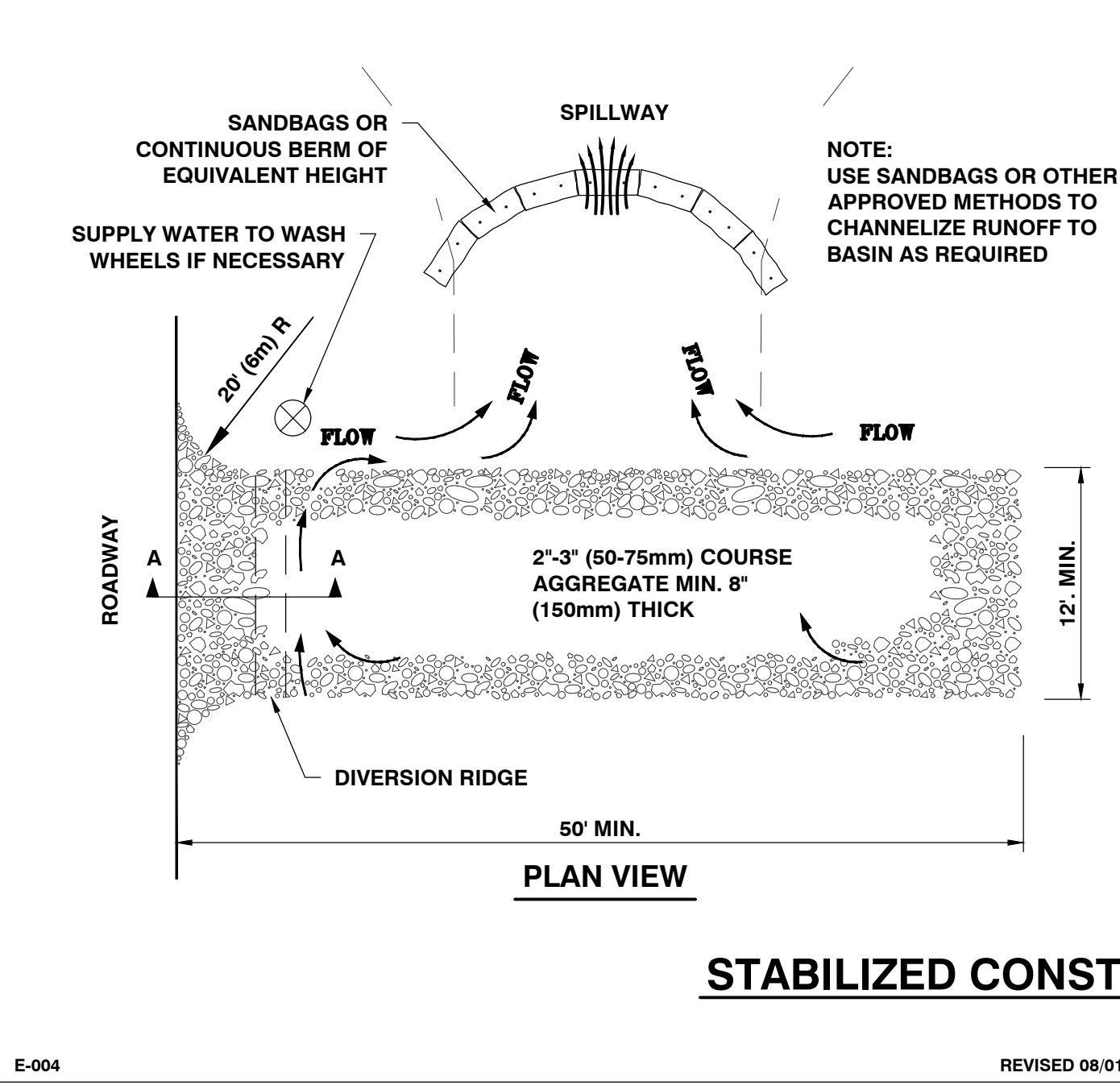
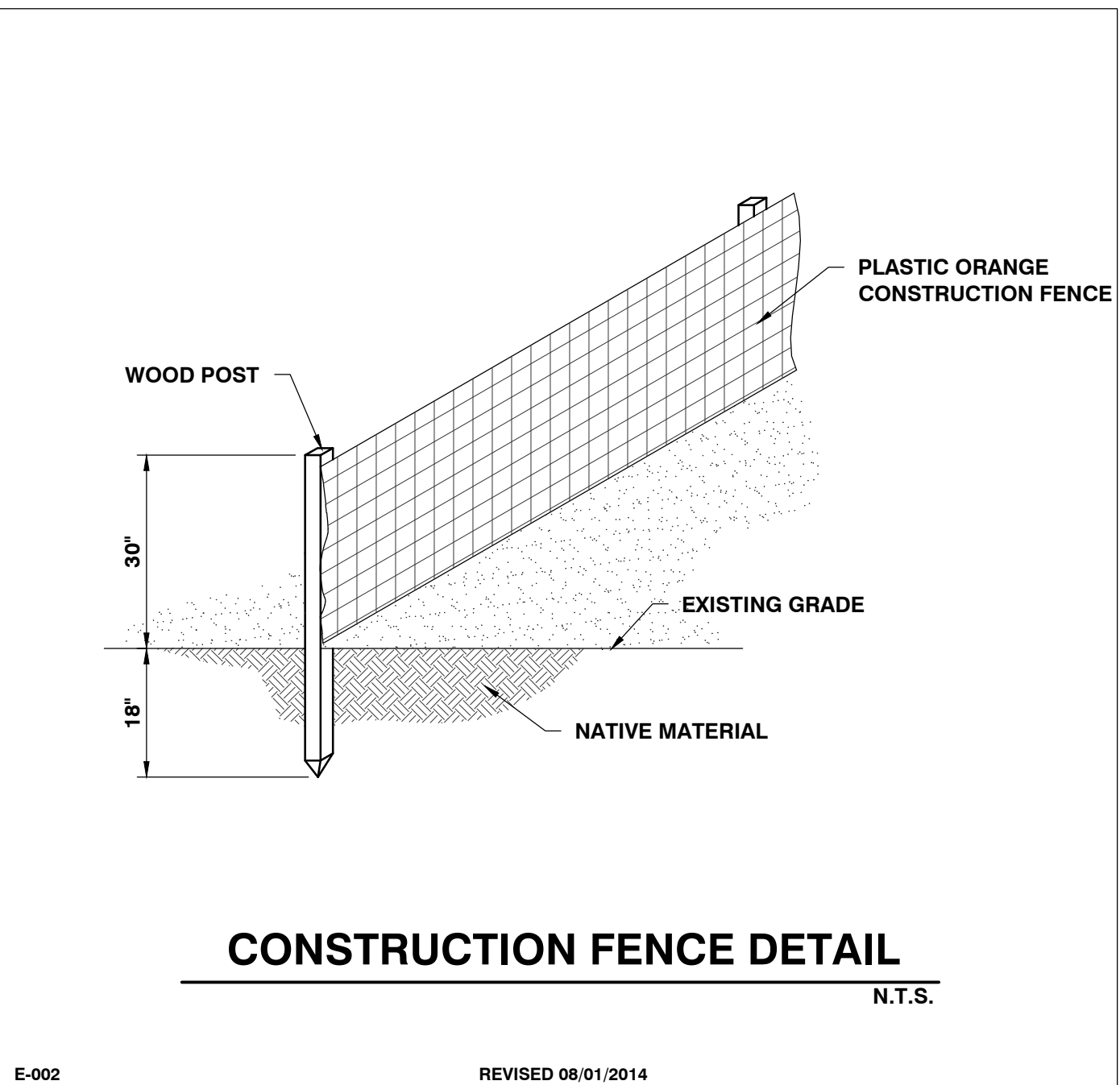
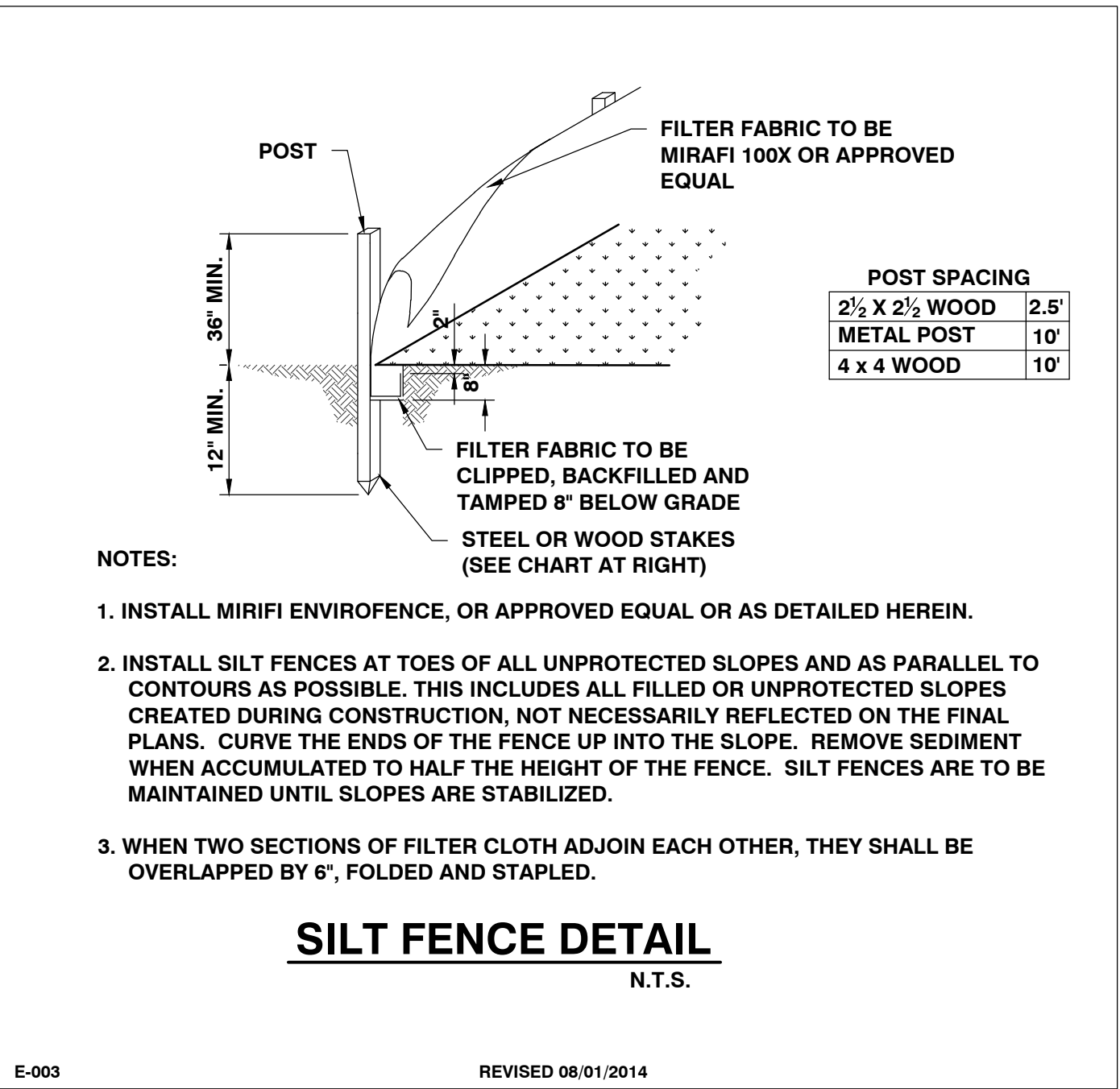
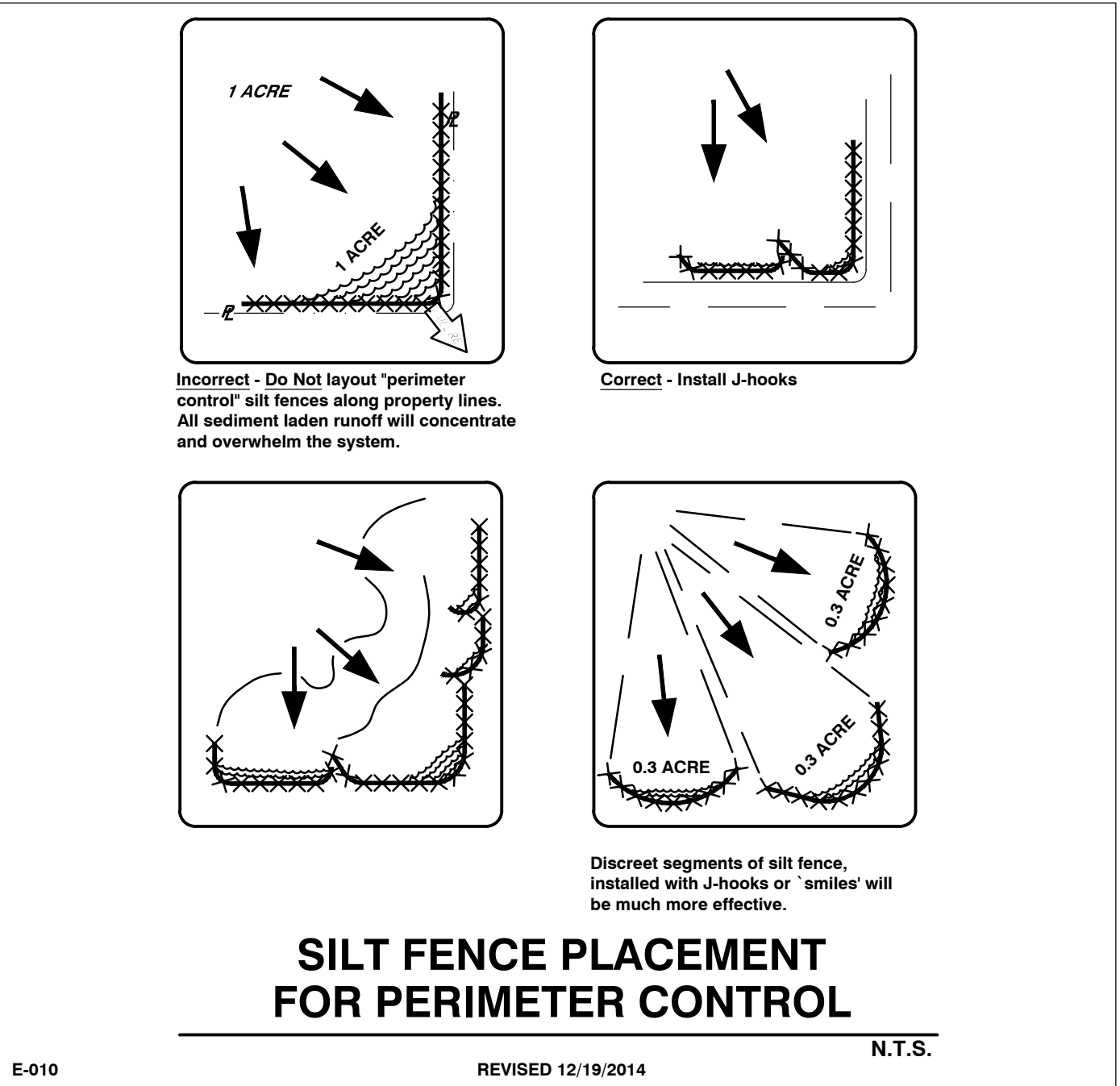
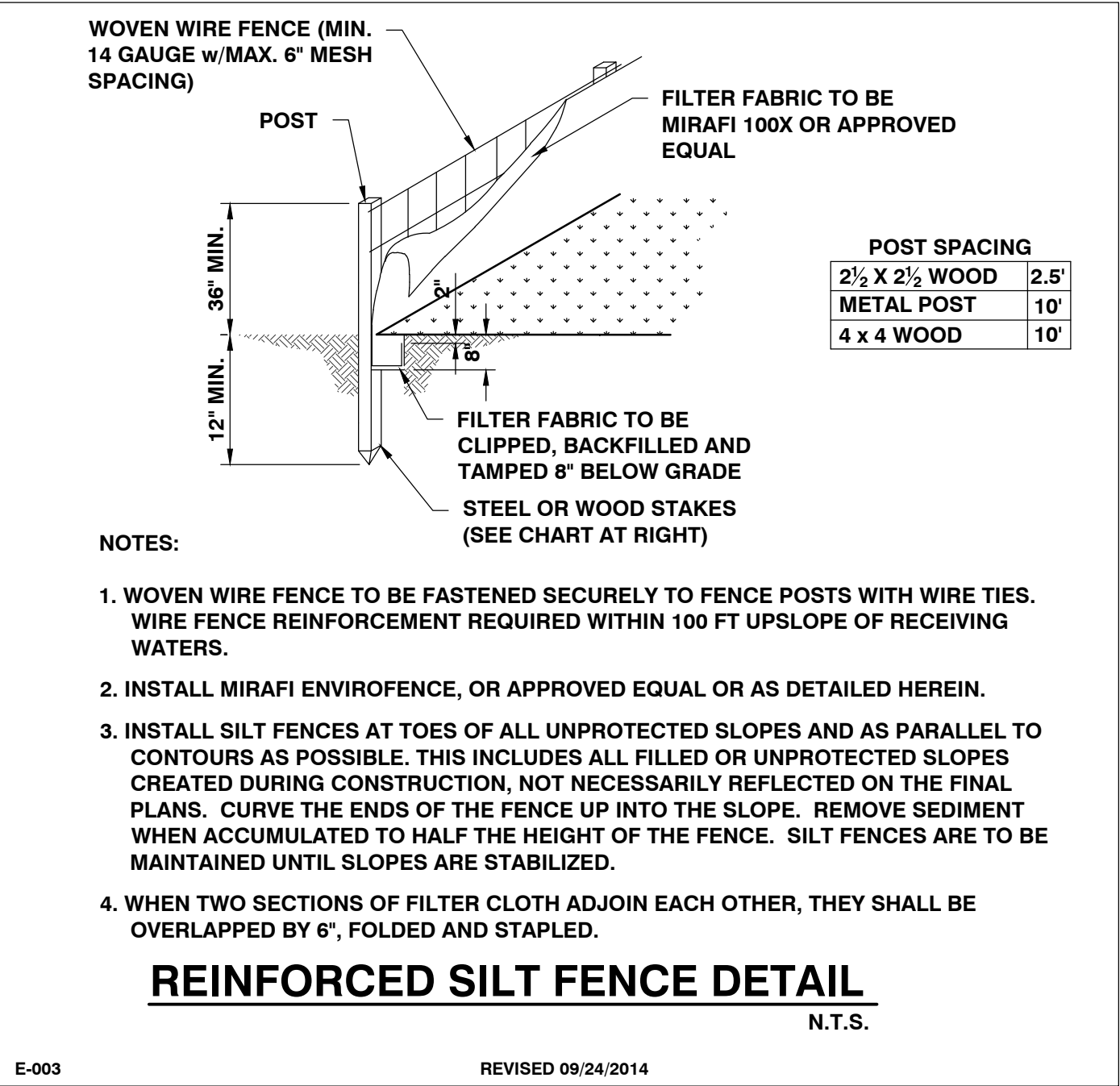
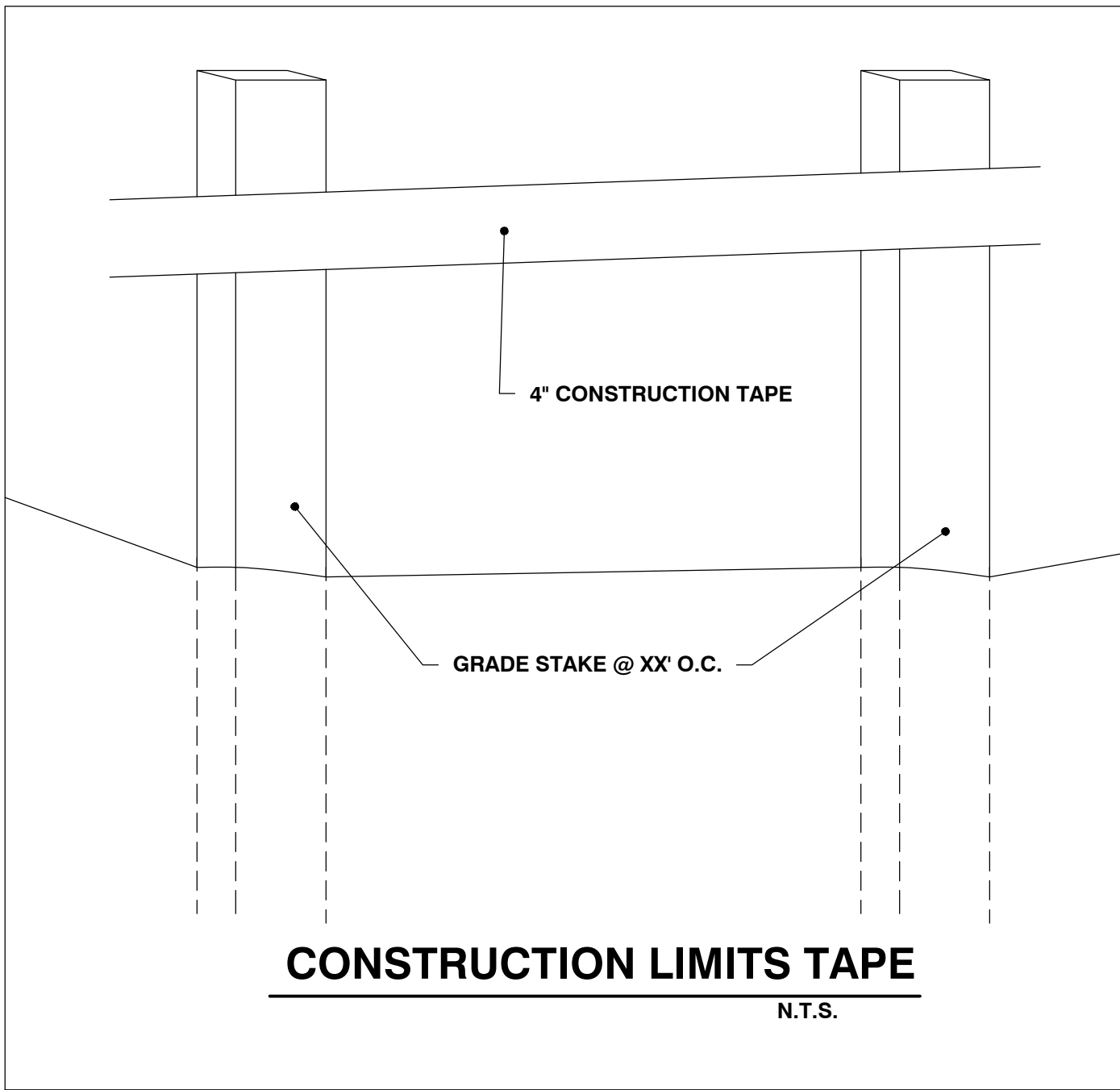
3.05 ACCEPTANCE

- A. Inspection to determine acceptance of seeded areas will be made by the Landscape Architect, upon Contractor's written request.
1. Provide notification at least ten (10) working days before requested inspection date.
- B. Seeded areas will be acceptable provided all installation and maintenance requirements have been complied with and a healthy uniform lawn is established.
- C. Upon acceptance, the Owner will assume maintenance.

3.06 WARRANTY

A. All seeded areas will be warranted for a period of twelve months from date of Owner's acceptance. Should any seeded areas fail to maintain full vegetation, failed areas will be refurbished until this specification is achieved at the cost of the Contractor.

END OF SECTION 02936



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645 PINE ST., SUITE B
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05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

**EPSC DETAILS &
SPECIFICATIONS**

DATE
JUL., 2024

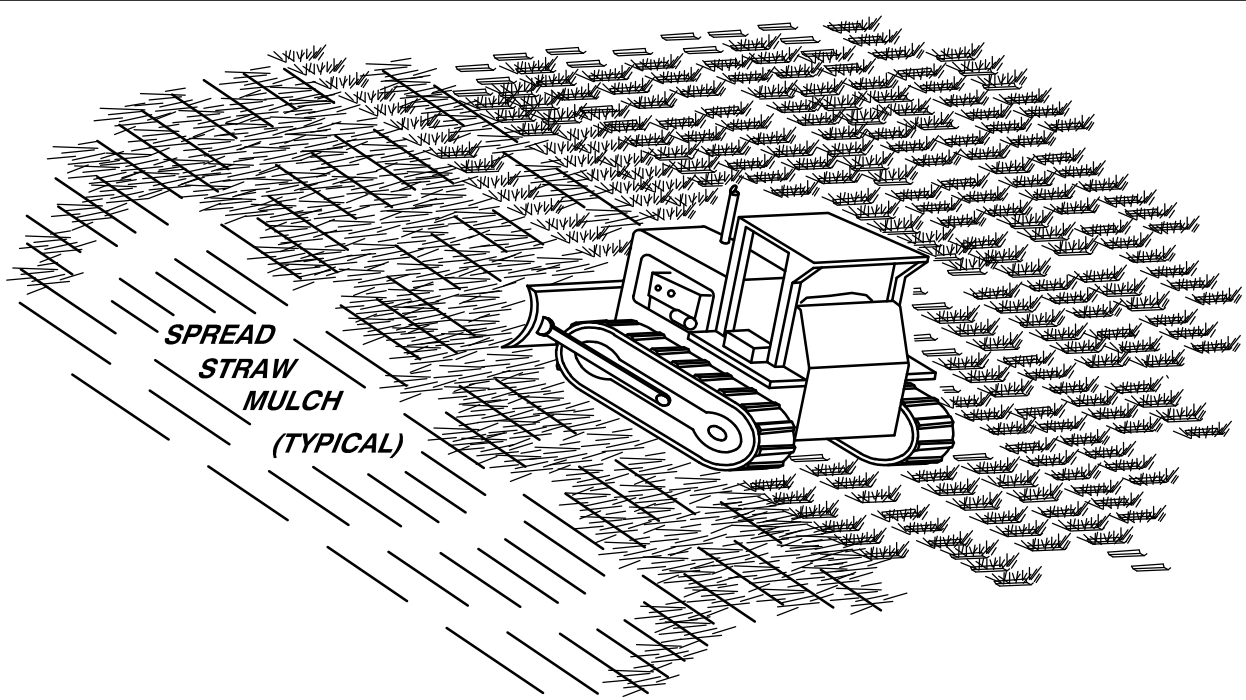
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18118

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C3.5

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E-012 Straw Anchoring



NOTES:

1. ROUGHEN SLOPE WITH BULLDOZER.
2. BROADCAST SEED AND FERTILIZER.
3. SPREAD STRAW MULCH 3" (2½ TONS PER ACRE)
4. PUNCH STRAW MULCH INTO SLOPE BY RUNNING BULLDOZER UP AND DOWN SLOPE.

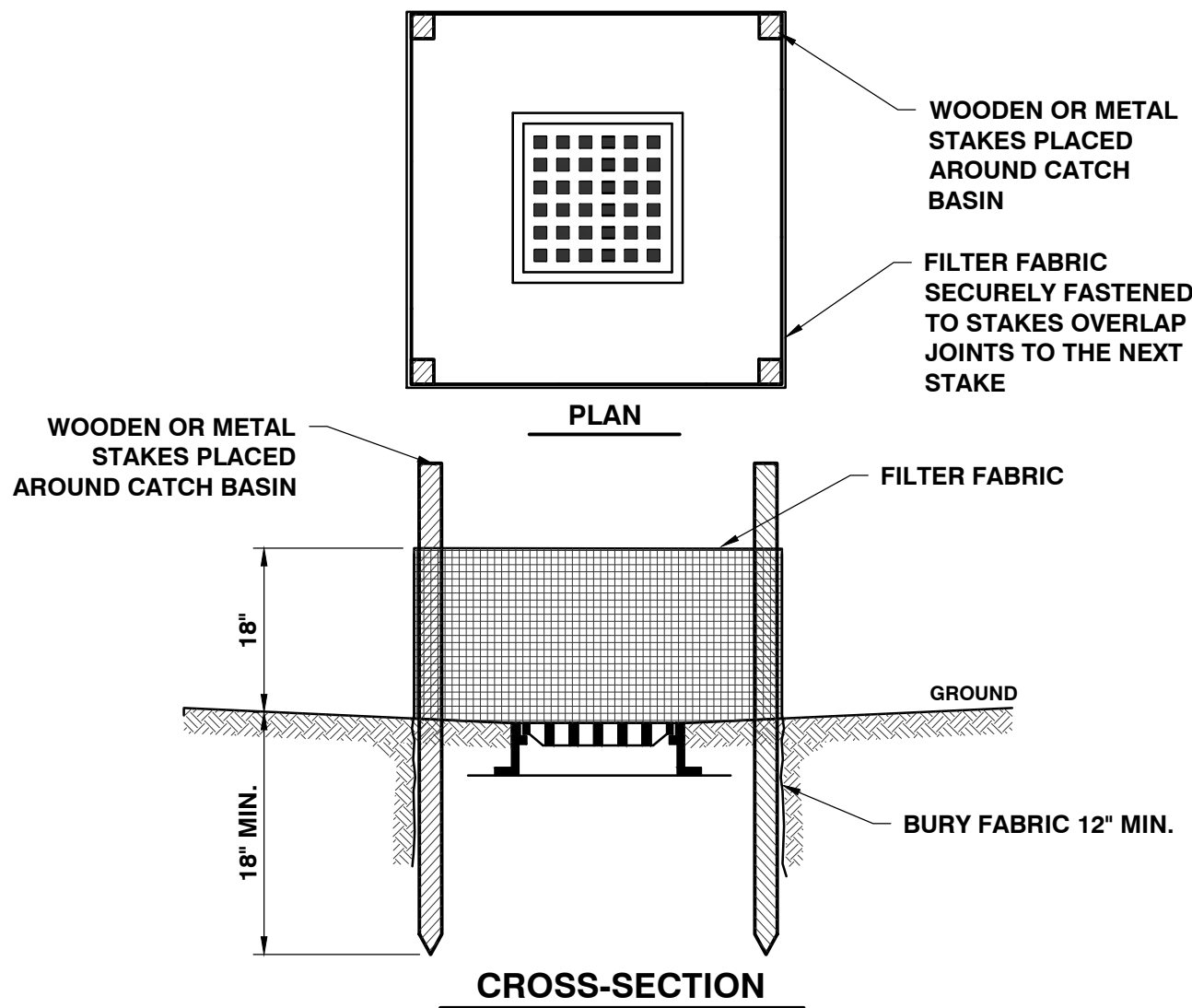
'TRACKING' WITH MACHINERY ON SANDY SOIL PROVIDES ROUGHENING WITHOUT UNDUE COMPACTION.

STRAW ANCHORING

N.T.S.

REVISED 12/19/2014

E-013 Catch Basin Protection

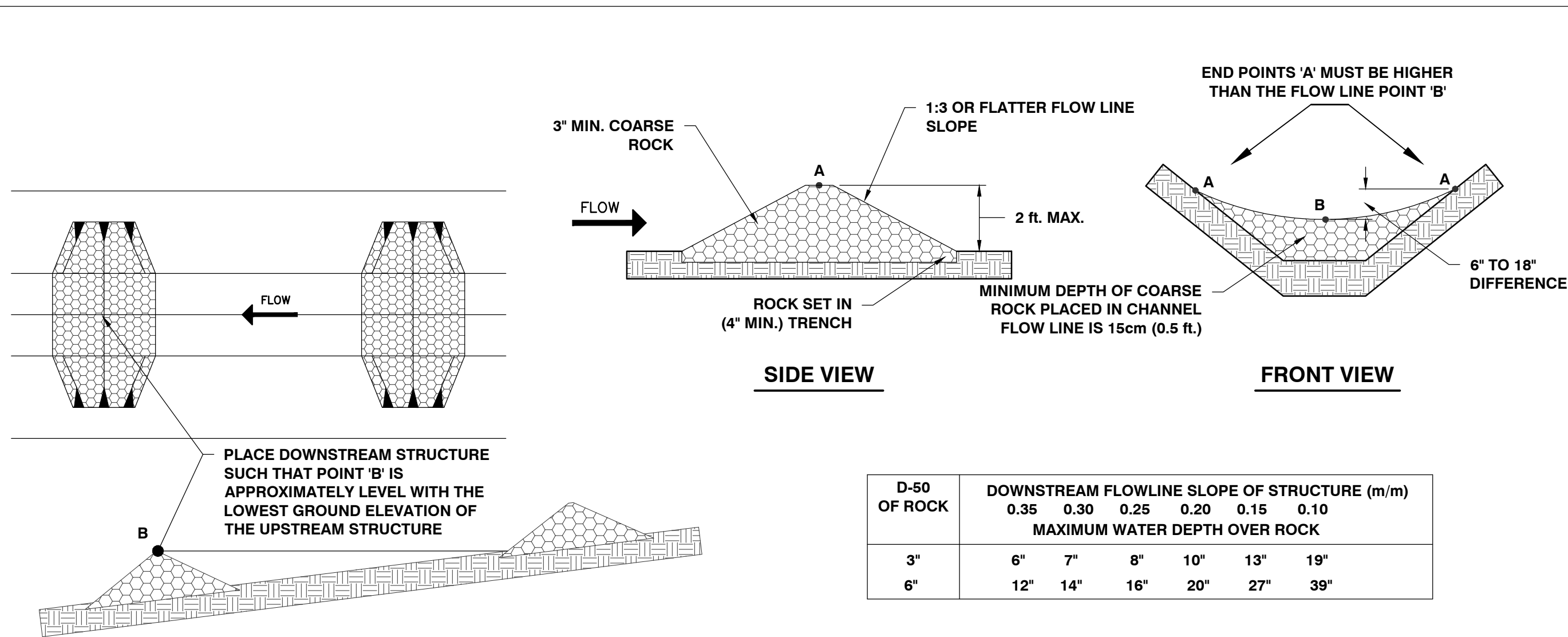


CATCH BASIN INLET PROTECTION
(W/ FABRIC)

N.T.S.

REVISED 12/19/2014

E-006 Check Dam

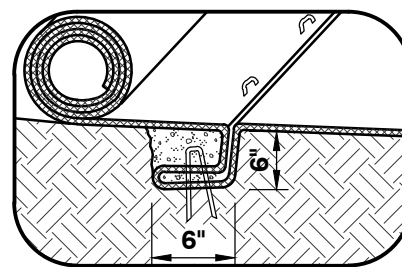
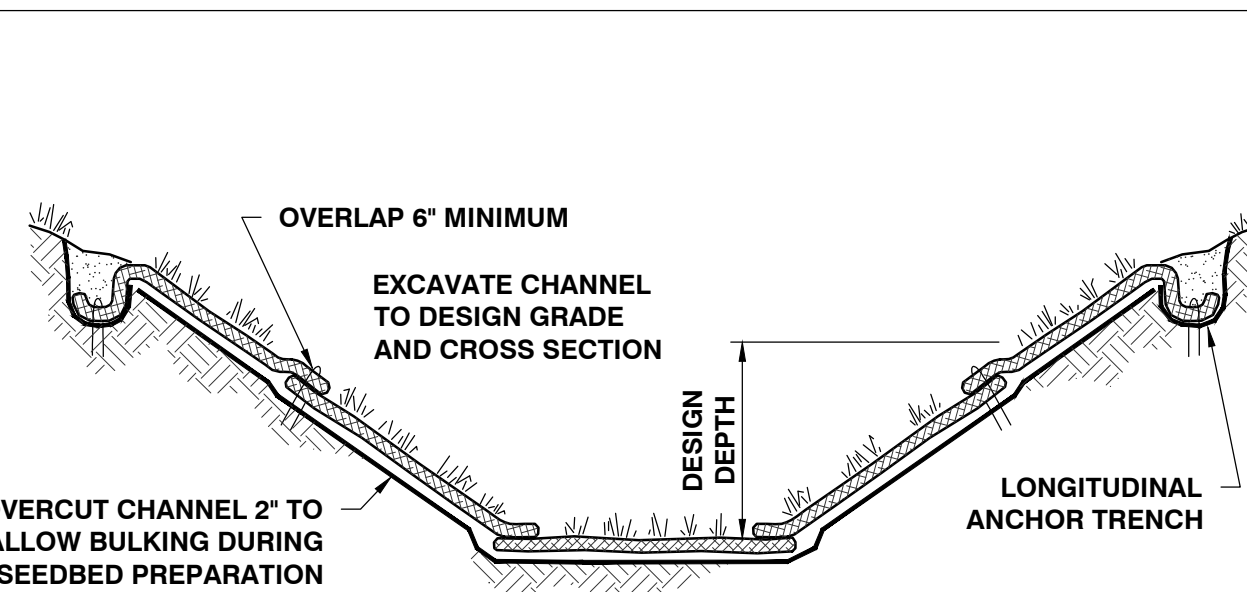


STONE CHECK DAM STRUCTURE

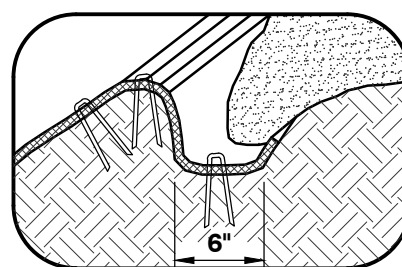
N.T.S.

REVISED 08/01/2014

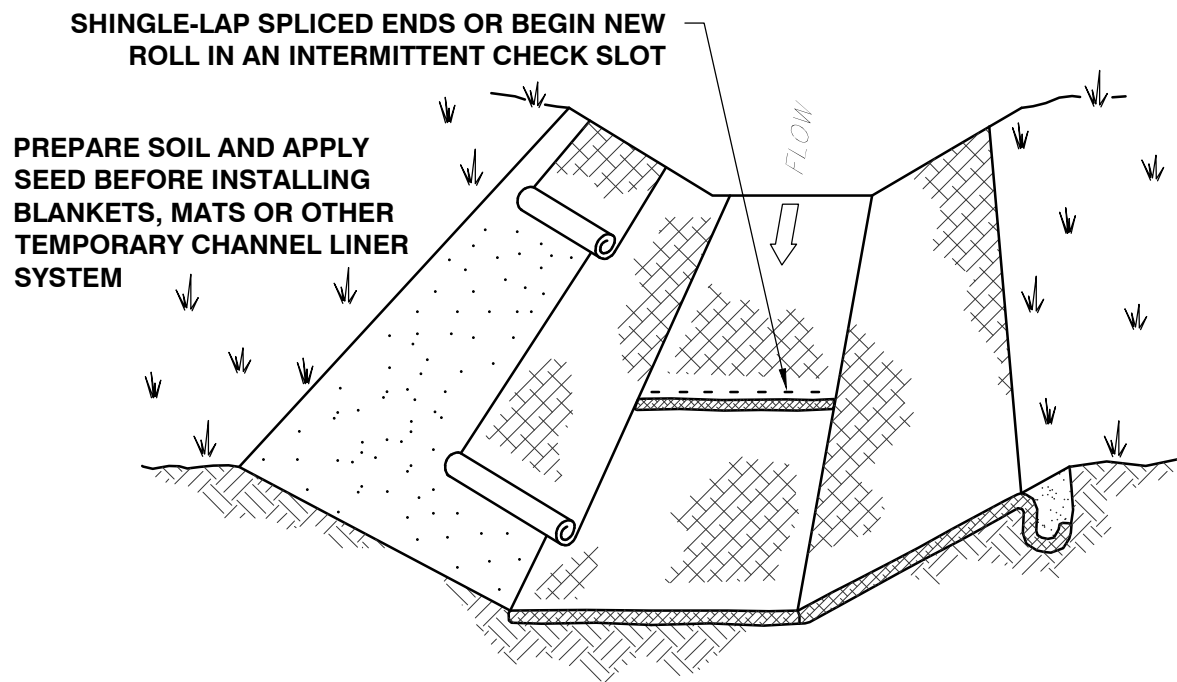
E-011 Grass Lined Channel



INTERMITTENT CHECK SLOT



LONGITUDINAL ANCHOR TRENCH



NOTES:

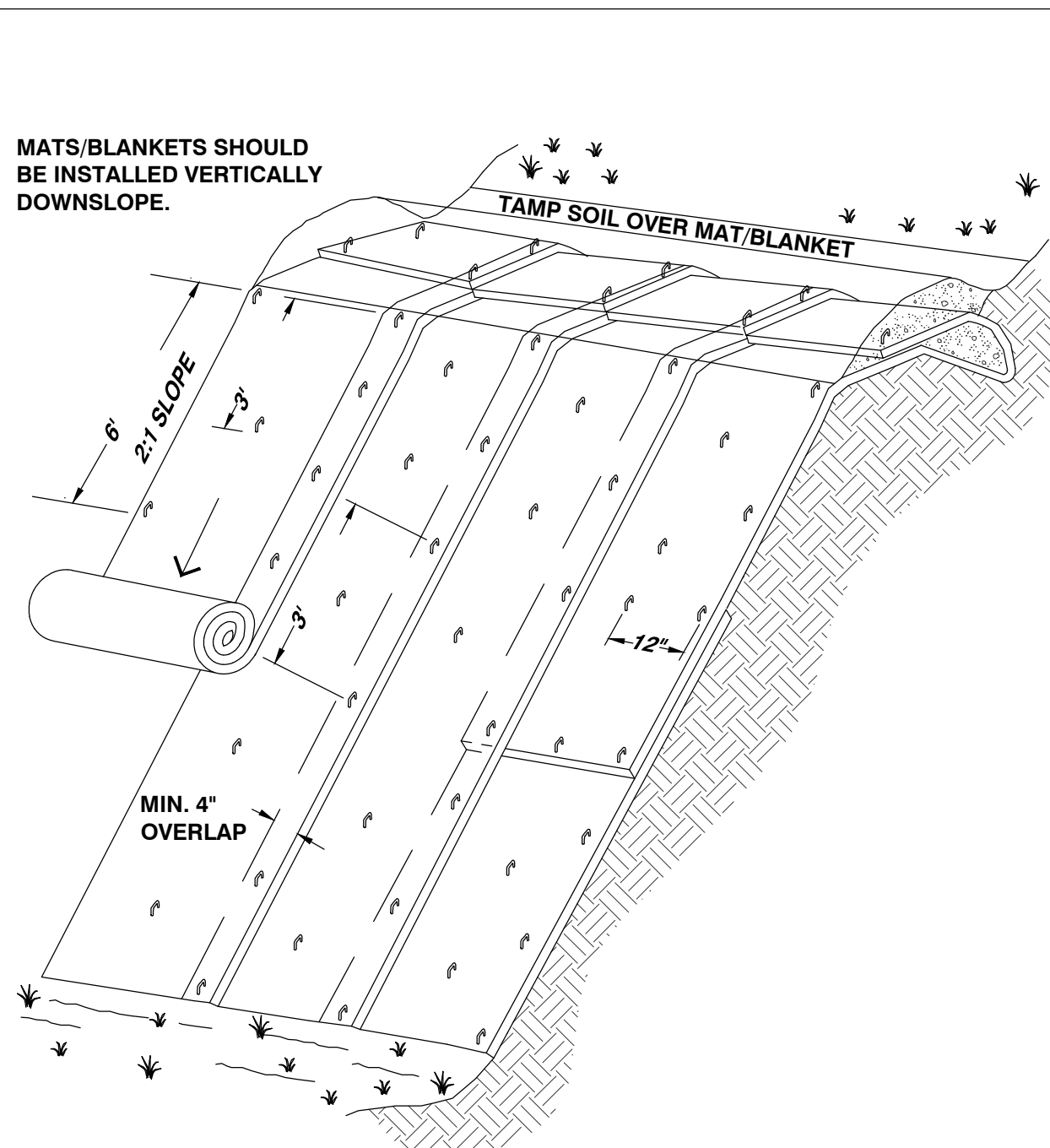
1. DESIGN VELOCITIES EXCEEDING 2 FT./SEC/ REQUIRE TEMPORARY BLANKETS, MATS OR SIMILAR LINERS TO PROTECT SEED AND SOIL UNTIL VEGETATION BECOMES ESTABLISHED.
2. GRASS-LINED CHANNELS WITH DESIGN VELOCITIES EXCEEDING 6 FT./SEC. SHOULD INCLUDE TURF REINFORCEMENT MATS.

GRASS-LINED CHANNEL
TYPICAL INSTALLATION

N.T.S.

REVISED 12/19/2014

E-009 Slope Erosion Blankets



ISOMETRIC VIEW

TYPICAL SLOPE
SOIL STABILIZATION

NOTES:

1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKETS & TURF
REINFORCEMENT MATS
SLOPE INSTALLATION

N.T.S.

REVISED 08/01/2014

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MULTI-USE PATH

311 NORTH AVE.
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EPSC DETAILS &
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JUL., 2024
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18118

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C3.6

Winter EPSC Requirements

Introduction - Rains in late fall, thaws throughout the winter, and spring melt and rains can produce significant flows over frozen and saturated ground, greatly increasing the potential for erosion. At the same time as the erosion risk increases, the "toolbox" available to the contractor and on-site plan coordinator shrinks significantly over this period (Table 3.4 below).

Table 3.4 Effects of Winter on EPSC Practices	
EPSC Measure	Effect of Winter Conditions
Vegetative Ground Cover	Cannot be established outside of growing
Hydroseeding	Stabilizers are poor in cold conditions, poor/no growth of seed over
Diversion Structures	Difficult or impossible to implement in frozen soils.
Sedimentation Basins	Must be installed pre-ground freezing. Can be overwhelmed by spring flows
Silt Fence	Difficult to install in frozen ground. Often fail during spring melt.
Erosion Blankets	Cannot be installed correctly on frozen ground. Improper installations (not keyed in) melt flows, wash away in melt flows.
Grassed line swales	Installation following ground freezing difficult, leaving unprotected concentrated flows with significant erosion potential
Impervious Stabilization	Paving, other measures cannot be completed in winter

In particular, establishing vigorous vegetation during winter construction is not possible. Based upon the activities anticipated to be undertaken during this period, the Contractor shall plan and implement the following Winter EPSC measures.

EPSC Plan Requirements for -Winter Shutdown-

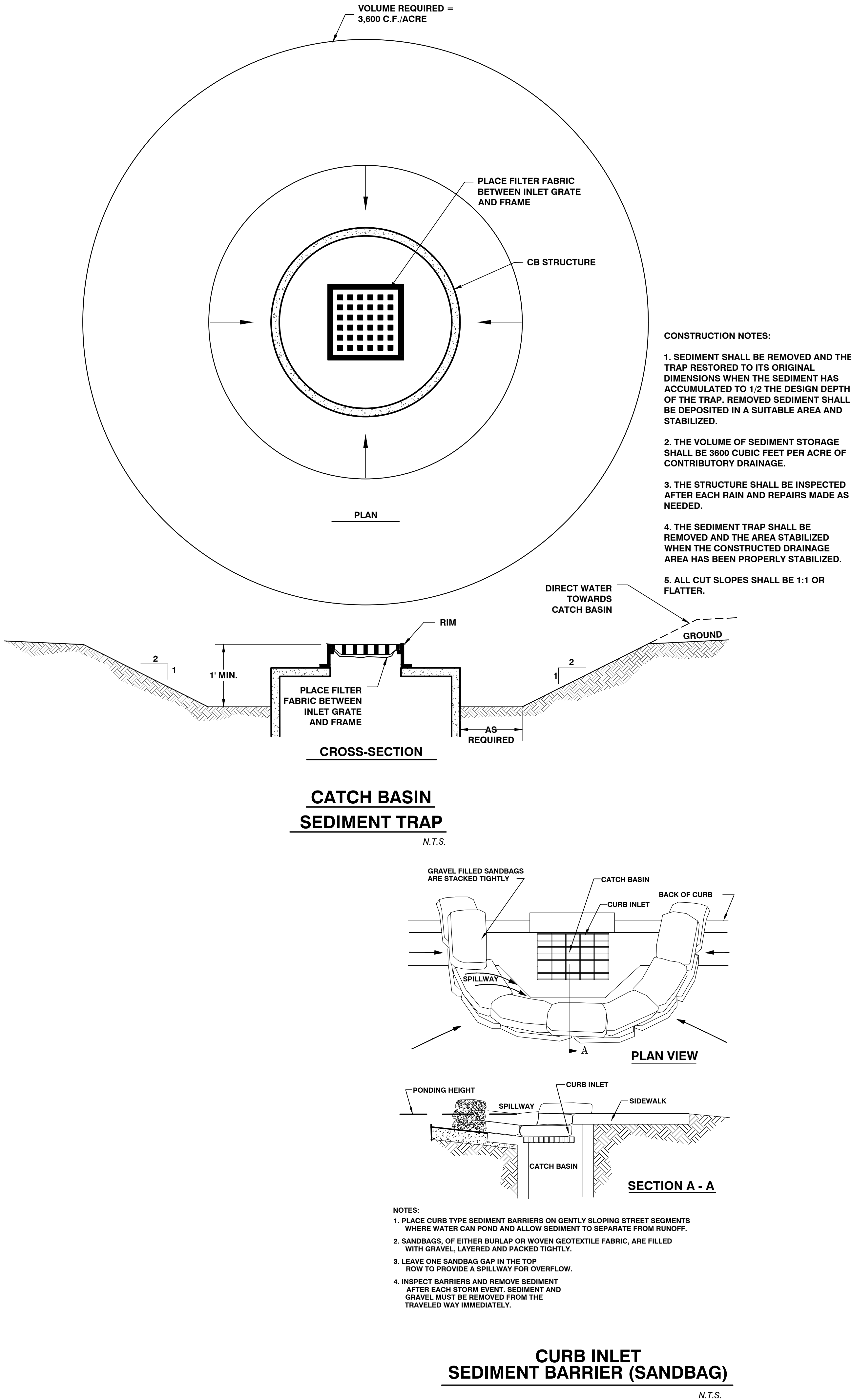
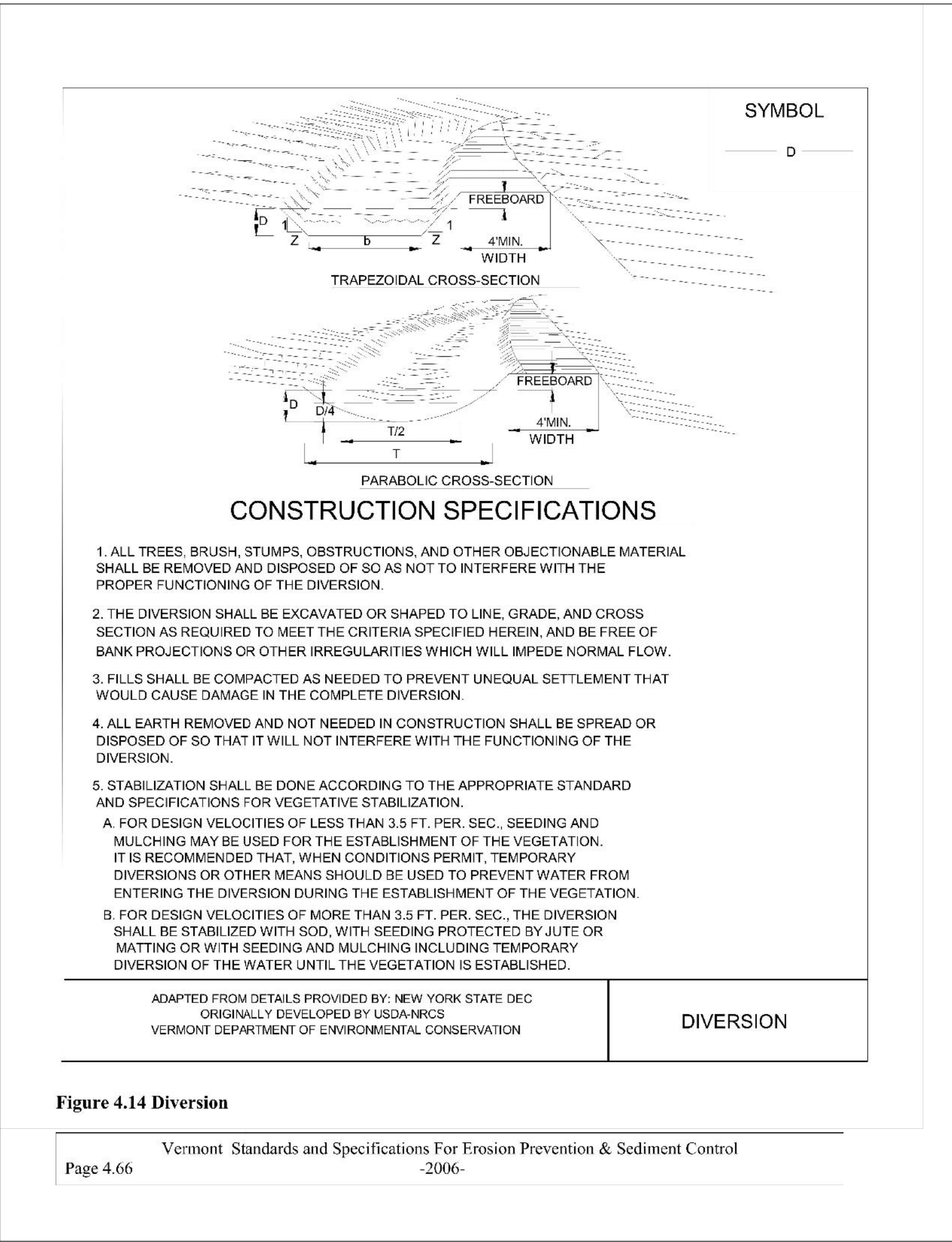
For those projects that will complete earth disturbance activities prior to the winter period (October 15), the following must be implemented by the Site Contractor in coordination with the On-Site Plan Coordinator:

- For areas to be stabilized by vegetation, all seeding shall be completed no later than September 15 to ensure adequate growth and cover.
- Non-vegetative stabilization of all areas of disturbed soils without existing vegetation shall be completed no later than October 15.
- When mulch is used as a temporary means of stabilization, the rate of application shall be double that of the regular construction season rate, or roughly 2 inches of mulch with 80-90% cover. Mulch should be tracked in when weather permits or stabilized with netting or an approved tackifier.

EPSC Plan Requirements for -Winter Construction-

If construction activities involving earth disturbance continue past October 15 or begin before April 15, the following must be implemented by the Owner/Site Contractor:

- Enlarged stabilized access points to provide for snow stockpiling.
- Limits of disturbance flagging moved or replaced to reflect the boundaries of winter work.
- A snow management plan which implements the following requirements:
 - adequate storage and control of snowmelt by diverting these flows around the work area,
 - cleared snow is to be stored down gradient of all areas of disturbance
 - Storage of snow in stormwater treatment structures is prohibited.
 - All drainage structures shall be kept open and free of snow/ice.
 - buffer is to be maintained from the perimeter controls such as silt fence to allow for snow clearing and maintenance.
 - Install silt fence a minimum of 25 feet down gradient of areas of disturbance and snow storage areas. Reinforce fence in areas where snow load forces may be an issue due to site constrictions.
- In areas of disturbance within 100 feet of a receiving water, silt fence shall be reinforced or else replaced with perimeter dikes, swales, or other practices resistant to the forces of snow loads.
- All silt fence and other practices requiring earth disturbance shall be installed ahead of ground freezing.
- Where mulch is the selected stabilization measure, the mulch shall be installed at double the standard rate of mulch, or roughly 2 inches of mulch with 80-90% cover.
- Mulch should be tracked in when weather permits or stabilized with netting or an approved tackifier to prevent removal by wind.
- 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."
- Directions to remove snow or ice to less than 1" thickness prior to temporary or permanent stabilization.
- Stone stabilization shall be installed a width of 10 to 20ft wide around the perimeter of buildings under construction, where construction vehicle traffic is anticipated.



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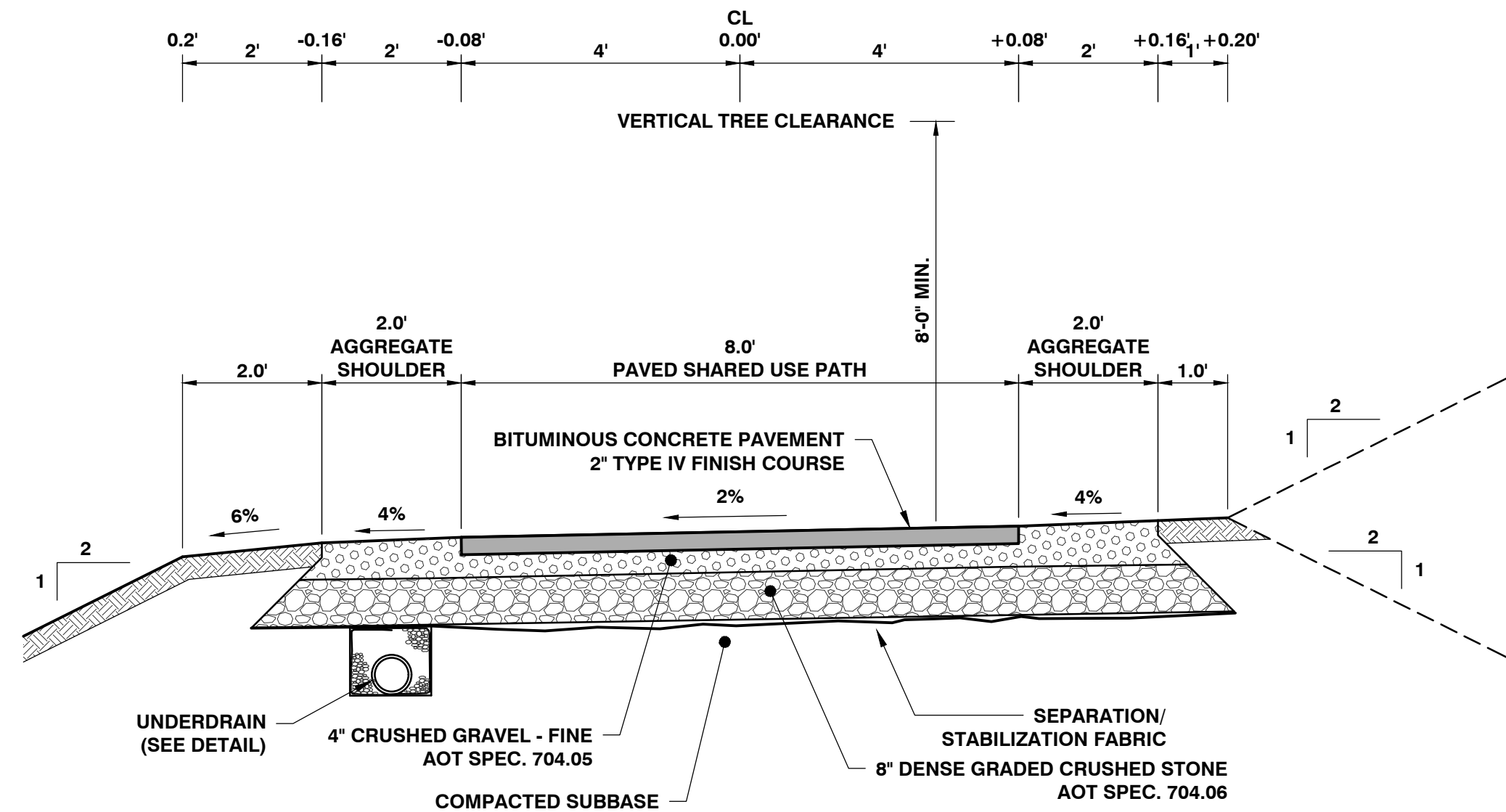
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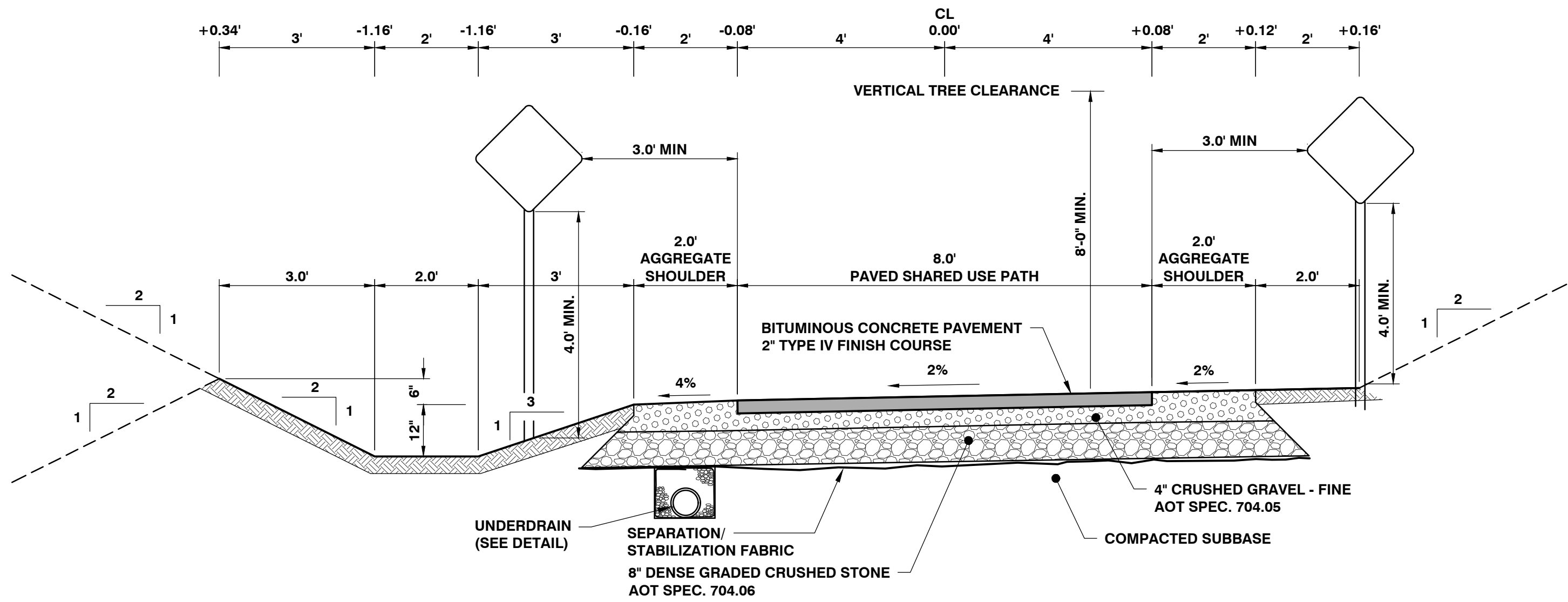
NOTES FOR ALL TYPICAL SECTIONS:

1. THE MINIMUM PAVED PATH WIDTH SHALL BE 8'-0" UNLESS NOTED OTHERWISE ON THE PLANS.
2. THE PATH SHALL HAVE A UNIFORM TWO PERCENT CROSS SLOPE IN THE DIRECTION SHOWN ON THE PLANS, AND THE SUBBASE SHALL BE GRADED TO MATCH.
3. ANY TREE ROOT ENCOUNTERED WITHIN THE EXCAVATION LIMITS SHALL BE PRUNED AND PROTECTED. THE COST OF THIS WORK IS INCIDENTAL TO ITEM 201.10, 'CLEARING AND GRUBBING', INCLUDING INDIVIDUAL TREES AND STUMPS.
4. STONE FILL, TYPE 1, IS REQUIRED ON ANY SLOPE STEEPER THAN 1:2. A 6" LAYER OF GRUBBING MATERIAL OVER THE STONE IS ALSO REQUIRED AND PAID UNDER THE RESPECTIVE UNIT ITEMS.
 - A. ANY SLOPES ADJACENT TO WETLANDS OR STREAMS SHALL USE GRUBBING MATERIAL AS A COVER FOR THE STONE FILL.
 - B. STONE COVERED SLOPES IN DRY AREAS SHALL USE EARTH BORROW AS A COVER MATERIAL. COVER SHALL BE SEEDED AND MULCHED.



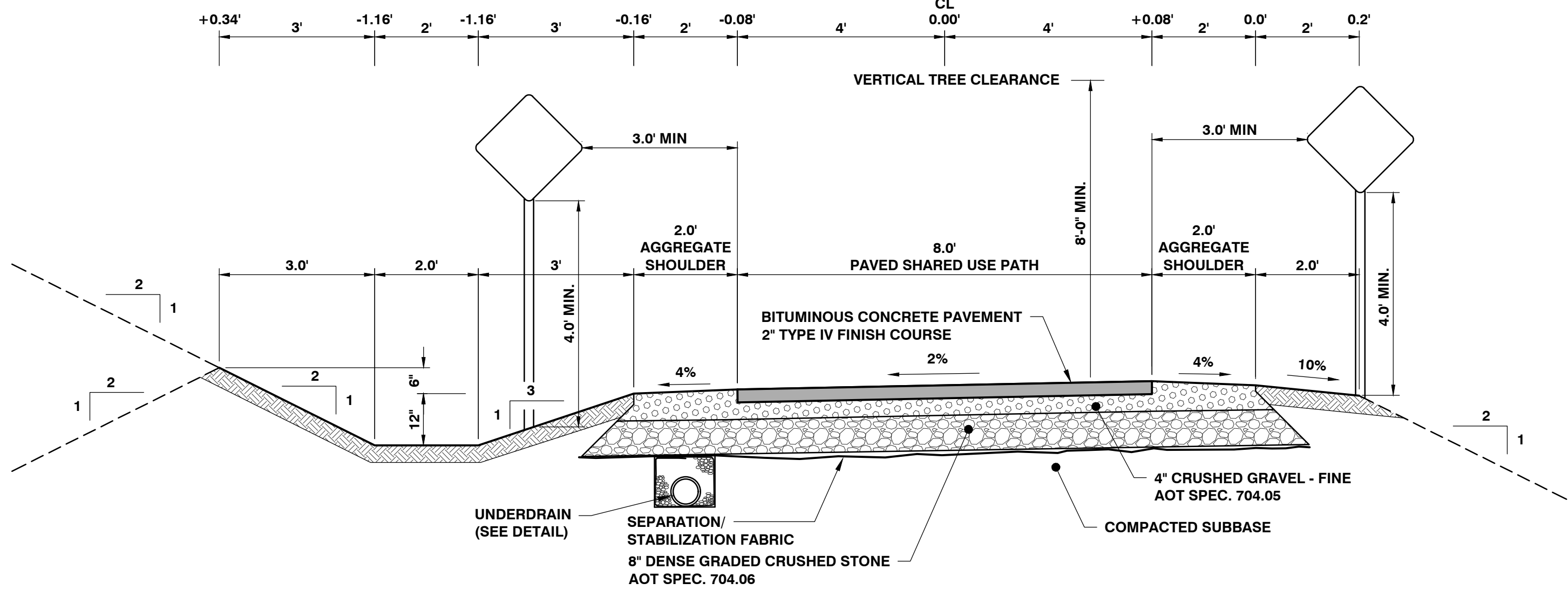
TYPICAL RECREATION PATH SECTION

SCALE: 1/2" = 1'-0"



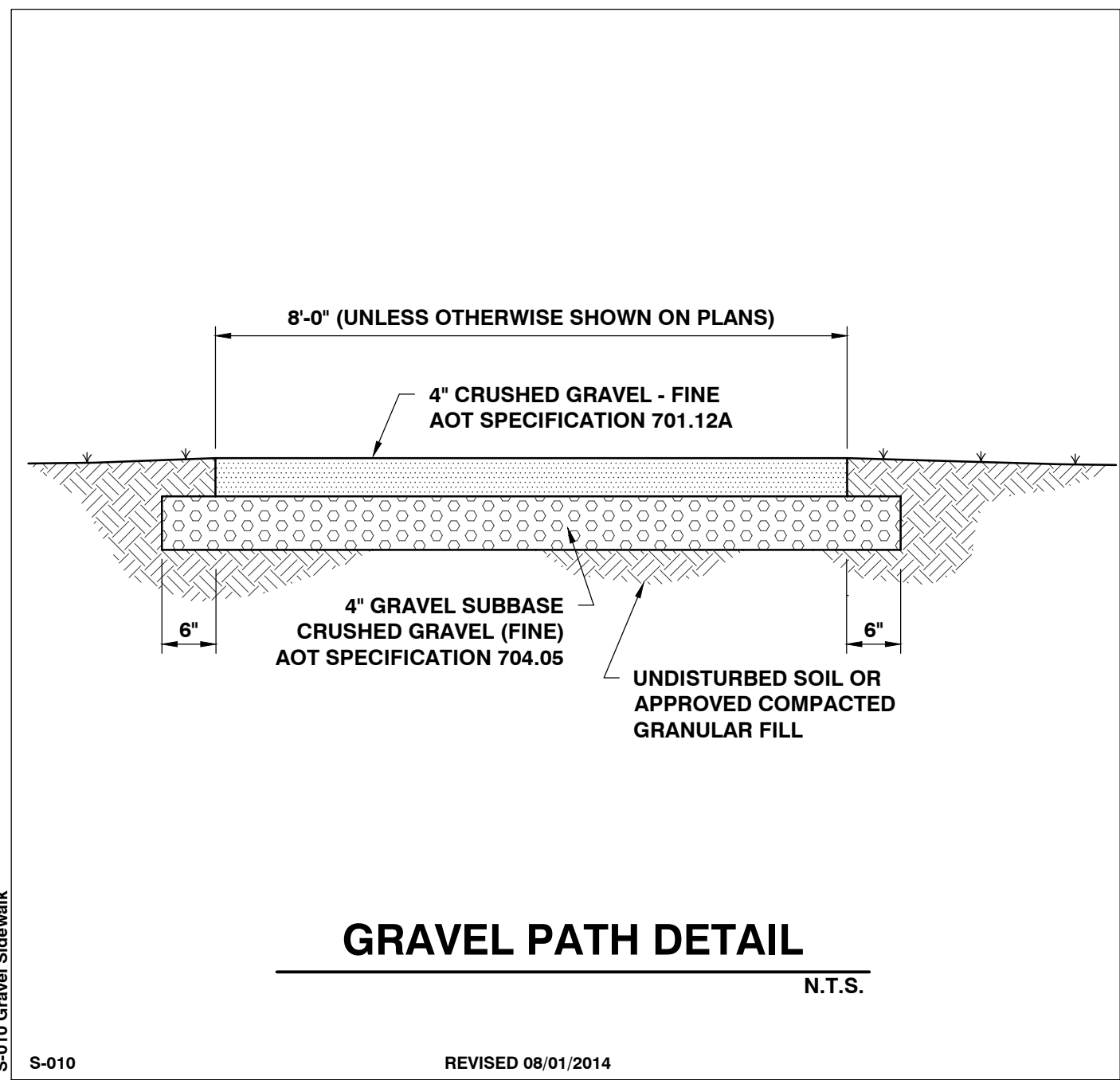
TYPICAL RECREATION PATH SECTION

SCALE: 1/2" = 1'-0"



TYPICAL RECREATION PATH SECTION

SCALE: 1/2" = 1'-0"



GRAVEL PATH DETAIL

N.T.S.

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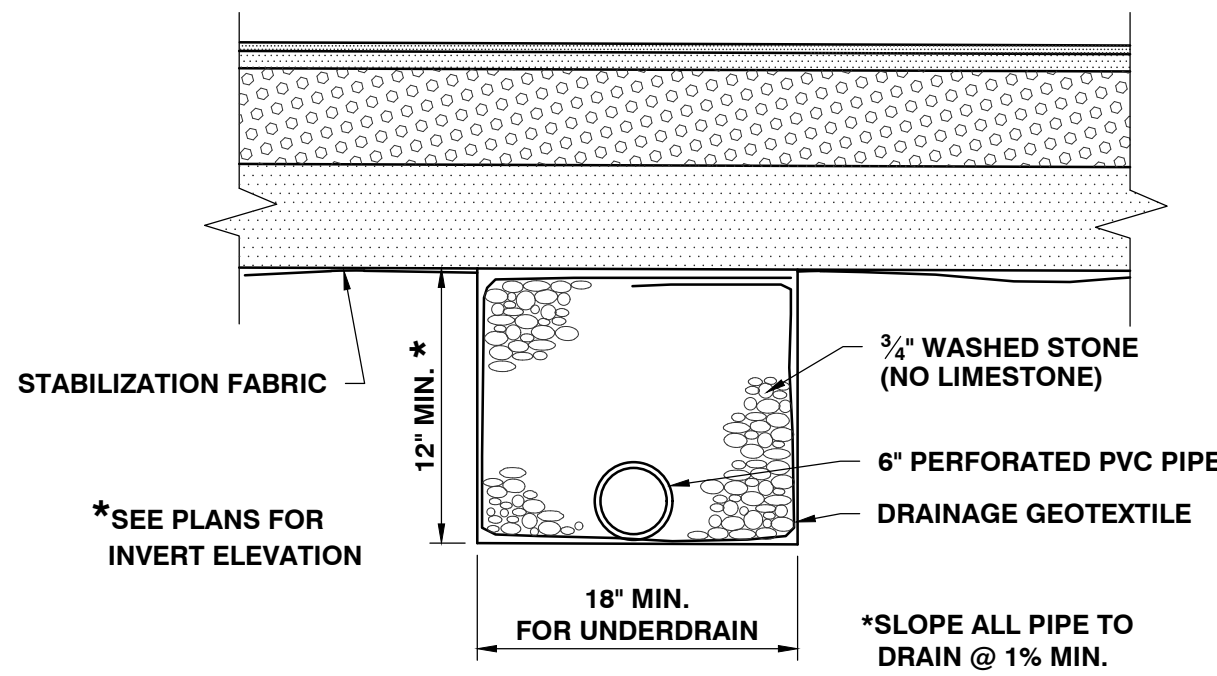
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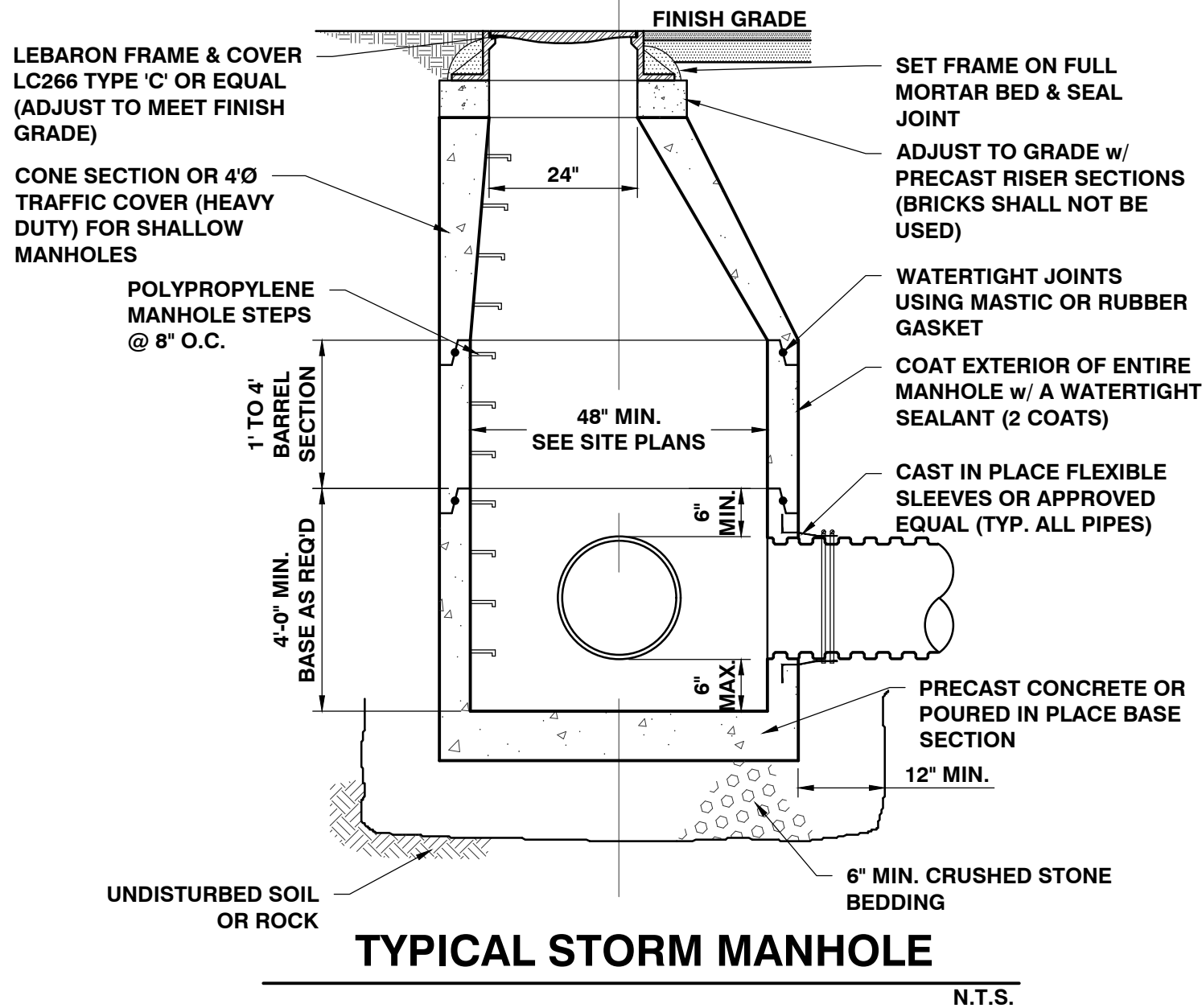
ST-009 Underdrain



TYPICAL UNDERDRAIN SECTION
N.T.S.

REVISED 12/16/2014

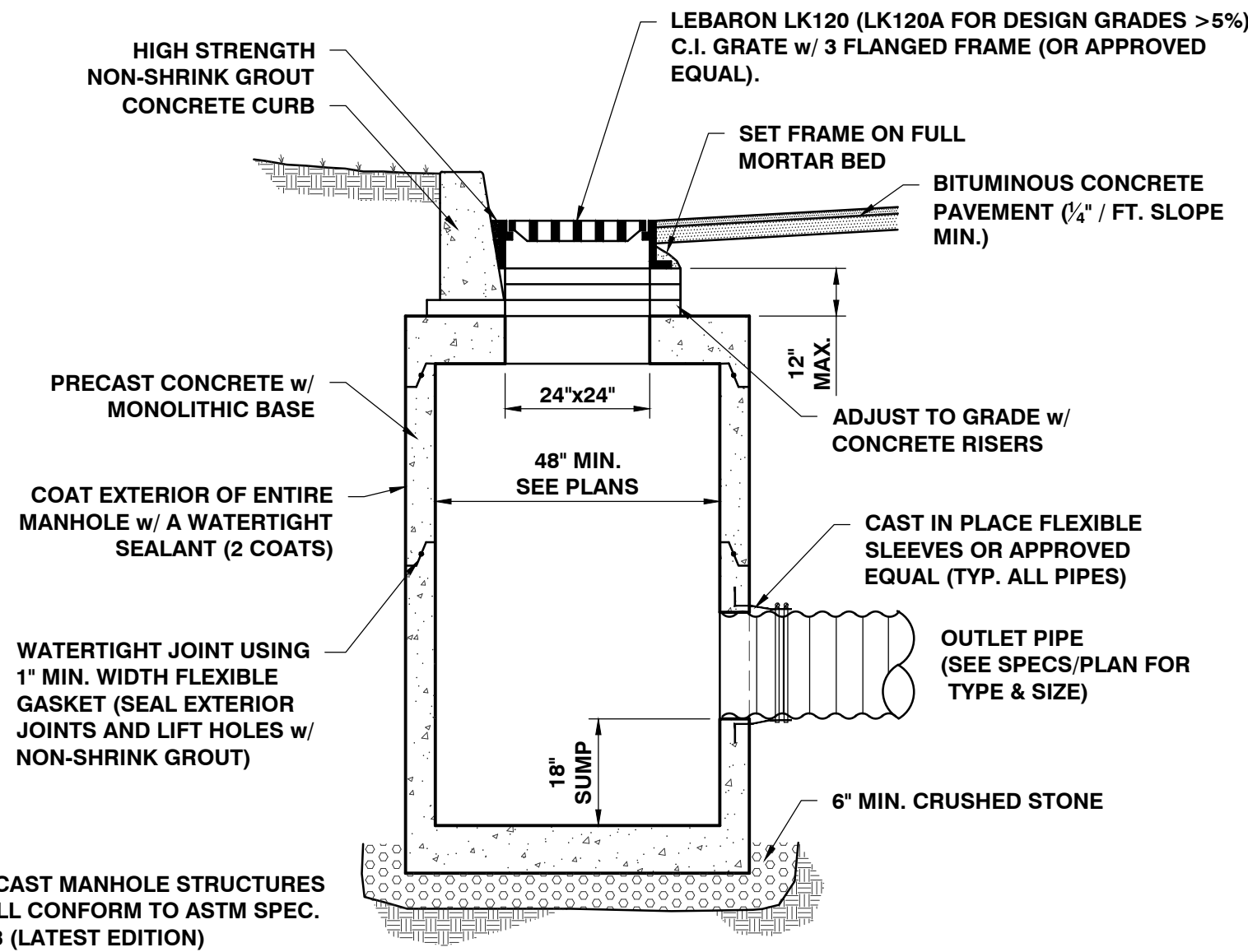
ST-001 Typ. MH



TYPICAL STORM MANHOLE
N.T.S.

REVISED 3/13/2024

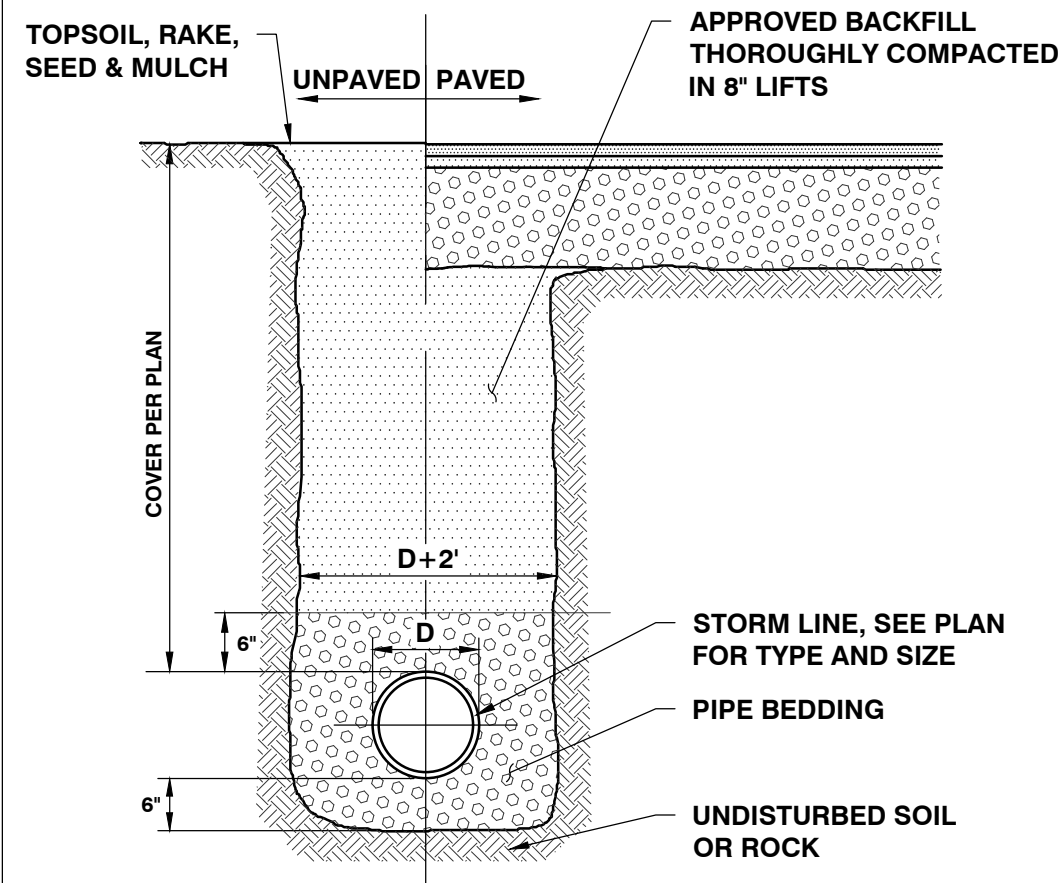
ST-002 Typ. CB



TYPICAL CATCH BASIN @ CURB
(SIMILAR WITHOUT CURB)
N.T.S.

REVISED 12/03/2020

ST-003 Storm Trench

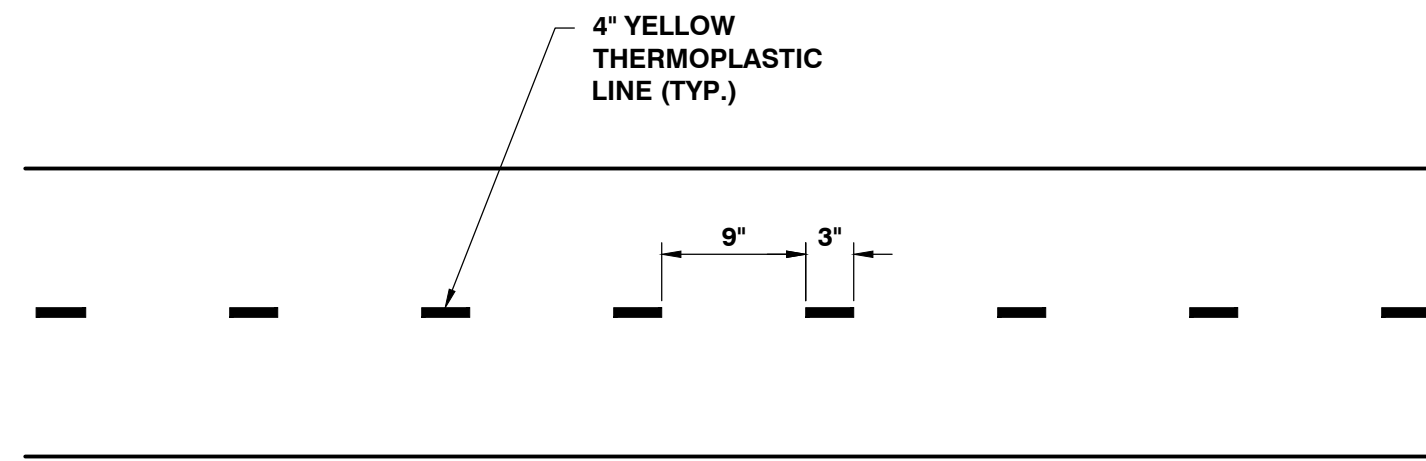


TYPICAL STORM TRENCH
USE IN AREAS OUTSIDE R.R. R.O.W.
N.T.S.

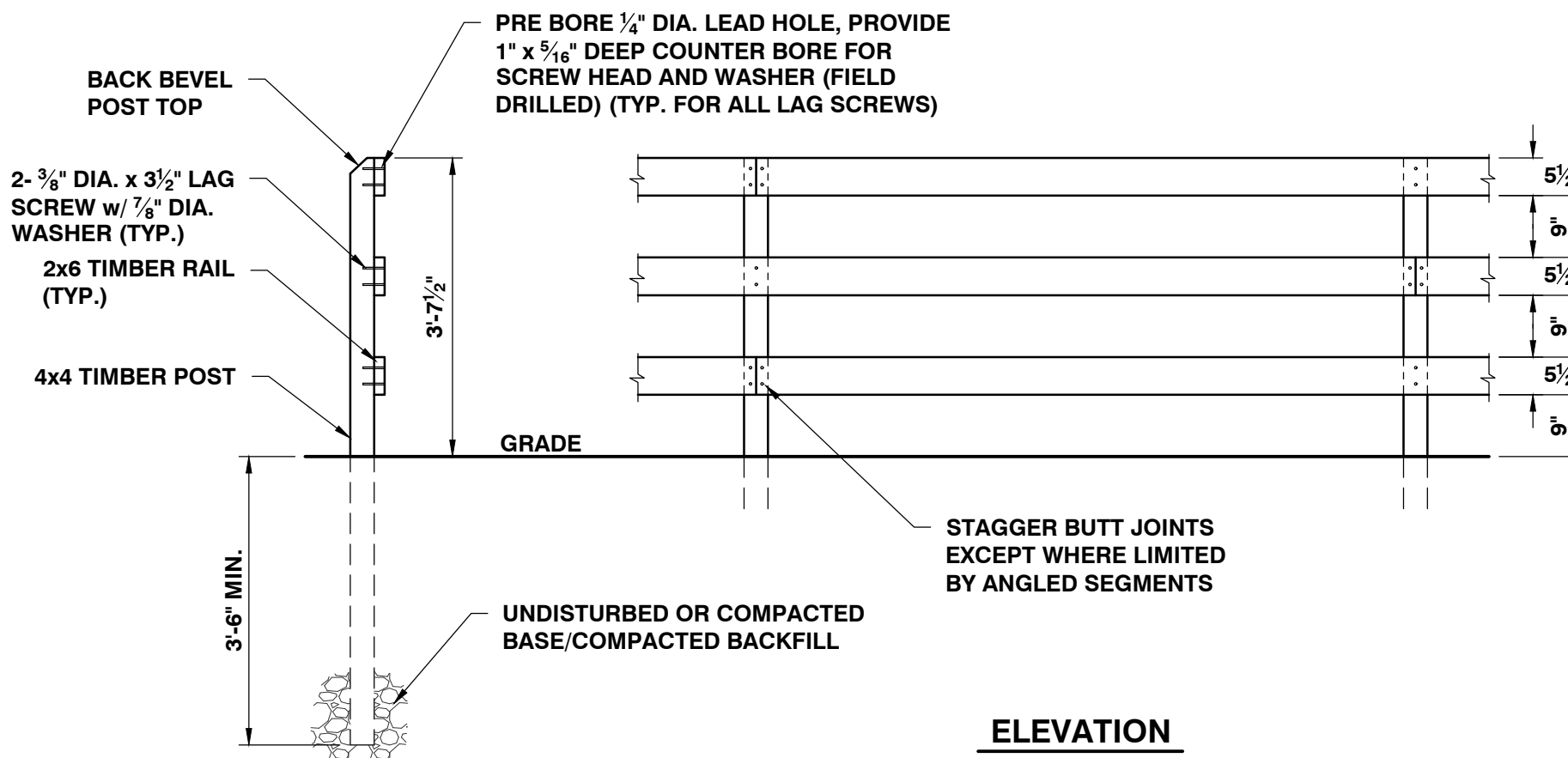
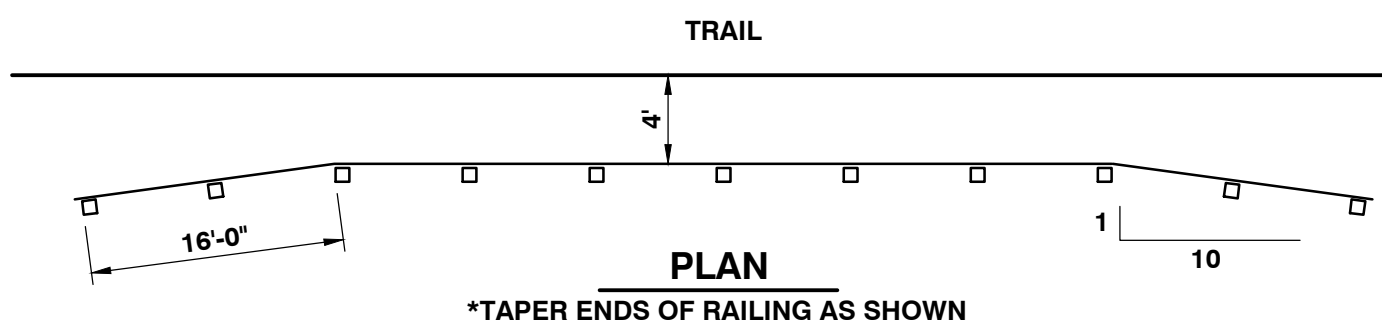
REVISED 12/08/2016

NOTES:

1. COMPACTION OF BACKFILL AND BEDDING SHALL BE A MINIMUM OF 90% (95% UNDER ROADWAY SURFACES) OF MAXIMUM DRY DENSITY DETERMINED IN THE STANDARD PROCTOR TEST (ASTM D698).
2. BEDDING MATERIAL SHALL NOT BE PLACED ON FROZEN SUBGRADE.
3. APPROVED BACKFILL SHALL NOT CONTAIN ANY STONES MORE THAN 12" IN LARGEST DIMENSION (6" IN ROADWAYS, 1 1/2" MAXIMUM DIAMETER WITHIN 24" OF THE OUTSIDE OF THE PIPE), OR CONTAIN ANY FROZEN, WET, OR ORGANIC MATERIAL.
4. TRENCHES SHALL BE COMPLETELY DEWATERED PRIOR TO PLACING OF PIPE BEDDING MATERIAL AND KEPT DEWATERED DURING INSTALLATION OF PIPE AND BACKFILL.
5. IN TRENCHES WITH UNSTABLE MATERIALS OR HIGH WATER TABLE, TRENCH BOTTOM SHALL FIRST BE STABILIZED BY PLACEMENT OF FILTER FABRIC THEN CRUSHED STONE (3/4" MAXIMUM).
6. THE SIDES OF TRENCHES 4' OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE SHEETED OR SLOPED TO THE ANGLE OF REPOSE AS DEFINED BY O.S.H.A. STANDARDS.
7. BEDDING MATERIAL SHALL CONSIST OF CRUSHED STONE, GRAVEL, OR SAND WITH A MAXIMUM SIZE OF 3/4". SUBMIT A SAMPLE TO THE ENGINEER FOR APPROVAL.



TYP. PATH CENTERLINE PAVEMENT MARKING
N.T.S.



NOTES:

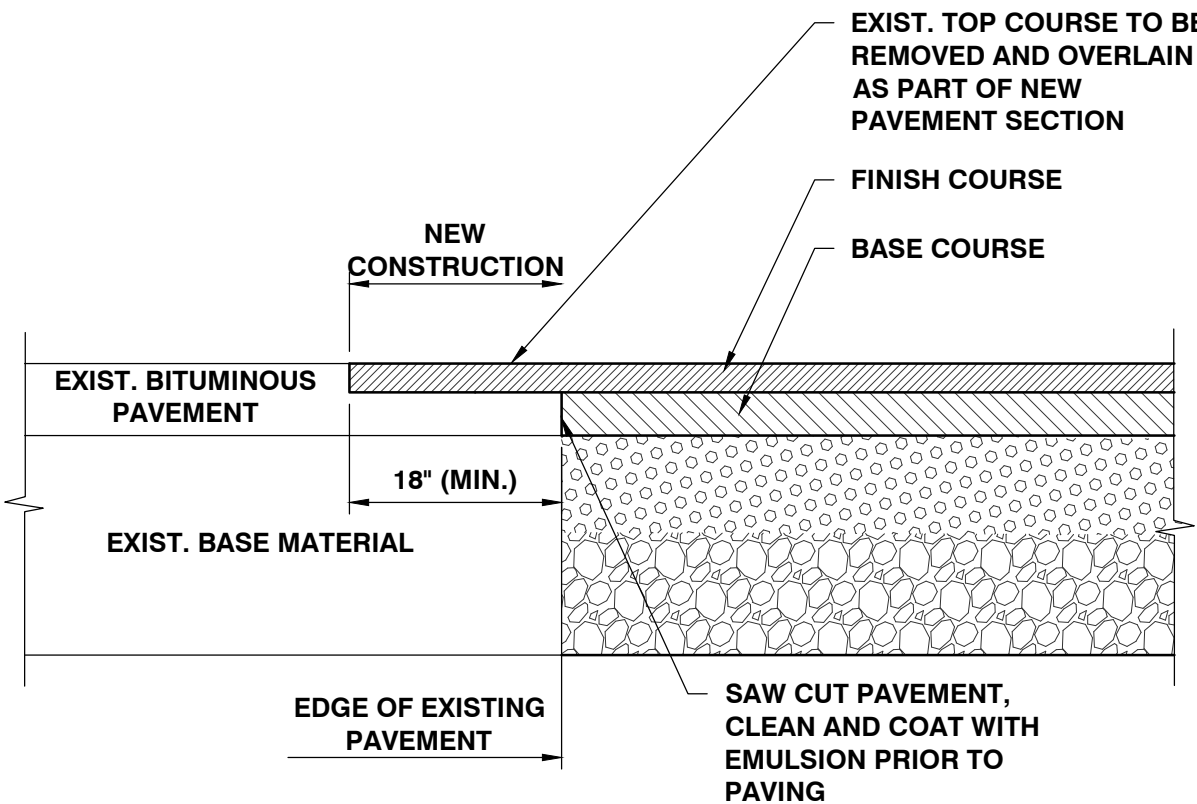
1. POST AND RAILS SHALL CONFORM TO 709.01 - STRUCTURAL LUMBER AND TIMBER

THREE RAIL PEDESTRIAN FENCE
N.T.S.

S-014

REVISED 6/15/2017

TRANSITION FROM NEW PAVEMENT
TO EXISTING PAVEMENT
N.T.S.



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C4.1

Pipe Installation Conditions-Definitions

Jacked or Tanneled Installation. The pipe is installed without removal of the ground above the pipe. Grouting of the exterior annular space around the pipe may be required to ensure full contact with the soil around the pipe. If existing soil conditions require an oversized tunnel, or if anticipated service conditions require access to the pipeline, a carrier pipe may be installed within the tunnel or casing pipe.

Basis of Design

Representative Soil Type - AASHTO A3 Gravelly Fine Sand - Category 1
Design Trench/Embankment Installations - Type 4
Loads - Design loading on the pipe includes Dead (Earth) Load, Live (Railroad) Load and Impact Loads.
Live (Railroad) load is Cooper E 80. Earth Loads and Cooper E 80 Live Loads from AREMA Design Manual.
Unit weight of Soil - 120 PCF
Inside Pipe Diameter - 36 Inches
Jacked Installation
Design Depth of Cover - 10 Feet
Combined Total Load on Concrete Pipe = 2600 PSF AREMA (Chapter 8 Section 10 Table 8-10-2)
Required Class of Pipe - Class V (Chapter 8 Section 10 Table 8-10-5)

Concrete Pipe

All reinforced concrete pipe shall be bell and spigot pipe with "O" ring gasket or tongue and groove with RAM-NEK type flexible gasket meeting the current ASTM designation C-76 or as specified. Concrete pipe under full width of Railroad R.O.W. shall be Class V.

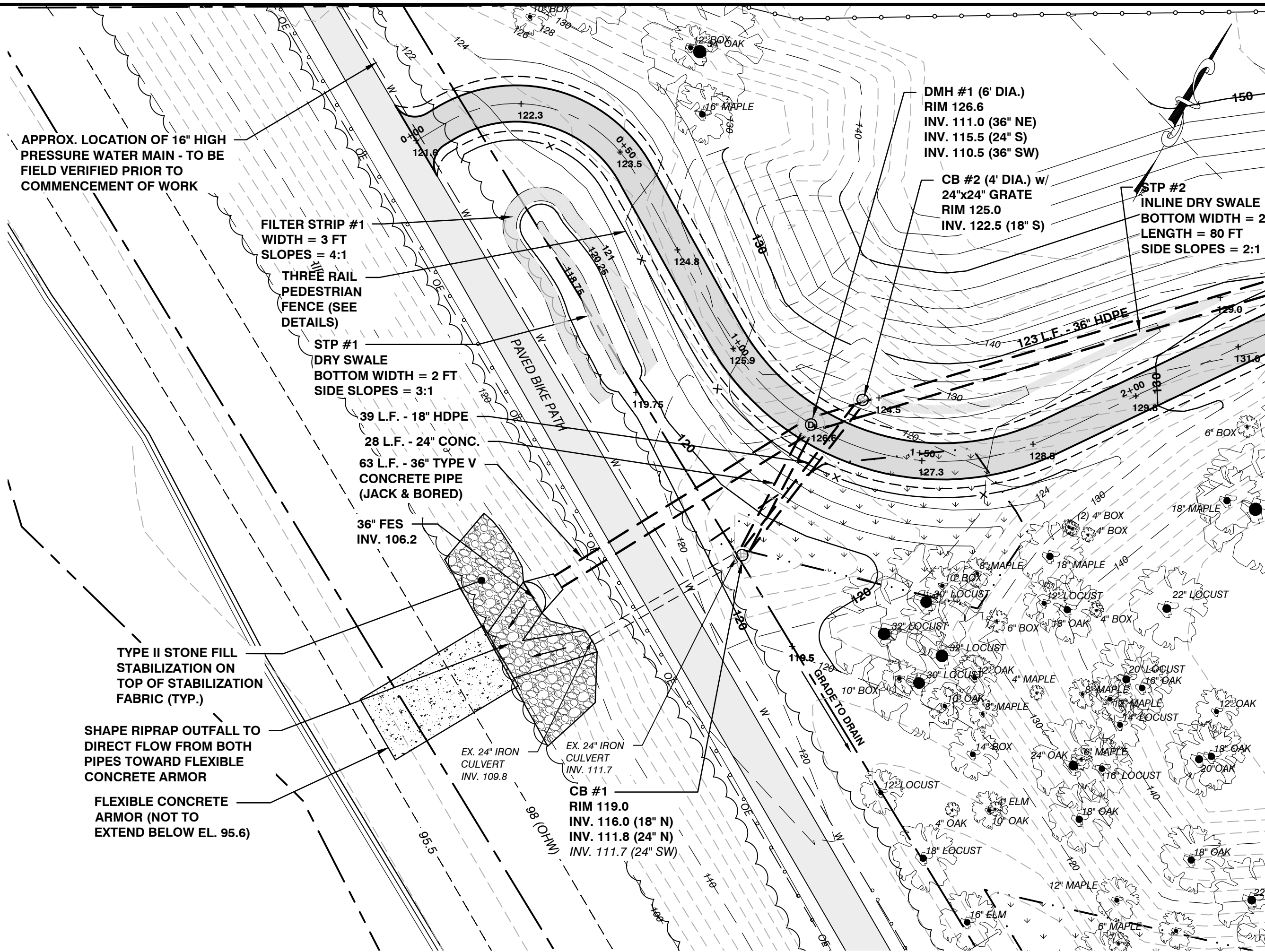
Jacking Pipe

- a) Pipe used for jacking shall form a continuous smooth outside surface when placed in contact with the adjacent pipe. The tongue or spigot shall preferably be at the downstream end. Jacking frames shall be so constructed as to avoid breaking the pipe or forcing it out of alignment. The pipe shall preferably be jacked upgrade in order to provide drainage at the heading during excavation. Satisfactory means shall be provided for maintaining the lead pipe at the correct line and grade.
- b) The pipe shall be installed according to plans and specifications. The contractor's submittal shall document the construction procedure, extra pipe reinforcement, jack shield (if required), jacking pit location, shoring, estimated deformation, track monitoring procedures, and other features for the safe and satisfactory completion of the work. Plans prepared by the contractor giving the construction details shall be submitted to the Engineer for review.
- c) Voids created during jacking operations shall be filled with a suitable grout material. Grout shall be pumped through grout ports integrally cast into the pipe, or drilled after production. Locations shall be recorded after mining is completed.
- d) Monitor elevation and alignment of the road bed above during the jacking procedures. Jacking must be stopped and any problems corrected if road bed movement is detected.



EXISTING CONDITIONS

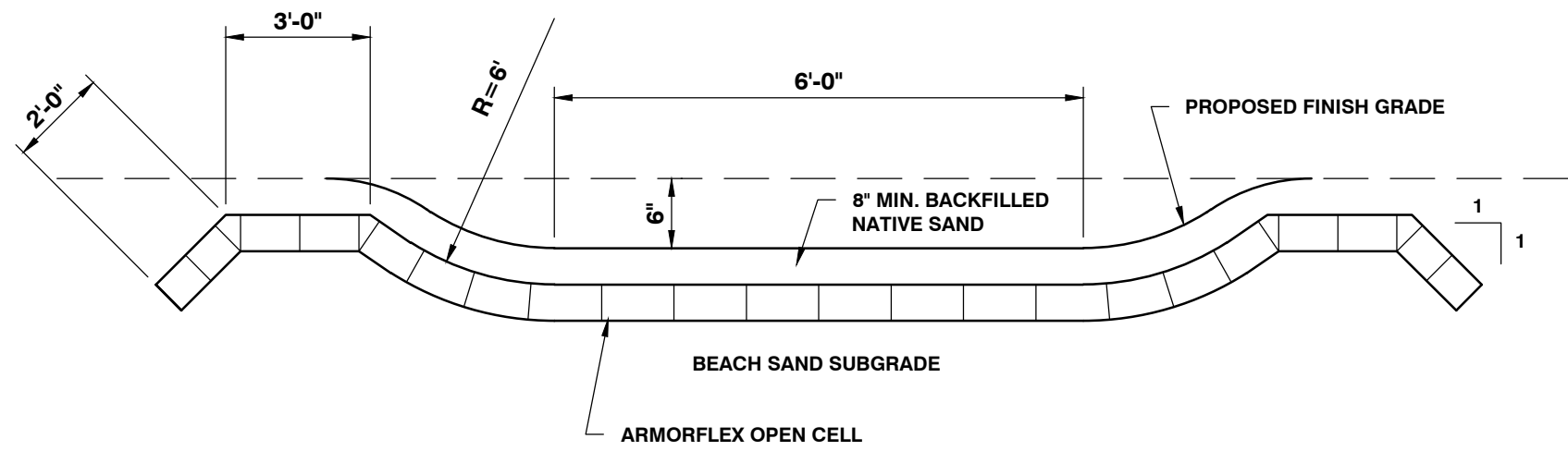
N.T.S.



SITE PLAN

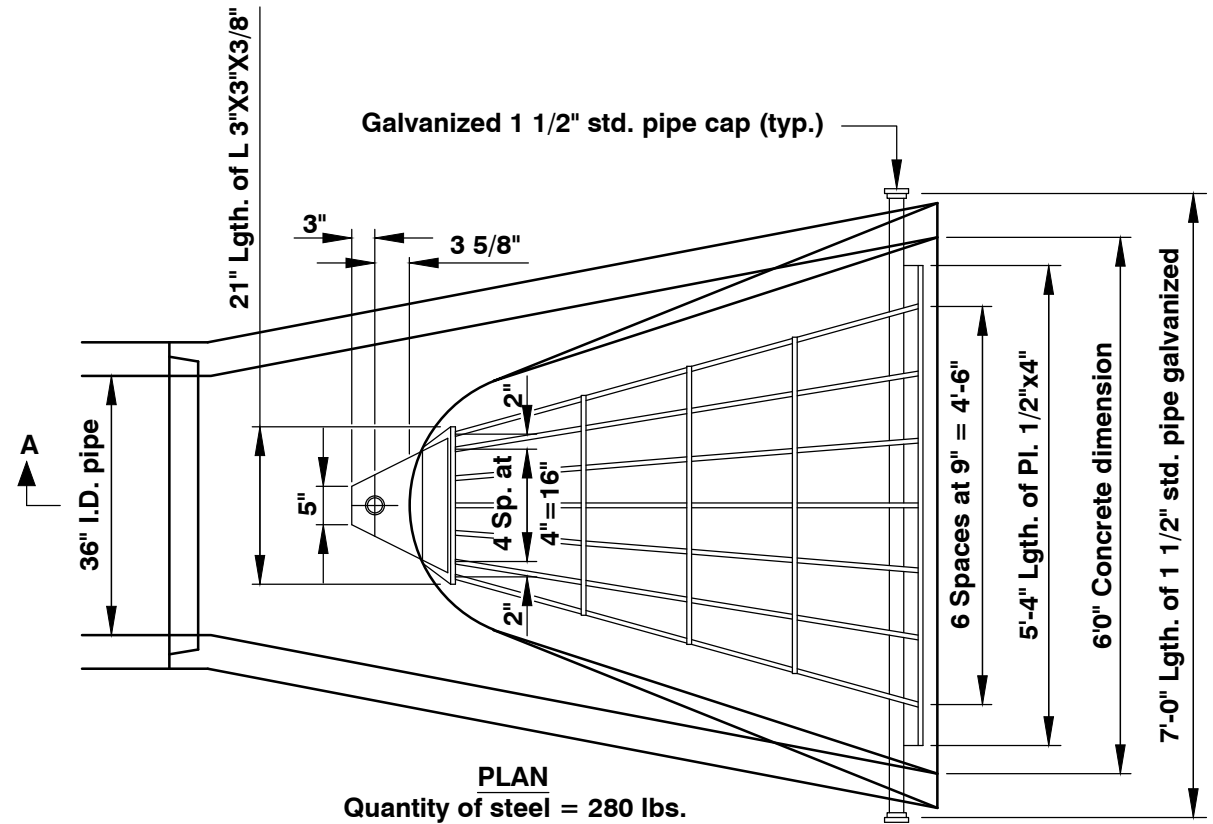
SCALE: 1"=20'

NOTE: ALL WORK WITHIN R.O.W. SHALL BE IN ACCORDANCE WITH AREMA STANDARDS

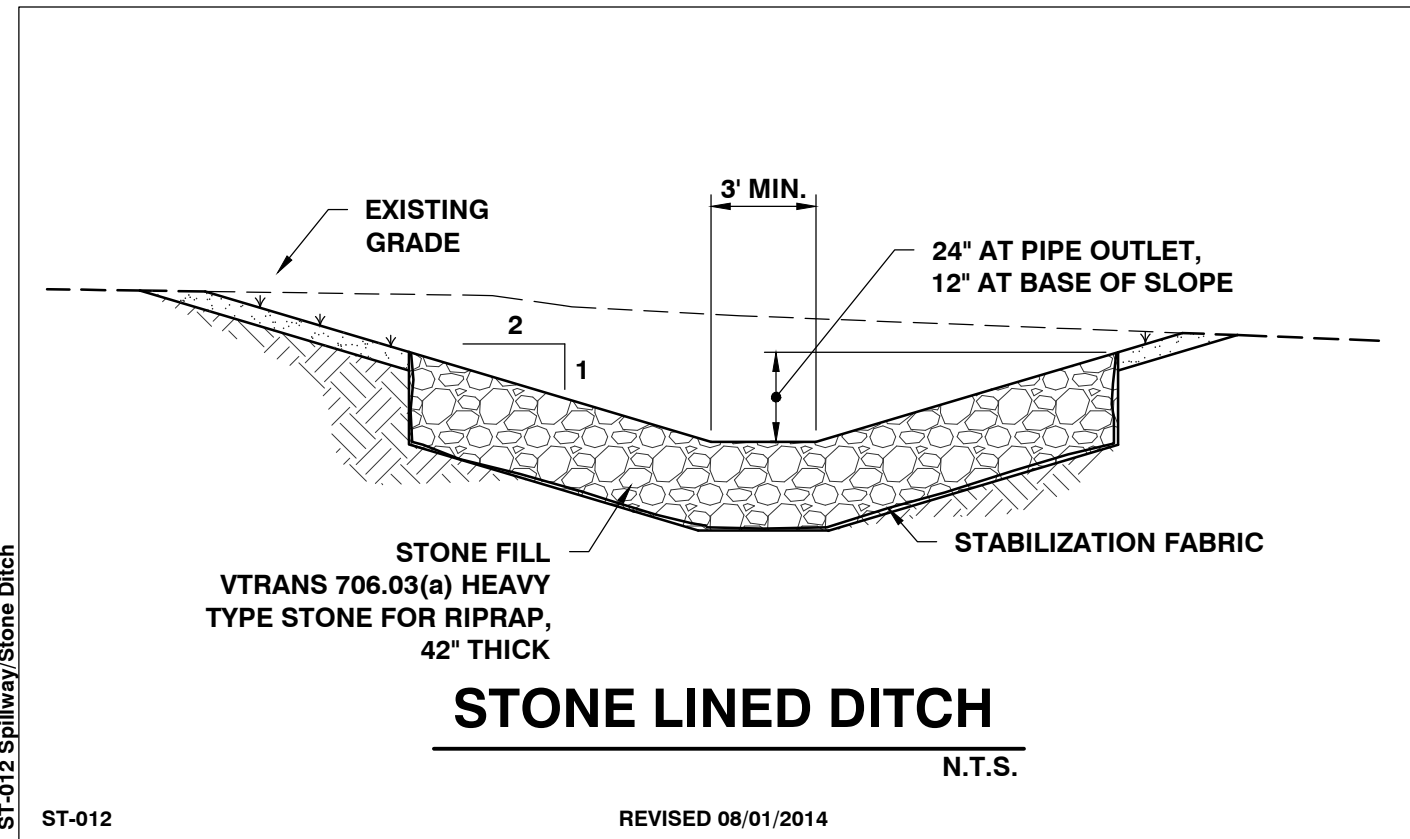


FLEXIBLE CONCRETE ARMOR

N.T.S.



Quantity of steel = 280 lbs.



STONE LINED DITCH

N.T.S.

GENERAL NOTES

Grating details shown are intended for use with particular sizes of precast reinforced concrete flared end sections as shown on standards 542301 and 542306.

Approximate quantity of steel shown includes total quantity of grating, bolts, nuts, washers and steel pipe.

Holes in the precast concrete flared end sections shall be cored to the diameters noted. If core-out on the other end of the hole occurs, the hole shall be filled with grout to correct the diameter of the hole.

All exposed metal shall be galvanized.

REMOVABLE F.E.S GRATE

N.T.S.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

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DSM

CLIENT:

BURLINGTON PARKS,
RECREATION &
WATERFRONT

645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

311 NORTH AVE.
MULTI-USE PATH

311 NORTH AVE.
BURLINGTON, VT

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

STORM OUTFALL
DETAILS

DATE

JUL., 2024

SCALE

NONE

PROJ. NO.

18118

DRAWING NUMBER

C4.2

PROJECT COORDINATION UPDATED 8/5/16

PART 1 – GENERAL

1.01 MEETINGS & PROJECT ACCESS

- A. The Owner shall be notified five (5) days prior to commencement of Work by the Contractor.
- B. The Contractor will coordinate with the Owner to arrange an on-site pre-construction meeting prior to commencement of any work. Job superintendents and subcontractors shall be included in this meeting.
- C. The Contractor will coordinate all phases of the Work, so as not to interfere with the normal work procedures in the area.
- D. The Contractor shall conduct his work in such a manner as to not interfere with or endanger work or traffic in areas adjacent to the construction area, except as permitted by the Owner. The Contractor shall so arrange his construction operations as to provide access for emergency vehicles and equipment to the work site at all times.

1.02 LABOR

- A. The Contractor and subcontractors will employ mechanics skilled in their respective trades.
- B. All labor will be performed in a neat and workmanlike manner.

1.03 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for initiating, maintaining, and supervising all O.S.H.A. safety precautions in connection with the Work.
- B. Fire Protection: The Contractor shall take all necessary precautions to prevent fires adjacent to the Work and shall provide adequate facilities for extinguishing fires. The Contractor shall also prevent fires in project related buildings and shall prevent the spread of fires to areas outside the limits of the Work.
- C. Safety Precautions: Prior to commencement of Work, the Contractor shall be familiar with all safety regulations and practices applicable with construction operations. No additional payments will be made for equipment and procedures necessitated by these safety precautions.

1.04 CORRECTION OF WORK

- A. The Contractor shall promptly correct all Work rejected by the Owner as defective or as failing to conform to the Contract Documents. The Contractor shall bear all cost of correcting such rejected Work.

1.05 WEATHER CONDITIONS

- A. No Work shall be done when, in the opinion of the Owner, the weather is unsuitable. No concrete, earth backfill, embankment, or paving shall be placed upon frozen material. If there is delay or interruption in the Work due to weather conditions, the necessary precautions must be taken to bond new Work to old.
- B. Protection Against Water and Storm: The Contractor shall take all precautions to prevent damage to the Work by storms or by water entering the site of the Work directly or through the ground. In case of damage by storm or water, the Contractor, at his own expense, shall make repairs or replacements or rebuild such parts of the Work as the Engineer may require in order that the finished work may be completed as required by the Drawings and Specifications.

1.06 DISPOSAL OF DEBRIS

- A. All debris and excess materials, other than that which is authorized to be reused, become the property of the Contractor and shall be promptly removed from the property. The Contractor shall receive title to all debris and/or excess material. The Owner will not be responsible for any loss or damage to debris or excess material owned by the Contractor.

1.07 PROJECT LAYOUT

- A. The Contractor shall be responsible for providing all necessary survey staking.
1. Locate and protect control points before starting work on the site.
2. Preserve permanent reference points during progress of the Work.
3. Establish a minimum of two permanent benchmarks on the site, referenced to data established by survey control points.
- a. Record locations, with horizontal and vertical data, on Project Record Documents.

1.08 TESTING

- A. The Contractor is responsible for obtaining testing and inspection services.

SITE CLEARING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:

1. Remove surface debris.
2. Clear site of plant life and grass.
3. Remove trees and shrubs.
4. Remove root system of trees and shrubs.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.01 PROTECTION

- A. Protect utilities that remain from damage.
- B. Protect trees, plant growth, and features designated to remain as final landscaping.
- C. Protect bench marks and existing structures from damage or displacement.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to the site at all times.

3.02 CLEARING

- A. Clear areas required for access to site and execution of Work.
- B. Remove trees and shrubs within marked areas. Remove stumps, roots and tap roots and other projections 1½" or greater in diameter to 2'-0" below the excavated surfaces in cut areas and 2'-0" below the exposed subgrade in fill areas.

3.03 REMOVAL

- A. Remove debris, rock, and extracted plant life from site.
- B. The Contractor shall coordinate Work with the Engineer and Owner in establishing suitable areas within the property limits for depositing debris, rocks and extracted plant life. The Contractor shall be responsible for backfilling (capping) and grading all waste sites.

3.04 UTILITIES

- A. Coordinate with utility companies and agencies as required.

SITE EARTHWORK

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:

1. All excavation (unless covered in other sections of these specifications), removal and stockpile of topsoil, stabilization fabric, and other miscellaneous and appurtenant works.
2. Site filling.
3. Roadway structural sections.

1.02 PROTECTION

- A. Protect bench marks and existing structures.
- B. Protect above or below grade utilities which are to remain.

1.03 SUBMITTALS

- A. Testing laboratory reports indicating that material for backfill meets requirements of this Section.
- B. Field density test reports of site fill in place.
- C. Field density test reports for roadway structural sections in place.
- D. Stabilization Fabric: Submit copies of manufacturer's specifications and installation instructions.

PART 2 – PRODUCTS

2.01 STRUCTURAL FILL – CRUSHED GRAVEL (AOT SPEC. 704.05, FINE)

- A. All materials shall be secured from approved sources. This gravel shall consist of angular and round fragments of hard durable rock of uniform quality throughout, reasonably free from thin elongated pieces, soft or disintegrated stone, dirt, organic or other objectionable matter. This material shall meet the following grading requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
2"	100
1 1/2"	90 – 100
No. 4	30 – 60
No. 100	0 – 12
No. 200	0 – 6

2.02 CRUSHED GRAVEL (AOT SPEC. 704.05, COARSE)

- A. This material shall meet the following grading requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
4"	95 – 100
No. 4	25 – 50
No. 100	0 – 12
No. 200	0 – 6

At least 50% by mass (weight) of the material coarser than the No. 4 sieve shall have at least one fractured face.

2.03 COMPACTED FILL/GRANULAR BORROW

- A. This material shall be free of shale, clay, friable material, debris, and organic matter, graded in accordance with ANSI/ASTM C136 within the following limits:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
3"	100
¾"	75 – 100
No. 4	20 – 100
No. 100	0 – 20
No. 200	0 – 6

2.04 DRAINAGE COURSE (AOT SPEC. 704.16)

- A. Rock for drainage applications shall be produced from natural gravels or crushed quarried rock and shall consist of clean, hard, sound, and durable material. It shall be obtained from approved sources and shall meet the following grading requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
1"	100
¾"	90 – 100
¾"	20 – 55
No. 4	0 – 10
No. 8	0 – 10

2.5. DENSE GRADED CRUSHED STONE

- A. Dense Graded Crushed Stone should consist of a well graded crushed run stone and should meet the requirements for Vermont AOT Standard Specifications Item 704.06 Dense Graded Crushed Stone for Subbase and the gradation requirements shown in Table 704.06A of the Vermont AOT Standard Specifications.

<u>Sieve Designation</u>	<u>Percent Finer by Weight</u>
3½"	100
3"	90 – 100
2"	75 – 100
1½"	50 – 80
1"	30 – 60
No. 4	15 – 40
No. 200	0 – 6

2.1. RECYCLED ASPHALT PAVEMENT (RAP) 1½" MINUS CRUSHED ASPHALT

- A. This material shall be free of Portland Cement and approved by the engineer prior to installation. This material shall not be mixed with gravel and shall meet the following grading requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieve</u>
2"	100
1½"	90 – 100
No. 4	30 – 60
No. 100	0 – 12
No. 200	0 – 6

2.6 SAND BORROW AND CUSHION

- A. Sand Borrow shall consist of material reasonably free from silt, loam, clay, or organic matter. It shall be obtained from approved sources and shall meet the requirements for Vermont AOT Standard Specifications and the gradation requirements shown in Table 703.03A of the Vermont AOT Standard Specifications.

<u>Sieve Designation</u>	<u>Percent Finer by Weight</u>
2"	100
1½"	90 – 100
¾"	70 – 100
No. 4	60 – 100
No. 100	0 – 20
No. 200	0 – 8

2.07 GEOTEXTILE

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 3; AASHTO M 288.
2. Grab Tensile Strength: 157 lbf; ASTM D 4632.
3. Sewn Seam Strength: 142 lbf; ASTM D 4632.
4. Tear Strength: 56 lbf; ASTM D 4533.
5. Puncture Strength: 56 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 70 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.5 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

- B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 3; AASHTO M 288.
2. Grab Tensile Strength: 200 lbf; ASTM D 4632.
3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
4. Tear Strength: 75 lbf; ASTM D 4533.
5. Puncture Strength: 90 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.
9. Weight: 4.0 oz/yd² minimum.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Identify known below grade utilities. Stake and flag locations.
- C. Maintain and protect existing utilities remaining which pass through work area.
- D. Upon discovery of unknown utility or concealed conditions, discontinue affected work; notify Engineer.

3.02 EROSION CONTROL

- A. Erosion control must be installed prior to beginning any earthwork operations.

3.03 TOPSOIL EXCAVATION

- A. Excavate topsoil from areas to be excavated, re-landscaped or regraded and stockpile in areas designated on site or as directed by the Engineer.
- B. Maintain the stockpile in a manner which will not obstruct the natural flow of drainage.

1. Maintain stockpile free from debris and trash.
2. Keep the topsoil damp to prevent dust and drying out.

3.04 SUBSOIL EXCAVATION

- A. Excavate subsoil from areas to be regraded in accordance with plans.
- B. Excavate subsoil required to accommodate site structures, construction operations, roads, and parking areas.
- C. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- D. Notify engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- E. Correct areas over-excavated by error as directed by the Engineer.
- 3.05 DITCHES
- A. Cut accurately to the cross-sections, grades, and elevations shown.
- B. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the work.
- C. Dispose of excavated materials as shown on the drawings or directed by the Engineer; except do not, in any case, deposit materials less than three feet from the edge of a ditch.

3.06 ROADWAY EMBANKMENTS AND BERMS

- A. When embankments are to be made on a hillside, the slope of the original ground on which the embankments are to be constructed shall be stepped and properly drained as the fill is constructed so that adverse movements of the slopes do not occur.
- B. Any excavated rock, ledge, boulders, and stone, except where required in the construction of other items or otherwise directed, shall be used in the construction of embankments to the extent of the project requirements and generally shall be placed so as to form the base of an embankment.
- C. Frozen material shall not be used in the construction of embankments, nor shall the embankments or successive layers of the embankments be placed upon frozen material. Placement of material other than rock shall stop when the sustained air temperature, below 32 degrees Fahrenheit, prohibits the obtaining of the required compaction. If the material is otherwise acceptable, it shall be stockpiled and reserved for future use when its condition is acceptable for use in embankments.
- D. When an embankment is to be constructed across a swamp, muck, or areas of unstable soils, the unsuitable material shall be excavated to reach soils of adequate bearing capacity and the embankment begun. Alternative methods, such as use of a stabilization fabric in place of excavation and backfill, may be utilized only after approval of same by the Engineer.
- E. Material being placed in embankments shall be placed in horizontal layers of uniform thickness across the full width of the embankment. Stumps, trees, rubbish, and other unsuitable material shall not be placed in embankments.
- F. Embankment areas shall be placed in eight-inch maximum lifts. Effective spreading equipment shall be used on each layer to obtain uniform thickness prior to compaction. Each layer shall be kept crowned to shed water to the outside edge of embankment and continuous leveling and manipulating will be required to assure uniform density. The entire area of each layer shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors, or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.
- G. All fill material shall be compacted at a moisture content suitable for obtaining the required density. In no case shall the moisture content in each layer under construction be more than three percent above the optimum moisture content and shall be less than that quantity that will cause the embankment to become unstable during compaction. Sponginess, shoving, or other displacement under heavy equipment shall be considered evidence for an engineering determination of lack of stability under this requirement, and further placement of material in the area affected shall be stopped or retarded to allow the material to stabilize.
- H. When the moisture content of the material in the layer under construction is less than the amount necessary to obtain satisfactory compaction by mechanical compaction methods, water shall be added by pressure distributors or other approved equipment. Water may also be added in excavation or borrow pits. The water shall be uniformly and thoroughly incorporated into the soil by disc, harrowing, blading, or by other approved methods. This manipulation may be omitted

for sands and gravel. When the moisture content of the material is in excess of three percent above optimum moisture content, dry material shall be thoroughly incorporated into the wet material, or the wet material shall be aerated by disking, harrowing, blading, rotary mixing, or by other approved methods; or compaction of the layer of wet material shall be deferred until the layer has dried to the required moisture content by evaporation.

3.07 COMPACTION REQUIREMENTS

- A. All backfills and fills shall be compacted in even lifts (12" maximum) to attain the required densities as follows:

<u>Location</u>	<u>Modified Proctor ASTM D-1557</u>
Subgrade (8") and Gravel for Roads and Parking Lots	95%
General Embankments	90%

UTILITY TRENCHING AND BACKFILLING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:

1. Trench, backfill, and compact as specified herein and as needed for installation of underground utilities.

1.02 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. Comply with all requirements of governmental agencies having jurisdiction.

PART 2 – PRODUCTS

2.01 SOIL MATERIALS

- A. Fill and backfill materials:

1. Provide backfill materials free from organic matter and deleterious substances, containing no rocks or lumps over 6" in greatest dimension.
2. Fill material is subject to the approval of the Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soil free from roots and other deleterious matter.
3. Do not permit rocks having a dimension greater than 2" within 2' of the outside of pipe.
4. Cohesionless material used for backfill: Provide sand free from organic material and other foreign matter, and as approved by the Engineer.

PART 3 – EXECUTION

3.01 PROCEDURES

- A. Existing Utilities:

1. Unless shown to be removed, protect active utility lines shown on the drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the Owner.
2. When existing underground utilities, which are not scheduled for removal or abandonment, are encountered in the excavation, they shall be adequately supported and protected from damage. Any damage to utilities shall be repaired promptly at no additional cost to the Owner.
3. If the service is interrupted as a result of work under this section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
4. If existing utilities are found to interfere with the permanent facilities being constructed under this section, immediately notify the Engineer and secure his instructions.
5. Do not proceed with permanent relocation of utilities until written instructions are received from the Engineer.

- B. Protection of persons and property:

1. Barricade open holes and depressions occurring as part of the work, and post warning lights on property adjacent to or with public access.
2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this section.

- C. Dewatering: The Contractor, at all times, shall conduct his operations so as to prevent the accumulation of water, ice, and snow in excavations or in the vicinity of excavated areas, and to prevent water from interfering with the progress of quality of the work. Under no conditions shall water be allowed to rise in open trenches after pipe has been placed.

- D. Accumulated water, ice, and snow shall be promptly removed and disposed of by pumping or other approved means. Disposal shall be carried out in a manner which will not create a hazard to public health, nor cause injury to public or private property, work completed or in progress, or public streets, nor cause any interference in the use of streets and road by the public. Pipes under construction shall not be used for drainage of excavations.

- E. Maintain access to adjacent areas at all time.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

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CLIENT:

BURLINGTON PARKS,
RECREATION &
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645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

311 NORTH AVE.
MULTI-USE PATH

311 NORTH AVE.
BURLINGTON, VT

DATE	CHECKED	REVISION
7/19/24	DSM	PERMIT REVIEW SUBMITTAL

SPECIFICATIONS

DATE

JUL., 2024

SCALE

NONE

PROJ. NO.

18118

DRAWING NUMBER

C5.0

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CURBS AND WALKS

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
- 1. Concrete Curbs
 - 2. Concrete Sidewalks

PART 2 – PRODUCTS

2.01 CONCRETE

- A. The concrete shall have a minimum compressive strength of 3,500 psi at 28 days and shall conform to the requirements of VTrans specification 541.03A Class B mix.

2.02 ADMIXTURES

- A. Air-entraining admixture shall meet or exceed ASTM C260. Air content shall range from minimum of 5% to 7%.

2.03 EXPANSION JOINT MATERIAL

- A. Expansion joint material shall be premolded bituminous filler conforming to ASTM D994.

PART 3 – EXECUTION

3.01 CONCRETE CURBS

- A. Excavation shall be made to the required depth and the base material upon which the curb is to be set shall be compacted to a firm, even surface. All soft and unsuitable material shall be removed and replaced with suitable material which shall be thoroughly compacted.

- B. Installation: The curb shall be set so that the front top line is in close conformity to the line and grade required. All space under the curbing shall be filled and thoroughly tamped with material meeting the requirements of the material for the bed course.

- C. Concrete Mixing and Placing: Compaction of concrete placed in the forms shall be by spading or other approved methods. Forms shall be left in place for 24 hours or until the concrete has set sufficiently so that they can be removed without injury to the curbing. Upon removal of the forms, the curb shall be immediately rubbed down to a smooth and uniform surface but no plastering will be permitted. For this work, competent and skillful finishers shall be employed.

- D. Sections: Curbing shall be constructed in sections having a uniform length of ten feet, unless otherwise ordered. Sections shall be separated by open joints 1/8 inch wide except at expansion joints.

- E. Expansion Joints: Expansion joints shall be formed at the intervals shown on the plans using a pre-formed expansion joint filler having a thickness of 1/4 inch cut to conform to the cross-section of the curb. They shall be constructed at 60 foot intervals or as directed by the Engineer. When the curb is constructed adjacent to or on concrete pavement, expansion joints shall be located opposite or at expansion joints in the pavement.

- F. Backfilling: After the concrete has set sufficiently, the spaces in front and back of the curb shall be filled to the required elevation with layers of not more than six inches of the same material as the bedding and thoroughly tamped.

- G. The Contractor shall protect the curb and keep it in alignment until the completion of the contract. Each curb which is damaged at any time previous to final acceptance of the work shall be removed and replaced with satisfactory curb at the Contractor's expense.

- H. Anti-spalling compound: When the initial curbing period is over (approximately 28 days after placement), all exposed surfaces shall receive two (2) coats of anti-spalling compound. The surfaces shall be cleaned, and then the compound shall be applied; the first coat at a rate of .025 gallons per square yard, and the second at a rate of .015 gallons per square yard. Anti-spalling compound shall only be applied when the air temperature is above 50 degrees Fahrenheit.

3.02 GRANITE CURBING

- A. Sloped granite curbing shall be hard, durable, reasonably uniform in appearance and free from weakening seams. Surfaces shall be as follows:

- Top:6” wide, sawn true plane.
- Front Face: Smooth quarry split, right angle top (No drill holes showing in top 10”)
- Back Face Exposed: Plane parallel with front face, straight split to 1 1/2” below surface.
- End Face Exposed: Square planes on top and face.
- Joints Exposed: Maximum 1” and pointed with mortar. Exposed faces shall be finished with a jointer. Remove all excess mortar from exposed faces.
- Length: Minimum length 3’.

Provide curved curbing to conform to radii indicated on the Contract Plans.

3.03 CONCRETE SIDEWALKS

- A. Excavation and Foundation: Excavation shall be made to the required depth and to a width that will permit placing of bed course material and the installation and bracing of the forms. Bed course material shall be placed to the depth and section shown on the plans. When the layer required exceeds six inches, two layers of approximately equal depth shall be placed and each layer thoroughly compacted so that it is hard and unyielding. The wetting of bed course material may be required to obtain the compaction.

- B. Finishing: The surface shall be finished with a wooden float. No plastering will be permitted. The edges shall be rounded with an edger having a radius of 1/4 inch. The surface of

the sidewalk, after the floating and screeding process is completed, shall be finished with a broom of a type approved by the Engineer, drawn over the surface parallel to the transverse joints. Special texturing on sidewalk ramps shall be installed in accordance with construction plan details.

- C. Joints: Unless otherwise indicated on the plans or directed by the Engineer, expansion joints shall not be used in the sidewalk. Expansion joints shall be formed around all appurtenances such as manholes, utility poles and other obstructions extending into and through the sidewalk. Pre-formed joint filler 1/4 inch thick shall be installed in these joints. Expansion joint filler of the thickness indicated shall be installed between concrete sidewalks and any fixed structure such as a building or bridge. This expansion joint material shall extend for the full depth of the walk. Between the expansion joints, the sidewalk shall be divided at intervals of 5 feet by dummy joints formed by sawcutting or other acceptable means as directed to provide grooves approximately 1/16 inch wide and at least 1/3 of the depth.

When the sidewalk is constructed next to a concrete curb expansion, joint material shall be placed between sidewalk and curb for the depth of the sidewalk.

- D. Curing: During the curing period all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

- E. Backfilling: Before the concrete has been opened to traffic, the space on each side of the sidewalk shall be backfilled to the required elevation with suitable material, firmly compacted and neatly graded.

LANDSCAPE GRADING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:

- 1. Finish grading; bring rough grade in areas to design elevations as shown on the drawings.
- 2. Topsoil: Work shall consist of furnishing, placing and shaping topsoil, or placing, spreading, and shaping topsoil form stockpiles or stripped areas.

PART 2 – PRODUCTS

2.01 TOPSOIL

- A. Topsoil shall be loose, friable, reasonably free of admixtures of subsoil, free from refuses, stumps, roots, brush, weeds, rocks, and stones 1 1/4 inch in overall dimensions. The topsoil shall also be free from any material that will prevent the formation of a suitable seedbed or prevent seed germination and plant growth. It shall contain not less than three (3) nor more than twenty (20) percent organic matter. Any material which has become mixed with undue amounts of subsoil during any operation at the source or during placing or spreading will be rejected and shall be replaced by the Contractor with acceptable material.

PART 3 – EXECUTION

3.01 SUBGRADE PREPARATION

- A. Clean subgrade of all stumps, stones, roots, trash or other materials which might hinder proper tillage or spreading.
- B. All surfaces on which topsoil is to be placed shall be graded to a reasonably true surface and scarified by raking, discing or other approved means to a minimum depth of two inches before placing topsoil.

3.03 PLACING TOPSOIL

- A. Minimum final depth of topsoil shall be 4 inches.
- B. Place topsoil when seeding operations can closely follow spreading operations. Use topsoil in relatively dry state.
- C. Topsoil shall be spread and shaped to the lines and grades shown on the plans, or as directed by the Engineer. The depth stated in the contract to which the topsoil is to be placed is that required after final rolling of the material has taken place. All stones, roots and debris over 1¼ inch in diameter along with any sodding weeds and other undesirable material shall be removed.
- D. After shaping and grading, all trucks and other equipment shall be excluded from the topsoiled area to prevent excessive compaction. The Contractor shall perform such work as required to provide a friable surface for seed germination and plant growth prior to seeding.
- E. It shall be the Contractor's responsibility to restore to the line, grade and surface all eroded areas with approved material and to keep topsoiled areas in acceptable condition until the completion of the work.

SEEDING

PART 1 – GENERAL

1.1 Section Includes:

- A. Seeding.

- 1. Furnish all labor, materials and equipment to complete all seeding work as shown on the drawings and specified herein.
- 2. Except where otherwise shown or specified, the Contractor shall seed all areas where new contours are shown on the drawings and all areas where existing ground cover has been disturbed by the Contractor's operations.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 PROJECT CONDITIONS

Planting Restrictions: Seeding and initial fertilizing shall be done between May 1st and September 15th unless otherwise authorized. Seeding shall not be done during windy weather or when the ground is frozen, excessively wet, or otherwise untilable. If seeding is done during July or August, additional mulch material may be required. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

PART 2 – PRODUCTS

2.1 SEED

- A. Conservation Seed Mix:

Kind of Seed	Minimum Purity	Minimum Germination	Lbs./Acre
Creeping Red Fescue	98%	85%	22.5
Tall Fescue	95%	95%	22.5
Red Top	95%	90%	3
Birdsfoot Trefoil	98%	85%	9
Annual Ryegrass	95%	85%	3
TOTAL =			60

2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural limestone containing a minimum of 85 percent calcium carbonate equivalent and as follows:

- 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.

2.3 FERTILIZER

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium.

2.4 MULCHES

- A. Mulch: Provide air-dry, clean, mildew- and seed-free, hay or threshed straw of wheat, rye, oats, or barley.

- B. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 2 to 5 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

- 1. Organic Matter Content: 50 to 60 percent of dry weight.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

- 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
- 2. Protect grade stakes set by others until directed to remove them.

- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

- C. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter.

- 1. Apply fertilizer directly to subgrade before loosening.
 - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
 - b. Mix lime with dry soil before mixing fertilizer.

- D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

- E. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

- F. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.2 APPLICATION RATES

- A. When a soil test is not available, the following minimum amounts should be applied:

- 1. Agricultural limestone: 2 tons/acre.
- 2. Nitrogen (N): 50 lbs./acre.
- 3. Phosphate: 100 lbs./acre.
- 4. Potash: 100 lbs./acre.
 - a. This is the equivalent of 500 lbs./acre of 10–20–20 fertilizer or 1,000 lbs./acre of 5–10–10.
- 5. Hay mulch: 2 tons/acre.

3.3 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.

- 1. Do not use wet seed or seed that is moldy or otherwise damaged.

- 2. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

- B. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

- C. Protect seeded areas with slopes exceeding 1:3 with erosion-control blankets installed and stapled according to manufacturer's written instructions.

- D. Protect seeded areas from hot, dry weather or drying winds by applying mulch within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a depth of 3/16 inch, and roll surface smooth.

3.4 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.

- 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.

- 2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.

3.5 MAINTENANCE

- A. Maintain and establish seeding by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

- 1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

- 2. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

- a. Seeded Areas: 90 days from date of Substantial Completion.

- b. When initial maintenance period has not elapsed before end of planting season, or if seeding is not fully established, continue maintenance during next planting season.

3.6 SATISFACTORY CONDITIONS

- A. Installations shall meet the following criteria as determined by Engineer/Owner:

- 1. Satisfactory Seeded Area: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.

- B. Use specified materials to reestablish area that do not comply with requirements and continue maintenance until areas are satisfactory.

3.7 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris, created by work. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after lawn is established.

- C. Remove nondegradable erosion-control measures after grass establishment period.

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

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DSM

APPROVED

DSM

CLIENT:

**BURLINGTON PARKS,
RECREATION &
WATERFRONT**
**645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401**

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

**311 NORTH AVE.
BURLINGTON, VT**

DATE	CHECKED	REVISION
7/18/24	DSM	PERMIT REVIEW SUBMITTAL

SPECIFICATIONS

DATE

JUL., 2024

SCALE

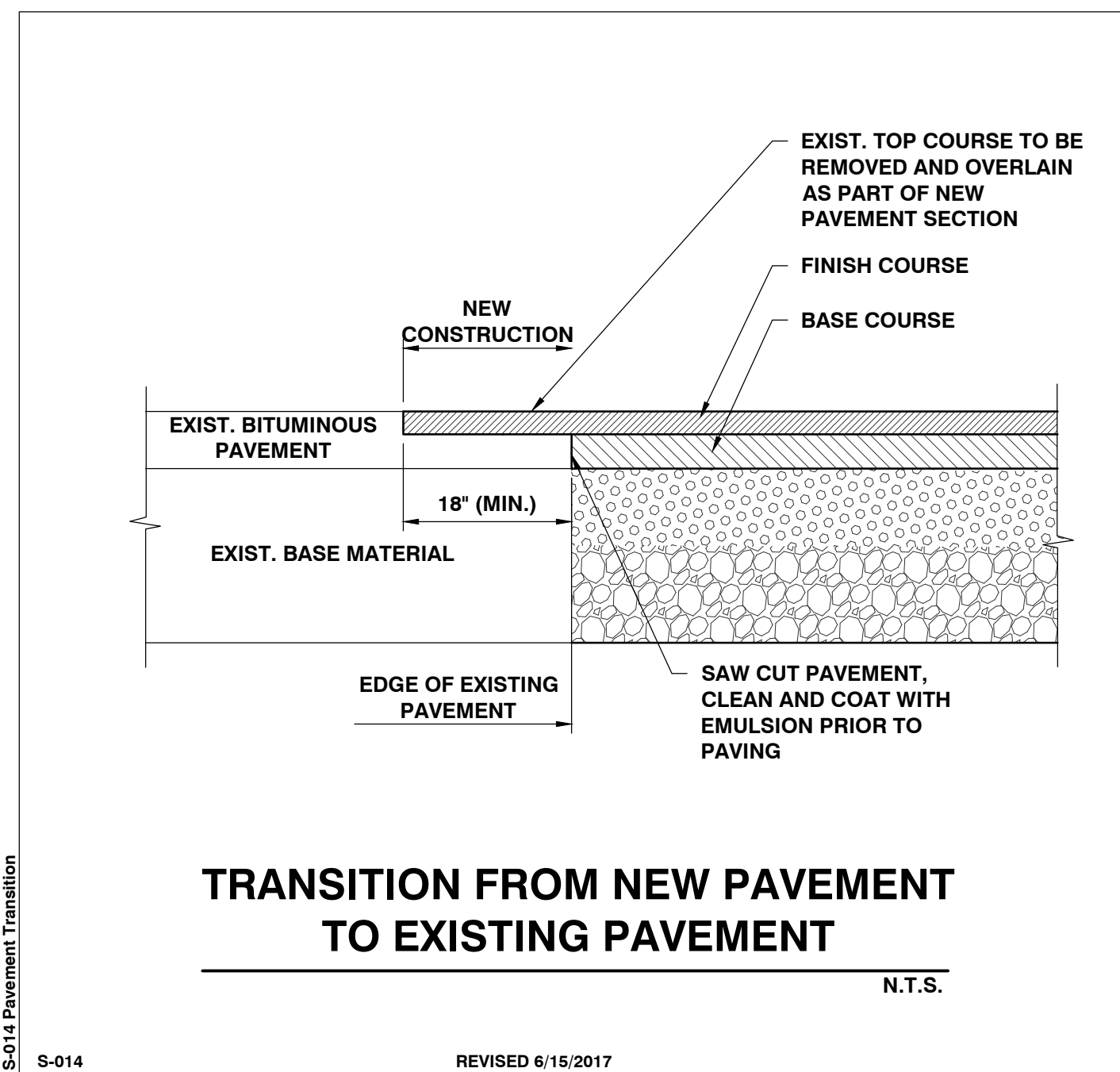
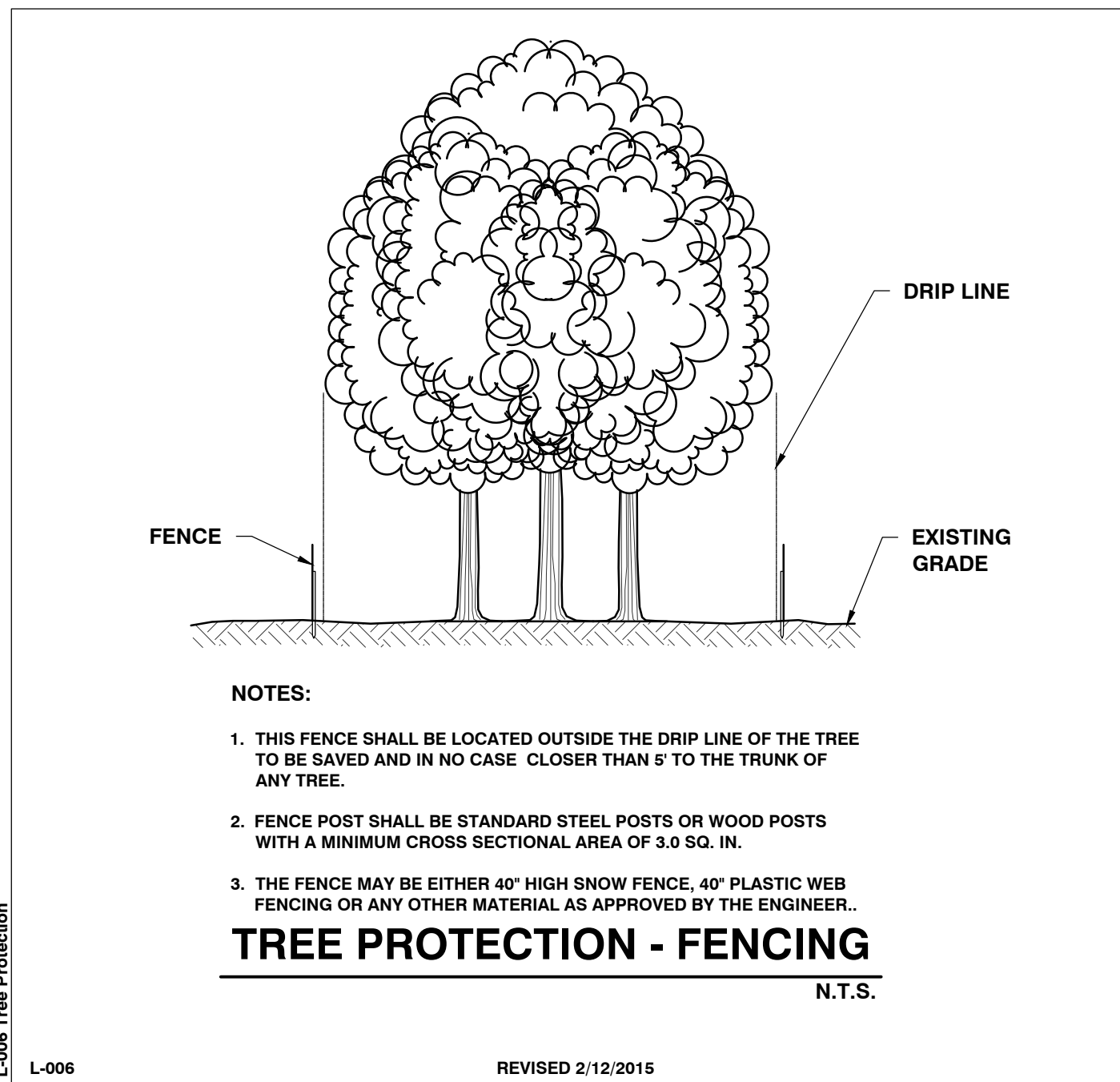
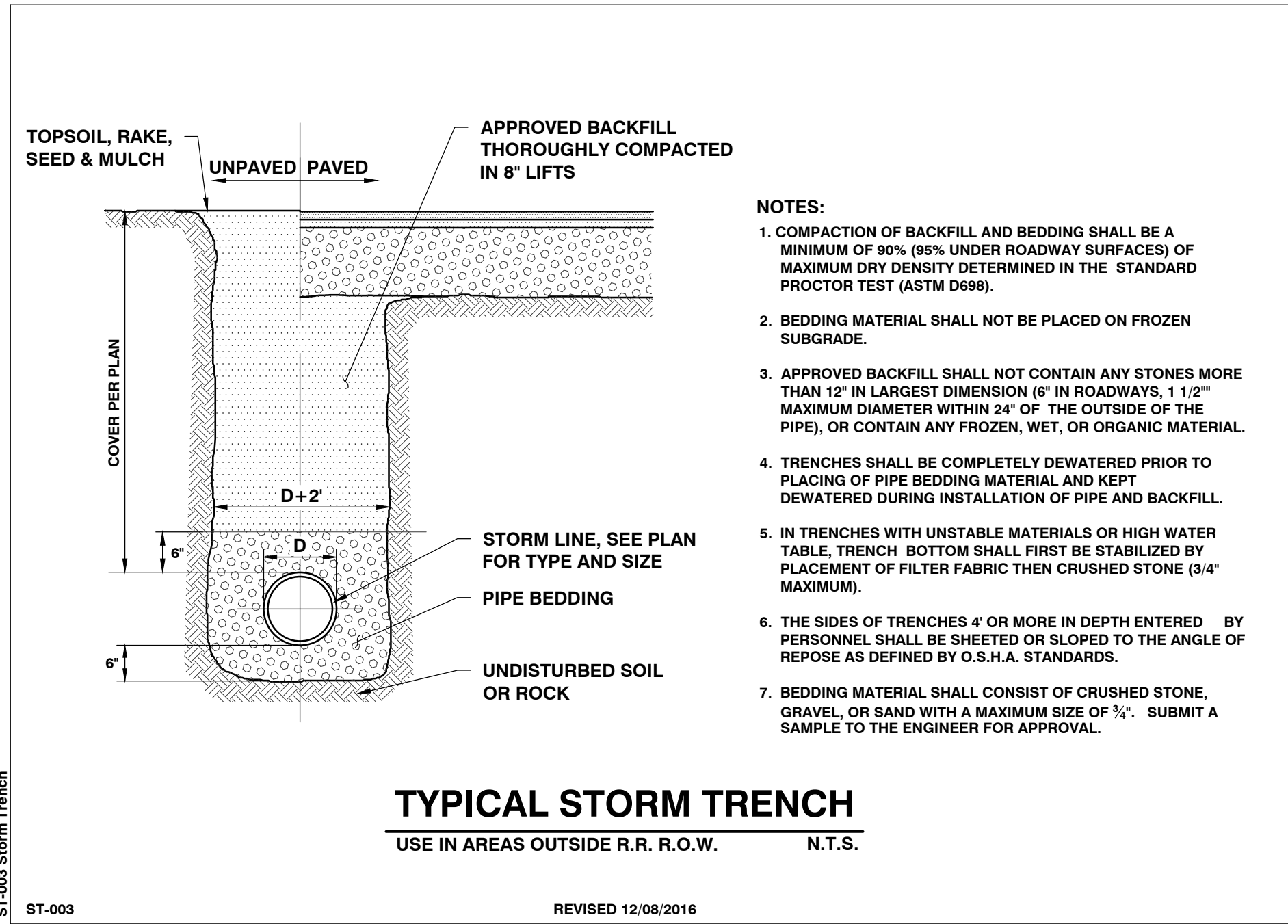
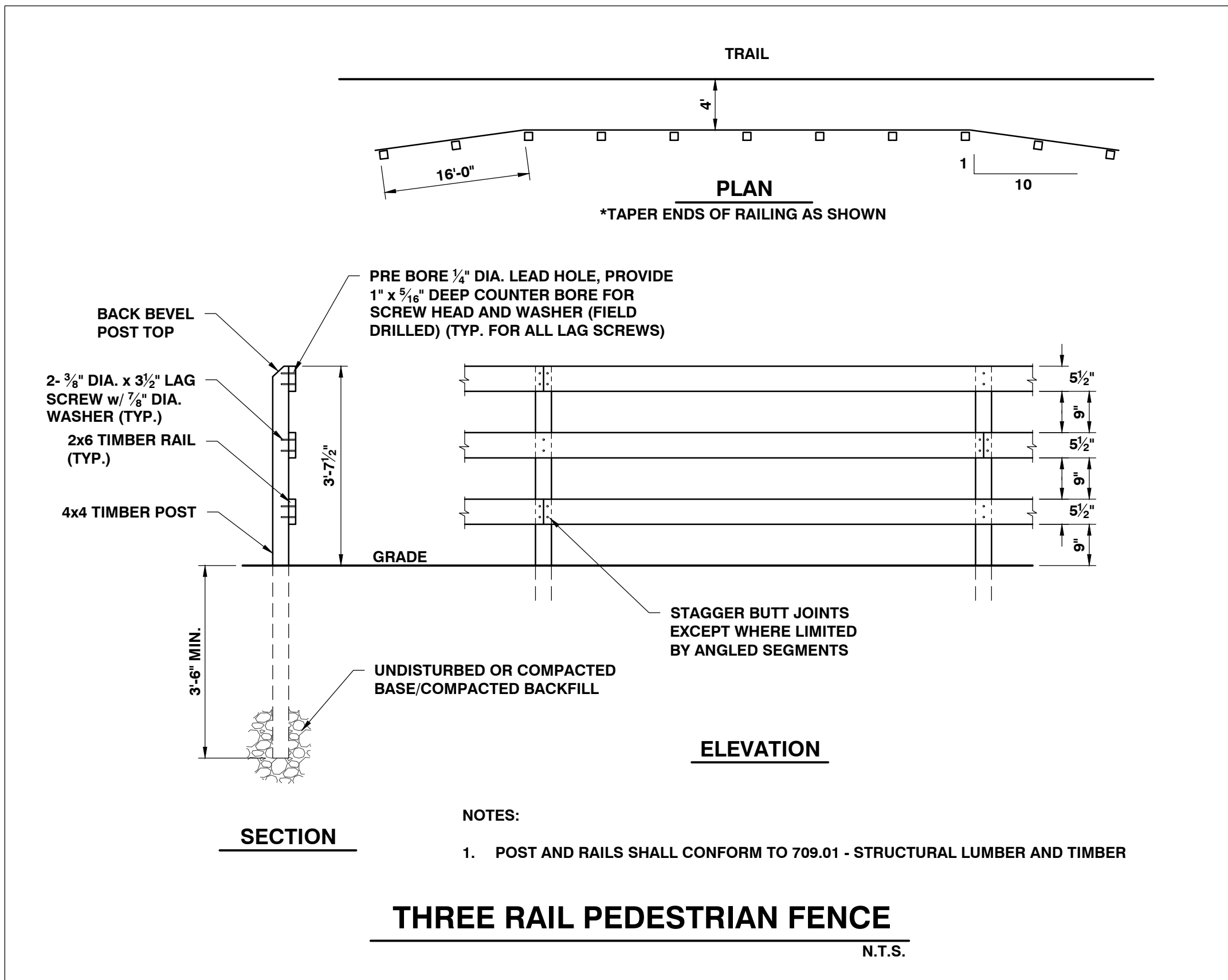
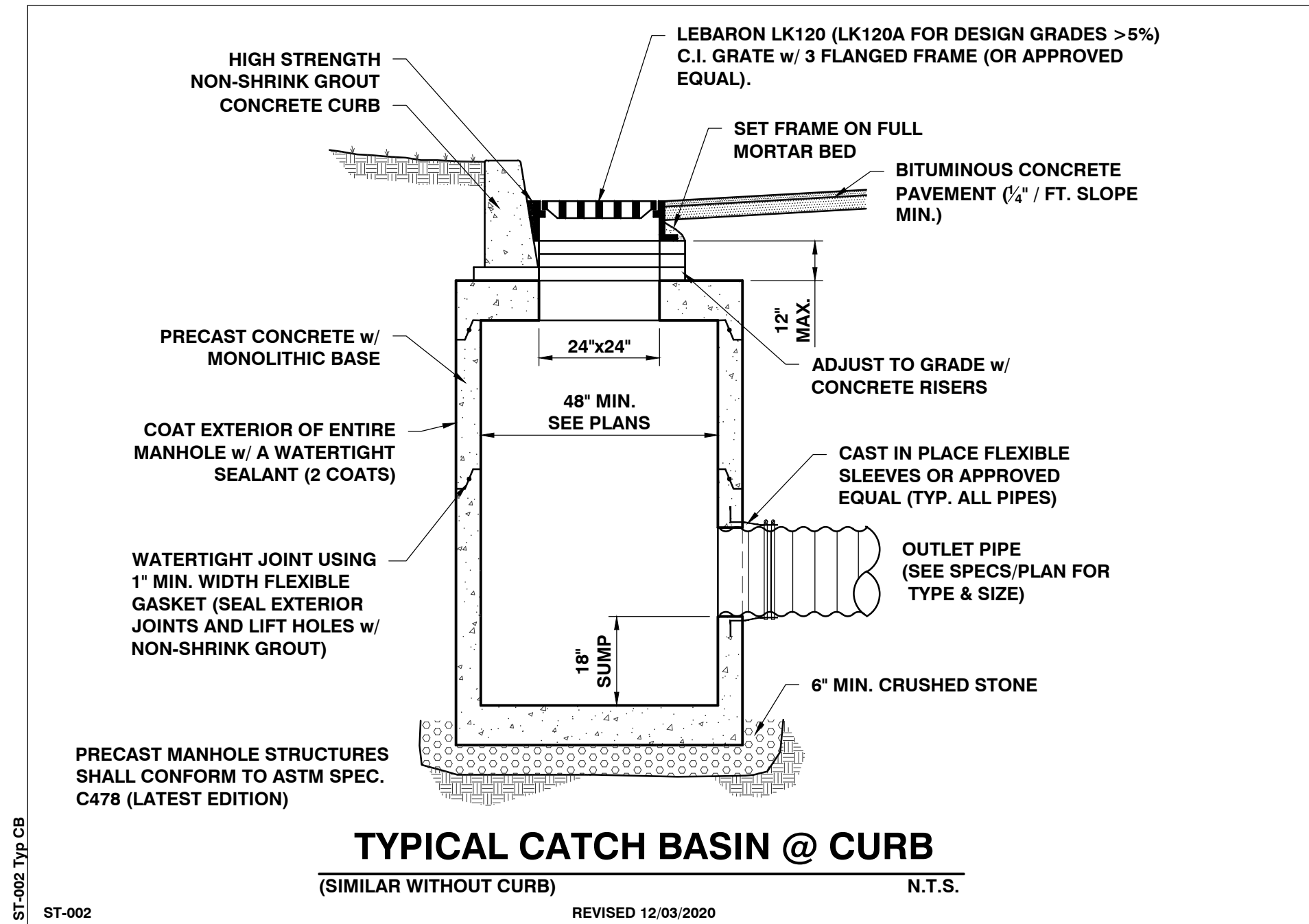
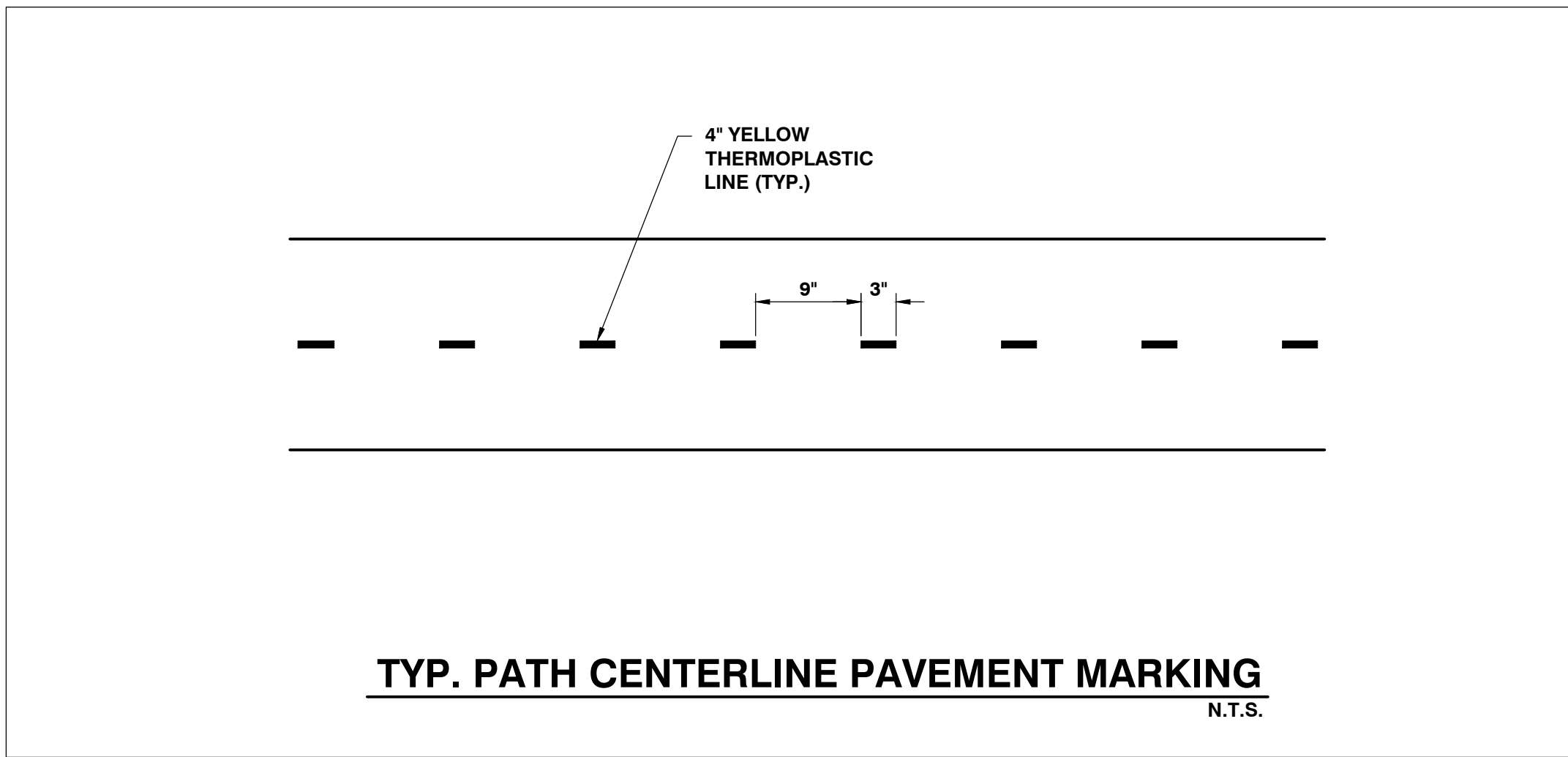
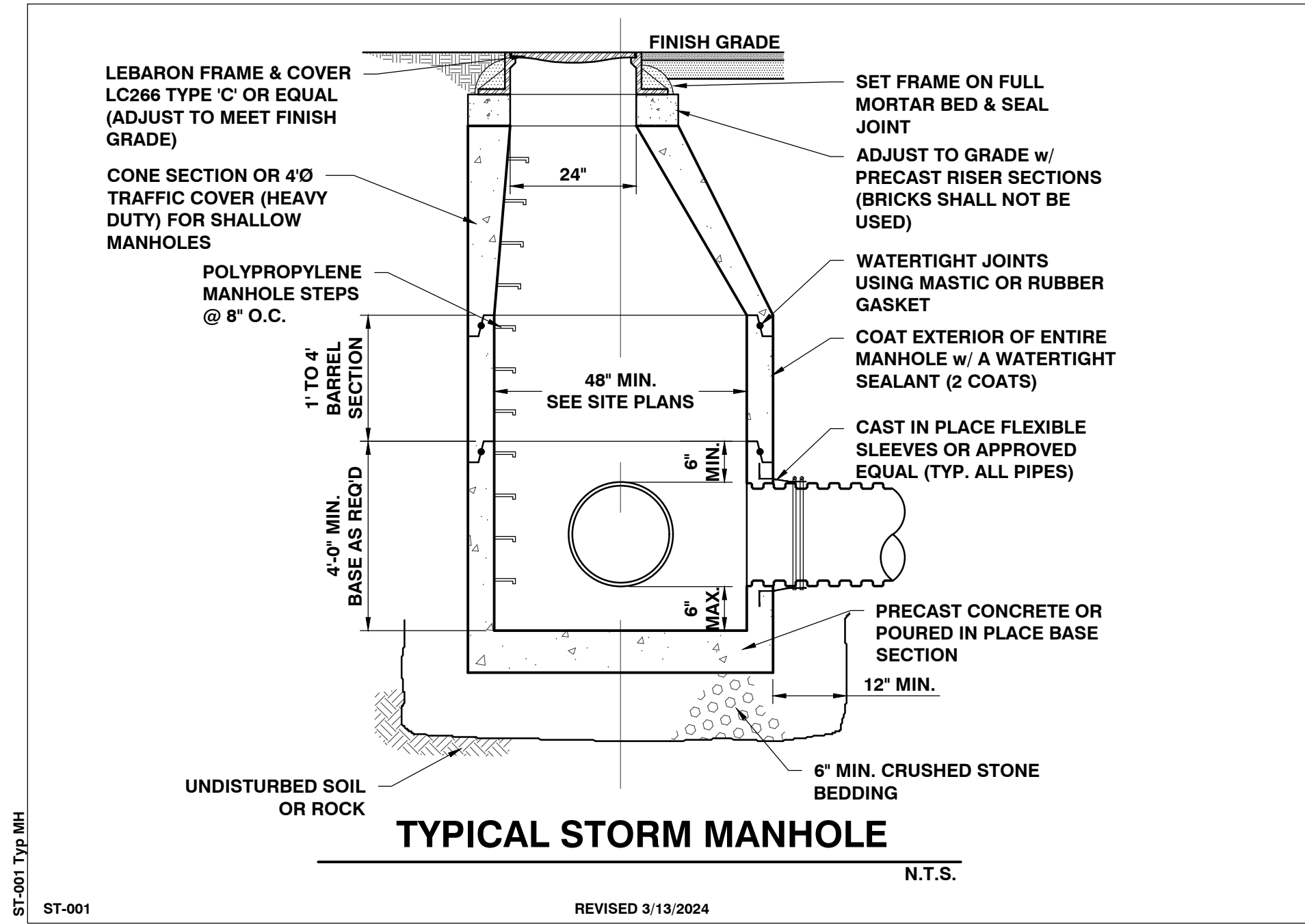
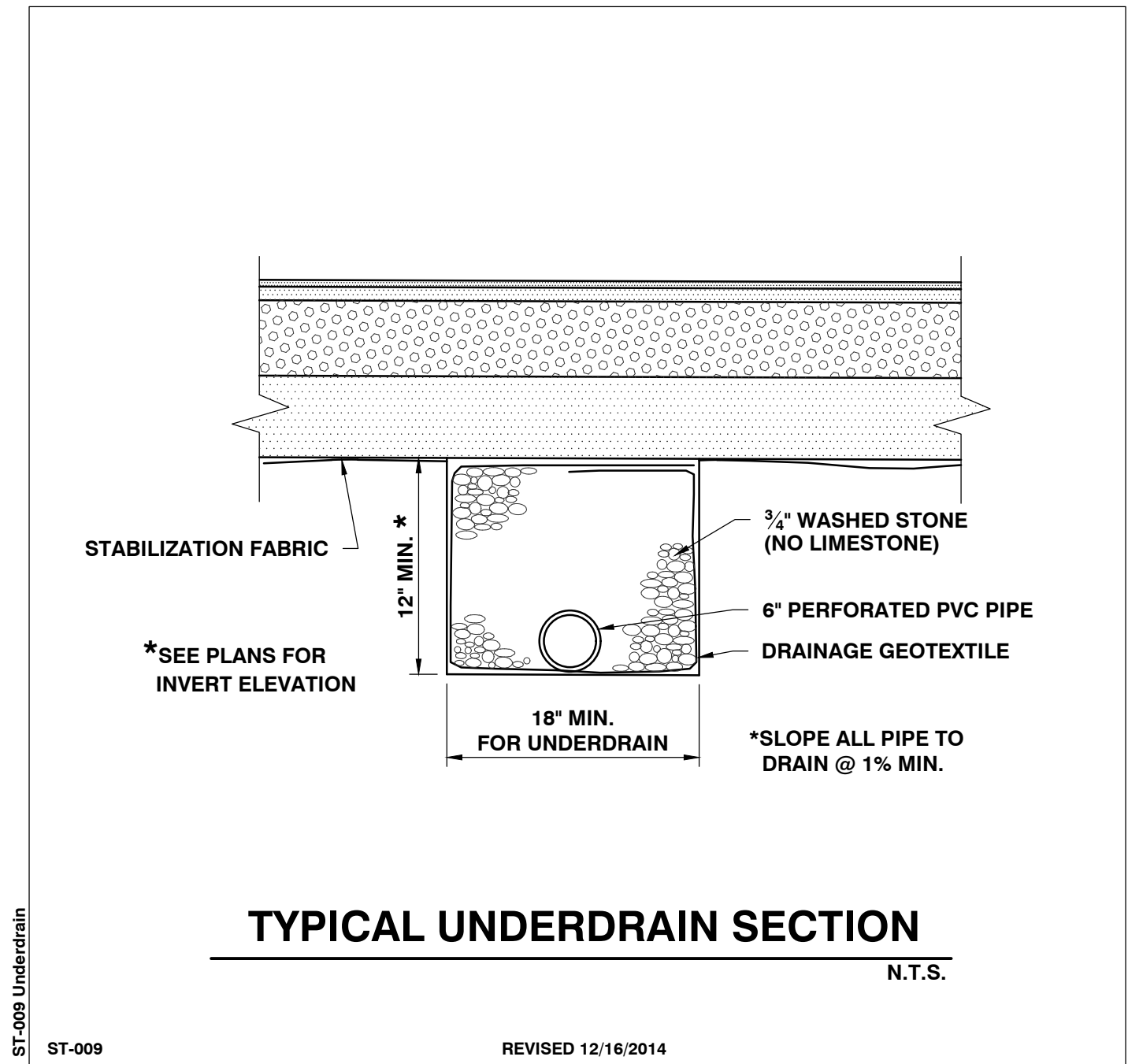
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PROJ. NO.

18118

DRAWING NUMBER

C5.2



SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
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CLIENT:

**BURLINGTON PARKS,
RECREATION &
WATERFRONT**
645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

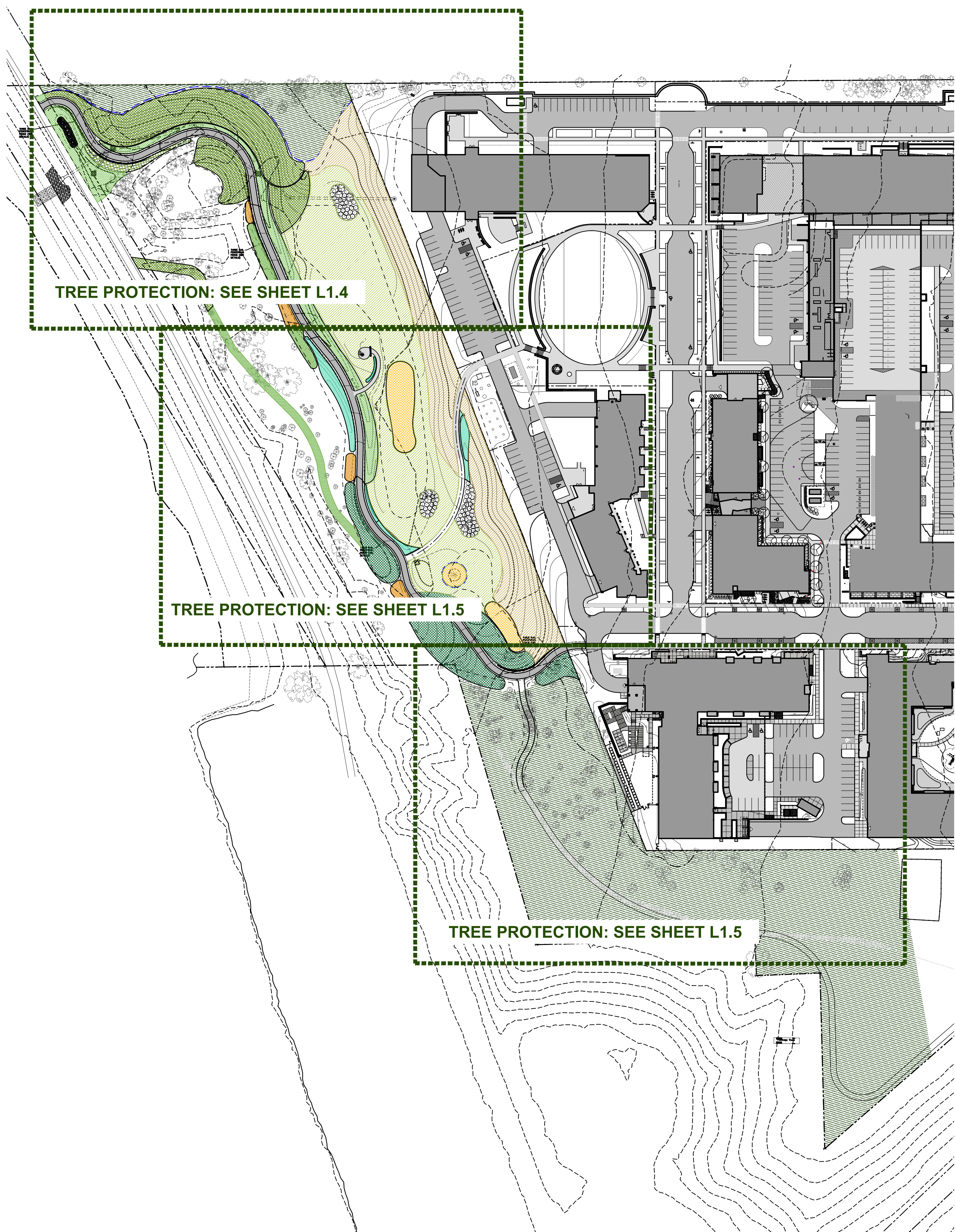
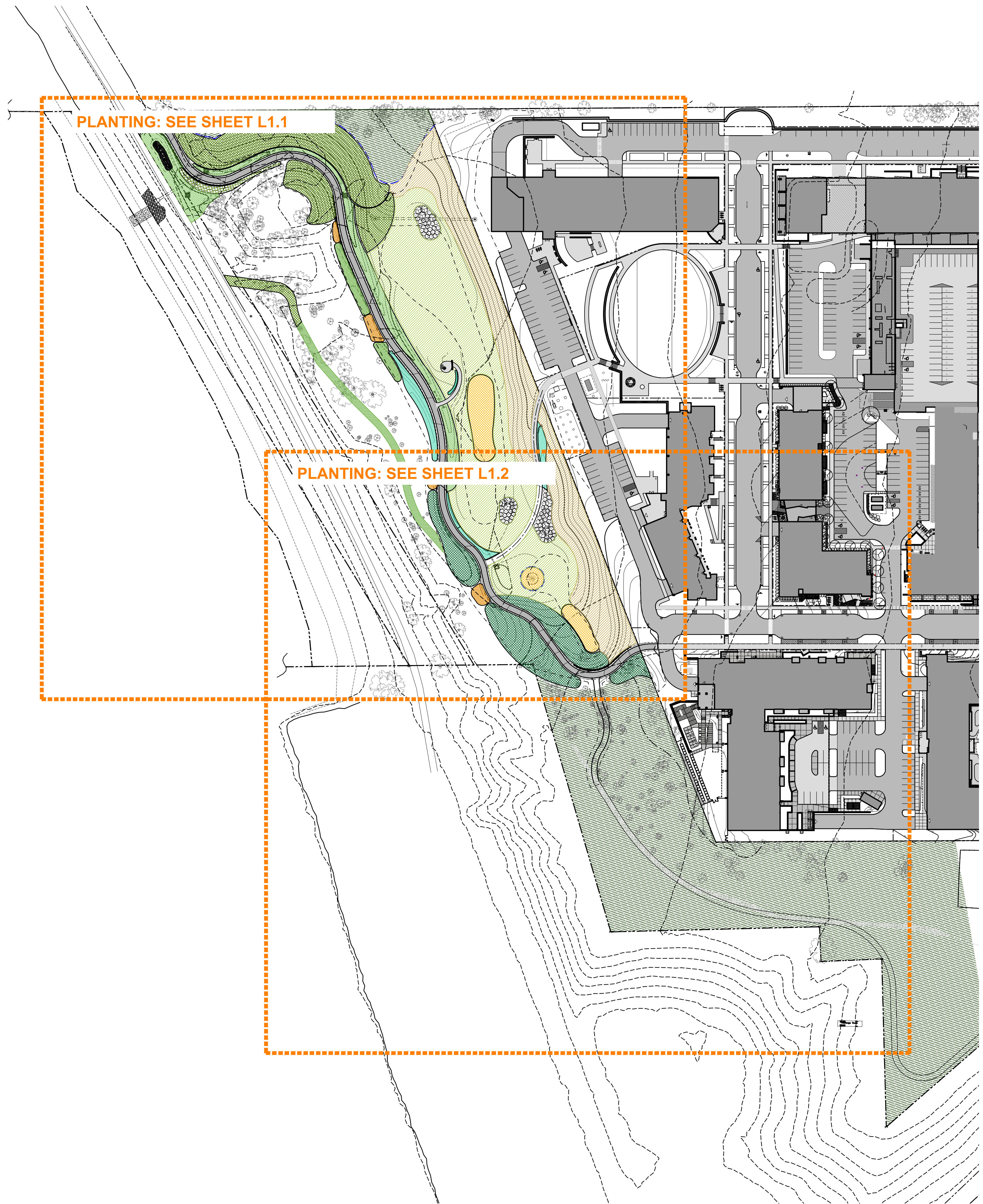
**311 NORTH AVE.
MULTI-USE PATH**
311 NORTH AVE.
BURLINGTON, VT

DATE	CHECKED	REVISION

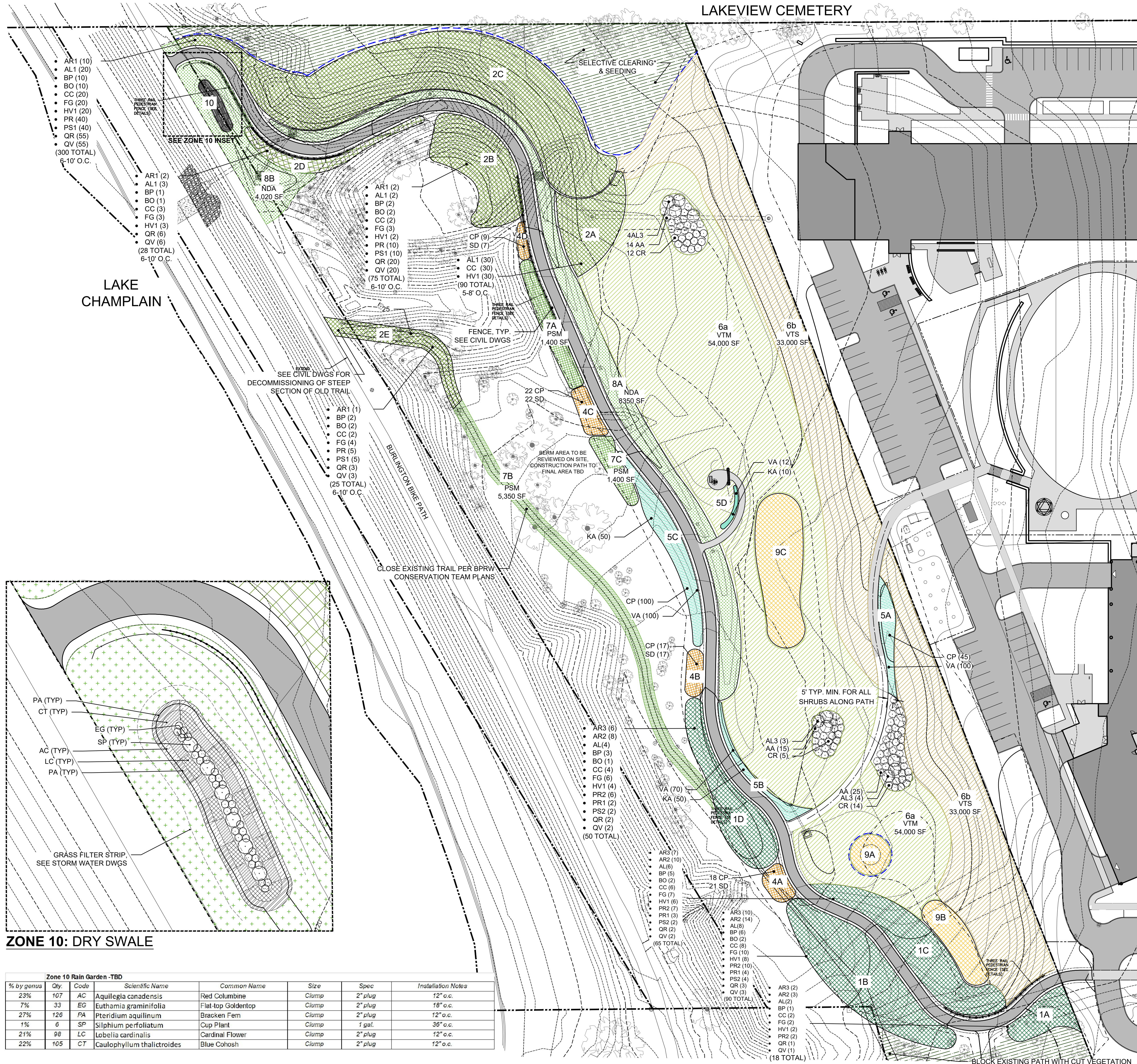
DETAILS

DATE
JUL., 2024
SCALE
AS SHOWN
PROJ. NO.
18118

DRAWING NUMBER
C4.1



LAKEVIEW CEMETERY



 ZONE 1: RED MAPLE & BIRCH DOMINANT FOREST

TREES SPACED AN AVERAGE OF 9' O.C. + EROSION CONTROL SEED MIX PER CIVIL PLANS

Zone 1 - Maple dominant forest						Spec	Installation Notes
% by genus	Qty.	Code	Scientific Name	Common Name	Size		
27%	25	AR3	Acer rubrum - large	Red Maple	4'-6'	bareroot or container	8-12' spacing, 9' on avg. Locate stems a minimum of 5' away from shoulder of bike path
	35	AR2	Acer rubrum - small	Red Maple	3'-4'		
9%	20	AL2	Amelanchier laevis	Smooth Shadbush	3'-4'		
9%	15	BP	Betula papyrifera	Paper Birch	3'-4'		
	5	BO	Betula populifolia	Gray Birch	3'-4'		
9%	20	CC	Corylus cornuta	Beaked Hazelnut	2'-3'		
11%	25	FG	Fagus grandifolia	American Beech	2'-3'		
9%	20	HV1	Hamamelis virginiana	Witchazel	2'-3'		
19%	25	PR2	Pinus rigida	Pitch pine	4'-6'		
	9	PR1	Pinus rigida	Pitch pine	2'-3'		
	8	PS2	Pinus strobus	White pine	3'-4'		
7%	8	QR	Quercus rubra	Red Oak	3'-4'		
	8	QV	Quercus velutina	Black Oak	12-18"		

 ZONE 2: RED & BLACK OAK DOMINANT FOREST

TREES SPACED AN AVERAGE OF 8' O.C. + EROSION CONTROL SEED MIX PER CIVIL PLANS

Zone 2 Oak Dominant forest						Spec	Installation Notes
% by genus	Qty.	Code	Scientific Name	Common Name	Size		
3%	15	AR1	Acer rubrum	Red Maple	2'-3'	bare root or container	5'-10" spacing, 8" on average Locate stems a minimum of 5' away from shoulder of bike path
11%	55	AL1	Amelanchier laevis	Smooth Shadbush	2'-3'		
6%	15	BP	Betula papyrifera	Paper Birch	2'-3'		
	15	BO	Betula populifolia	Gray Birch	2'-3'		
11%	55	CC	Corylus cornuta	Beaked Hazelnut	2'-3'		
6%	30	FG	Fagus grandifolia	American Beech	2'-3'		
11%	55	HV1	Hamamelis virginiana	Witchazel	2'-3'		
21%	55	PR	Pinus rigida	Pitch pine	2'-3'		
	55	PS1	Pinus strobus	White pine	2'-3'		
32%	84	OR	Quercus rubra	Red Oak	3'-4'		
	84	QV	Quercus velutina	Black Oak	12'-18"		

ZONE 3: LARGE SHRUBS ISLANDS IN MEADOW

SMALL TREES / LARGE SHRUBS, LARGER STOCK TIGHTLY SPACED, NO SEED MIX

Zone 3 Large Shrub Groupings in Meadow							
% by genus	Qty	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
56%	54	AA	Aronia arbutifolia	Red Chokeberry	3-4'Ht.	B&B or Cont.	5-7' o.c. center min. 5' off path
11%	11	AL3	Amelanchier laevis	Smooth Shadblow	5-6'Ht.	B&B multi-stem	7-8' o.c.
32%	31	CR	Cornus racemosa	Gray Dogwood	3-4' Ht.	B&B multi-stem	5-7' o.c.

 ZONE 4: FOREST EDGE SHRUB PLANTING

MEDIUM AND LARGE SHRUBS, NO SEED MIX

% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
50%	88	CP2	Comptonia peregrina	Sweet Fern	2-3'	#2 Cont.	4" o.c. centers min. 24" off shoulder
50%	66	KL	Salix discolor	Pussy Willow	3-4'	#3 Cont.	4" o.c. centers min. 24" off shoulder
	132						

 ZONE 5: LOW FLOWERING AND EDIBLE SHRUBS

MULCHED PLANT BED, NO SEED BED

% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
28%	145	GP1	Comptonia peregrina	Sweet Fern	18-24"	#1 Cont.	4" o.c. centers min. 24" off shoulder
19%	100	KA	Kalmia angustifolia	Sheep Laurel	2-3"	#2 Cont.	3" o.c. centers min. 18" off shoulder
52%	270	VA	Vaccinium angustifolium	Low sweet blueberry	12-18"	#2 Cont.	2" o.c. center min. 12" off shoulder
	515						

 ZONE 6a: NATIVE PRAIRIE SEED MIX

MIX OF NATIVE WILDFLOWERS + NATIVE GRASSES
MOW ANNUALLY IN FALL TO PREVENT GROWTH OF WOODY VEGETATION

Zone 6a Native Prairie Seed Mix				
Qty.	Code	Seed Mix	Spec	Installation Notes
45.6	VTM	Ernst Conservation Seeds Inc. Custom Mix, Mesic to Dry Vermont Meadow*	1b s	Apply 20lbs per acre

 ZONE 6b: NATIVE DRY SLOPE PRAIRIE SEED MIX

MIX OF NATIVE WILDFLOWERS + NATIVE GRASSES FOR EROSION CONTROL
MOW ANNUALLY IN FALL TO PREVENT GROWTH OF WOODY VEGETATION

Zone 6b Dry Slope Prairie Seed Mix				
Qty.	Code	Seed Mix	Spec	Installation Notes
45.4	VTS	Ernst Conservation Seeds Inc. Custom Mix, Mesic to Dry Vermont Slope**	lbs	Apply 60lbs per acre

 ZONE 7: PART SHADE SEED MIX

Qty	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
4.25	PSM	Vermont Wildflower Farm - Part Shade Roadside Wildflower and Grass Mix			lb/s	Apply 1/2 lb per 1,000 SF

ZONE 8: NATIVE DETENTION AREA GRASSES MIX

MIX OF NATIVE GRASSES AND GRASSLIKE SPECIES FORMULATED FOR
STORMWATER MANAGEMENT

Qty	Code	Seed Mix	Size	Spec	Installation Notes
6.25	NDA	Ernst Conservation Native Detention Area Mix	n/a	lbs	Apply 1/2lb per 1,000 SF

 ZONE 9 BIRCH & WHITE PINE PRESERVATION AREAS

SELECTIVE CLEARING & SEEDING
9A - EXISTING PINE TO BE PRESERVED
9B & 9C - CLEARING* AND TREE PROTECTION TO BE REVIEWED AND APPROVED BY
CITY ARBORIST AND LAND STEWARD

NOTES:

^aZone 6a Native Prairie Seed Mix Composition by %

Little Bluestem, 33%; Big Bluestem, 2%; Switchgrass, Blackwell, 3%; Virginia Wildrye, 10%; Purple Lovegrass, 1%; Deerlongue, 6%; Spotted St. Johnswort, 1%; Lancelole coropsis, 2%; Blackeyed Susan, 5%; Blue Vervain, 7%; Golden Alexanders, 7%; New England Aster, 1%; Tall White Beardclough, 4%; Narrowleaf mountainmint, 3%; Yellow false indigo, 5%; Wild bergamot, 2%; Gray goldenrod, 5%; Common milkweed, 5%; Winkleaf goldenrod, 5%; White goldenrod, 5%; Smooth blue aster, 5%; Roundhead lespedeza, 1.5%; Panicled leaf Ticktrefoil, 1%; Grass/leaf goldenrod, 1.5%; Oxye Sunflower, 2%; Partridge
****Zone 6b Dry Slope Prairie Seed Mix Composition by %**

Oats, 50%; Little Bluestem, 20%; Big Bluestem, 10%; Switchgrass, 4%; Indiangrass, 4%; Purple Lovegrass, 1%; Junegrass, 2%; Buttery milkweed, 3%; Indiangrass, 1%; Heath aster, 2%; Canadian milkchick, 1%; Partridge Pea, 3%; Pale purple coneflower, 3%; Early goldenrod, 5%; Gray goldenrod, 5%

- REMOVAL OF TREES TO BE COORDINATED WITH A BAT HABITAT SPECIALIST.



ZONE 1: RED MAPLE & BIRCH DOMINANT FOREST
TREES SPACED AN AVERAGE OF 9' O.C. + EROSION CONTROL SEED MIX PER CIVIL PLANS

Zone 1 - Maple dominant forest							
% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
27%	25	AR3	Acer rubrum - large	Red Maple	4-6'	bareroot or container	8-12' spacing, 9' on avg. Locate stems a minimum of 5' away from shoulder of bike path
	35	AR2	Acer rubrum - small	Red Maple	3-4'		
9%	20	AL2	Amelanchier laevis	Smooth Shadbush	3-4'		
9%	15	BP	Betula papyrifera	Paper Birch	3-4'		
	5	BO	Betula populifolia	Gray Birch	3-4'		
9%	20	CC	Corylus cornuta	Beaked Hazelnut	2-3'		
11%	25	FG	Fagus grandifolia	American Beech	2-3'		
9%	20	HV1	Hamamelis virginiana	Witchazel	2-3'		
19%	25	PR2	Pinus rigida	Pitch pine	4-6'		
	9	PR1	Pinus rigida	Pitch pine	2-3'		
8	8	PS2	Pinus strobus	White pine	3-4'		
	8	QR	Quercus rubra	Red Oak	3-4'		
7%	8	QV	Quercus velutina	Black Oak	12-18"		

ZONE 2: RED & BLACK OAK DOMINANT FOREST
TREES SPACED AN AVERAGE OF 8' O.C. + EROSION CONTROL SEED MIX PER CIVIL PLANS

Zone 2 Oak Dominant forest							
% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
3%	15	AR1	Acer rubrum	Red Maple	2-3'	bareroot or container	5-10' spacing, 8' on average. Locate stems a minimum of 5' away from shoulder of bike path
11%	55	AL1	Amelanchier laevis	Smooth Shadbush	2-3'		
6%	15	BP	Betula papyrifera	Paper Birch	2-3'		
	15	BO	Betula populifolia	Gray Birch	2-3'		
11%	55	CC	Corylus cornuta	Beaked Hazelnut	2-3'		
6%	30	FG	Fagus grandifolia	American Beech	2-3'		
11%	55	HV1	Hamamelis virginiana	Witchazel	2-3'		
21%	55	PR	Pinus rigida	Pitch pine	2-3'		
	55	PS1	Pinus strobus	White pine	2-3'		
32%	84	QR	Quercus rubra	Red Oak	3-4'		
	84	QV	Quercus velutina	Black Oak	12-18"		

ZONE 3: LARGE SHRUBS ISLANDS IN MEADOW
SMALL TREES / LARGE SHRUBS, LARGER STOCK TIGHTLY SPACED, NO SEED MIX

Zone 3 Large Shrub Groupings in Meadow							
% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
56%	54	AA	Aronia arbutifolia	Red Chokeberry	3-4' Ht.	B&B or Cont.	5-7' o.c. center min. 5' off path
11%	11	AL3	Amelanchier laevis	Smooth Shadbush	5-6' Ht.	B&B multi-stem	7-8' o.c.
32%	31	CR	Cornus racemosa	Gray Dogwood	3-4' Ht.	B&B multi-stem	5-7' o.c.

ZONE 4: FOREST EDGE SHRUB PLANTING
MEDIUM AND LARGE SHRUBS, NO SEED MIX

% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
50%	88	CP2	Comptonia peregrina	Sweet Fern	2-3'	#2 Cont.	4' o.c. centers min. 24" off shoulder
50%	88	KL	Salix discolor	Pussy Willow	3-4'	#3 Cont.	4' o.c. centers min. 24" off shoulder
132							

ZONE 5: LOW FLOWERING AND EDIBLE SHRUBS
MULCHED PLANT BED, NO SEED BED

% by genus	Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
28%	145	CP1	Comptonia peregrina	Sweet Fern	18-24"	#1 Cont.	4' o.c. centers min. 24" off shoulder
19%	100	KA	Kalmia angustifolia	Sheep Laurel	2-3'	#2 Cont.	3' o.c. centers min. 18" off shoulder
52%	270	VA	Vaccinium angustifolium	Low sweet blueberry	12-18"	#2 Cont.	2' o.c. center min. 12" off shoulder
515							

ZONE 6a: NATIVE PRAIRIE SEED MIX
MIX OF NATIVE WILDFLOWERS + NATIVE GRASSES
MOW ANNUALLY IN FALL TO PREVENT GROWTH OF WOODY VEGETATION

Zone 6a Native Prairie Seed Mix							
Qty.	Code	Seed Mix			Spec	Installation Notes	
45.6	VTM	Ernst Conservation Seeds Inc. Custom Mix, Mesic to Dry Vermont Meadow*			lbs	Apply 20lbs per acre	

ZONE 6b: NATIVE DRY SLOPE PRAIRIE SEED MIX
MIX OF NATIVE WILDFLOWERS + NATIVE GRASSES FOR EROSION CONTROL
MOW ANNUALLY IN FALL TO PREVENT GROWTH OF WOODY VEGETATION

Zone 6b Dry Slope Prairie Seed Mix							
Qty.	Code	Seed Mix			Spec	Installation Notes	
45.4	VTS	Ernst Conservation Seeds Inc. Custom Mix, Mesic to Dry Vermont Slope**			lbs	Apply 60lbs per acre	

ZONE 7: PART SHADE SEED MIX

Qty.	Code	Scientific Name	Common Name	Size	Spec	Installation Notes
4.25	FSM	Vermont Wildflower Farm - Part Shade Roadside Wildflower and Grass Mix			lbs	Apply 1/2 lb per 1,000 SF

ZONE 8: NATIVE DETENTION AREA GRASSES MIX
MIX OF NATIVE GRASSES AND GRASSLIKE SPECIES FORMULATED FOR STORMWATER MANAGEMENT

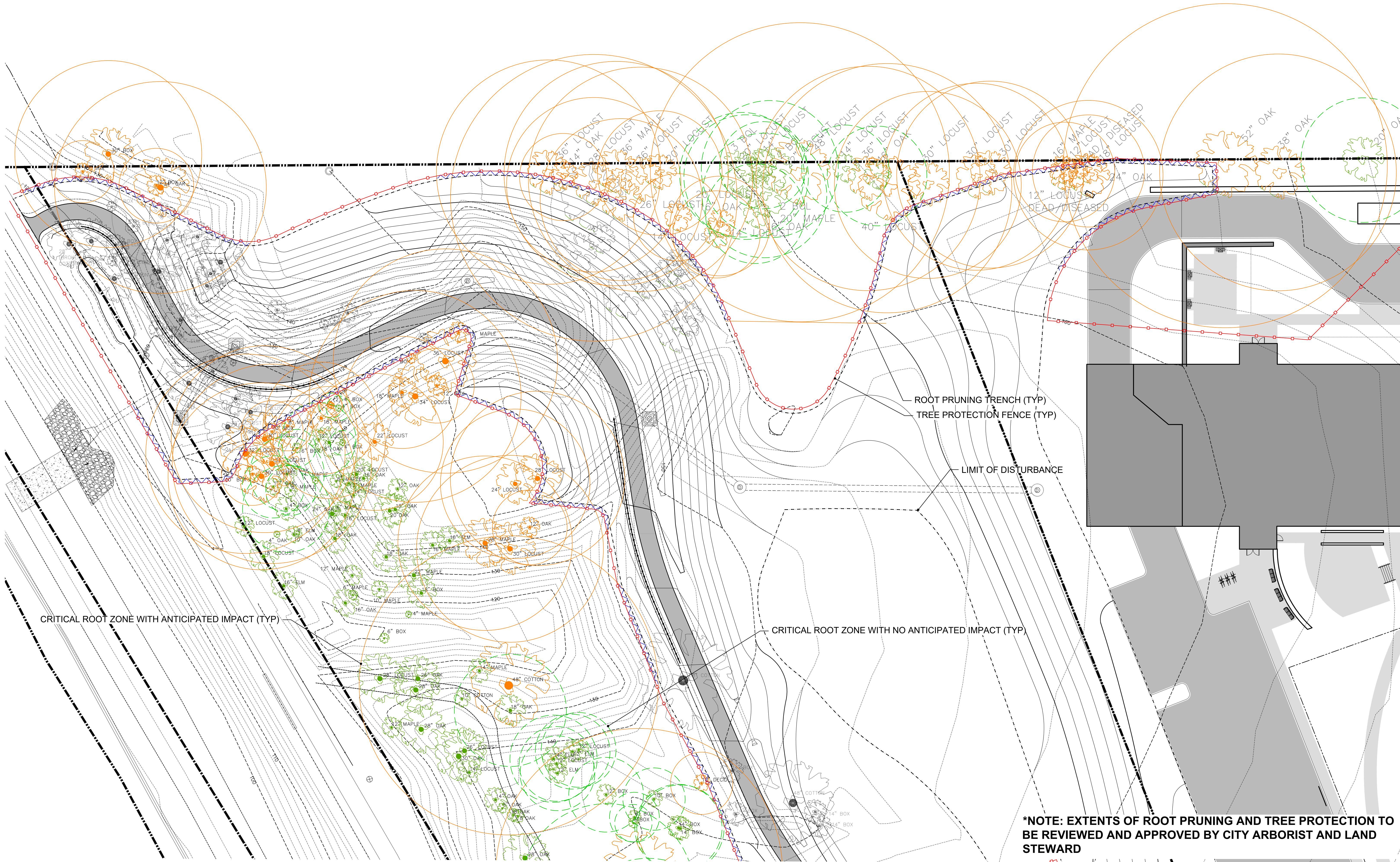
Qty.	Code	Seed Mix		Size	Spec	Installation Notes
6.25	NDA	Ernst Conservation Native Detention Area Mix		n/a	lbs	Apply 1/2lb per 1,000 SF

ZONE 9 BIRCH & WHITE PINE PRESERVATION AREAS
SELECTIVE CLEARING & SEEDING

9A - EXISTING PINE TO BE PRESERVED
9B & 9C - CLEARING* AND TREE PROTECTION TO BE REVIEWED AND APPROVED BY CITY ARBORIST AND LAND STEWARD

NOTES:
*Zone 6a Native Prairie Seed Mix Composition by %
Little Bluestem, 33%; Big Bluestem, 33%; Switchgrass 'Blackwell', 10%; Purple Lovegrass, 1%; Deertongue, 8%; Spotted St. Johnswort, 1%; Lanceleaf coreopsis, 2%; Blackeyed Susan, 5%; Blue Vervain, 7%; Golden Alexanders, 7%; New England Aster, 1%; Tall White Beardtongue, 4%; Narrowleaf mountainmint, 3%; Yellow false indigo, 5%; Wild bergamot, 2%; Gray goldenrod, 5%; Common milkweed, 5%; Winkleaf goldenrod, 5%; White goldenrod, 5%; Smooth blue aster, 5%; Roundhead lespedeza, 1.5%; Panicledleaf Ticktrefoil, 1%; Grassleaf goldenrod, 1.5%; Oxeeye Sunflower, 2%; Partridge Oats, 50%; Little Bluestem, 20%; Big Bluestem 'Niagara', 4%; Switchgrass, 4%; Indiangrass, 4%; Purple Lovegrass, 1%; Junegrass, 2%; Butterfly milkweed, 3%; Indianhemp, 1%; Heath aster, 2%; Canadian milkvetch, 1%; Partridge Pea, 3%; Pale purple coneflower, 3%; Early goldenrod, 5%; Gray goldenrod, 5%
**Zone 6b Dry Slope Prairie Seed Mix Composition by %
Oats, 50%; Little Bluestem, 20%; Big Bluestem 'Niagara', 4%; Switchgrass, 4%; Indiangrass, 4%; Purple Lovegrass, 1%; Junegrass, 2%; Butterfly milkweed, 3%; Indianhemp, 1%; Heath aster, 2%; Canadian milkvetch, 1%; Partridge Pea, 3%; Pale purple coneflower, 3%; Early goldenrod, 5%; Gray goldenrod, 5%

- REMOVAL OF TREES TO BE COORDINATED WITH A BAT HABITAT SPECIALIST.

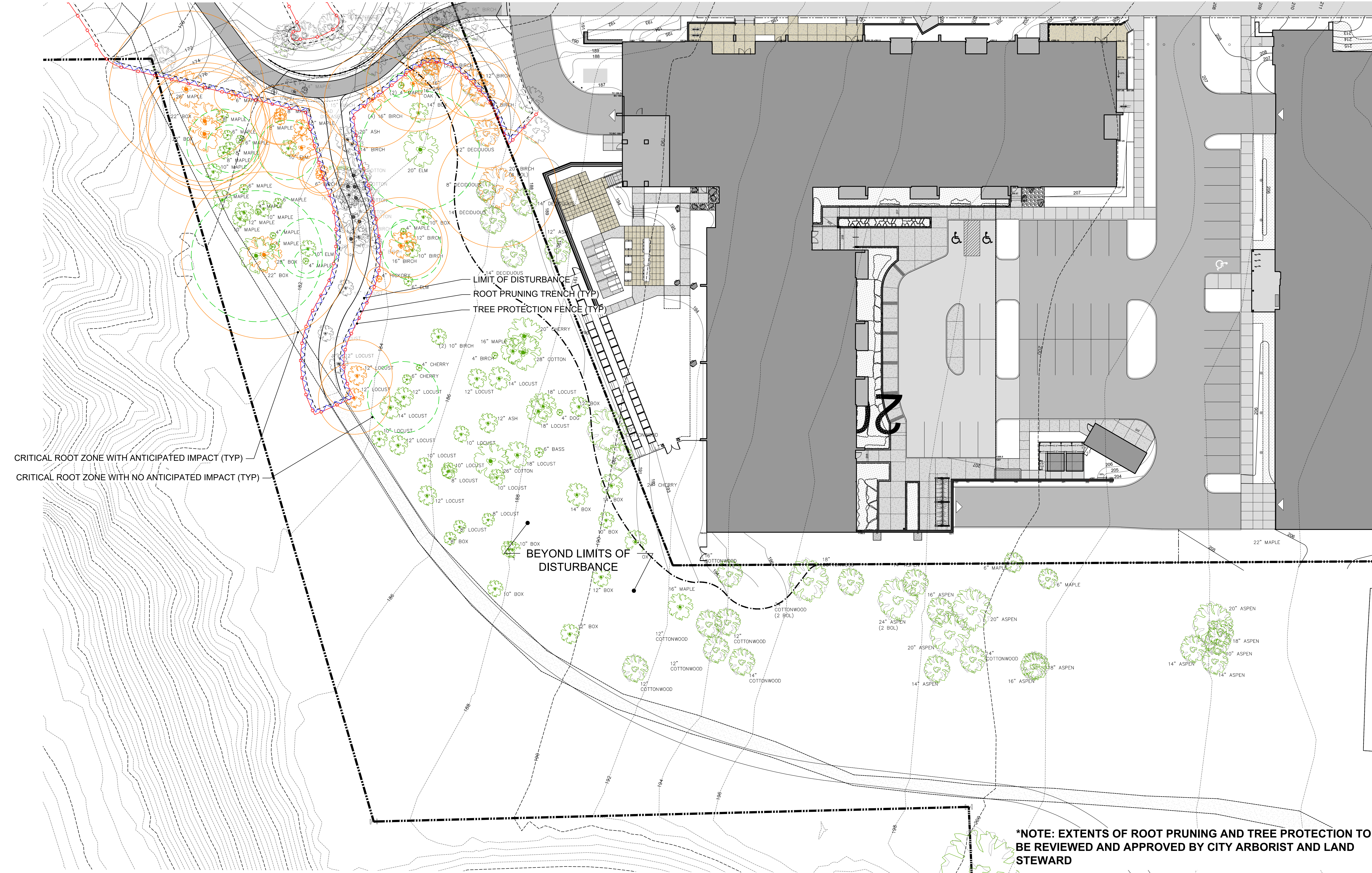


***NOTE: EXTENTS OF ROOT PRUNING AND TREE PROTECTION TO BE REVIEWED AND APPROVED BY CITY ARBORIST AND LAND STEWARD**



DATE: JULY 19, 2024	DATE	REVISION



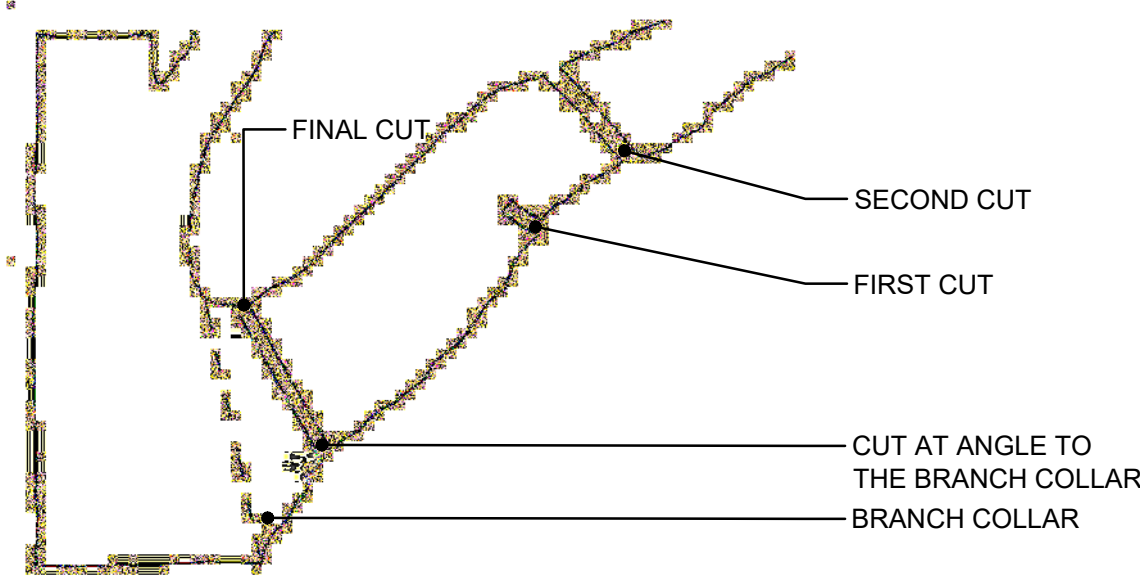


DATE: JULY 19, 2024	DATE	REVISION

***NOTE: EXTENTS OF ROOT PRUNING AND TREE PROTECTION TO BE REVIEWED AND APPROVED BY CITY ARBORIST AND LAND STEWARD**

TREE PRUNING NOTES:

- REFER TO ANSI A300 (Part 1, MOST UPDATED VERSION) PRUNING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- WORK SHOULD BE PREFORMED BY A CERTIFIED ARBORIST OR PROFESSIONAL TREE COMPANY.
- AVOID DAMAGING BARK AND OTHER LIVING TISSUE THROUGHOUT THE PRUNING PROCESS.
- MAKE SURE PRUNING TOOLS ARE SHARP.
- MAKE CLEAN CUT AS CLOSE TO THE BRANCH COLLAR AS POSSIBLE. DO NOT LEAVE A STUB.
- REDUCE THE SIZE OF THE BRANCH FOR A BETTER CUT.
- THE FIRST AND SECOND CUTS SHOULD BISECT THE ANGLE BETWEEN ITS BRANCH BARK RIDGE AND AN IMAGINARY LINE PERPENDICULAR TO THE BRANCH OR STEM.
- NOT MORE THAN 25% OF GROWTH SHOULD BE REMOVED FROM A CANOPY DURING A GROWING SEASON.



1 TREE PRUNING ILLUSTRATION
L2.0 NTS

TREE PROTECTION NOTES:

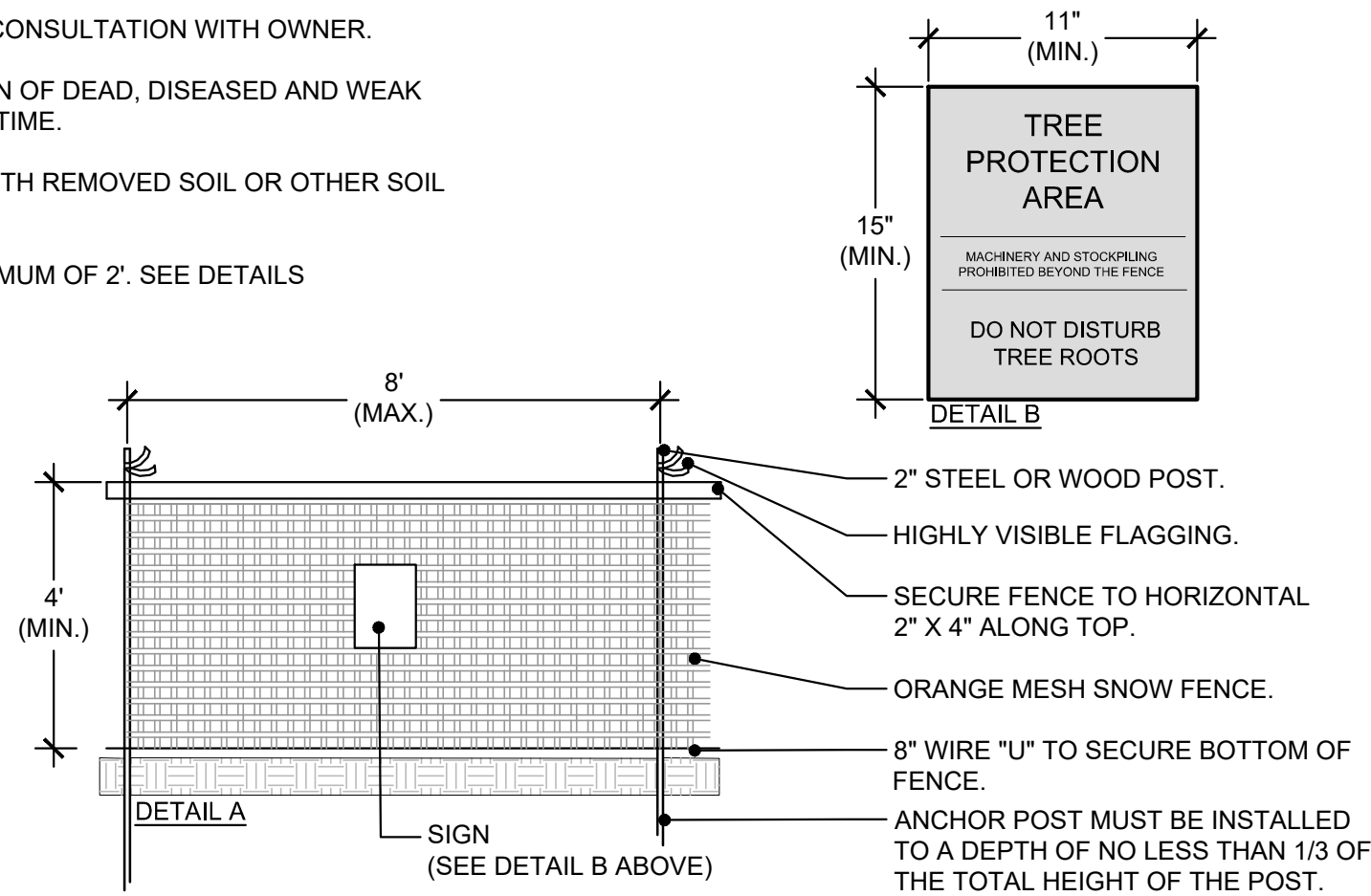
- PRIOR TO ANY CONSTRUCTION ACTIVITY, ALL TREE PRESERVATION MEASURES MUST BE IMPLEMENTED.
- CONTRACTOR CHOSEN FOR THIS WORK WILL BE AN EXPERIENCED TREE SERVICE FIRM THAT HAS SUCCESSFULLY COMPLETED TREE PROTECTION, ROOT PRUNING, AND TRIMMING WORK, SIMILAR TO THAT REQUIRED FOR THIS PROJECT.
- PRIOR TO CONSTRUCTION SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK. CONTACT DIG SAFE TWO FULL BUSINESS DAYS BEFORE PLANTING. (48 HOUR MIN.)
- PRIOR TO THE SITE VISIT ALL TREE PRESERVATION AREAS SHALL BE STAKED OUT ON SITE BY SURVEY.
- TREE PROTECTION FENCING SHALL REMAIN INTACT THROUGHOUT ALL CONSTRUCTION ACTIVITY.
- THERE WILL BE NO EXCAVATION FOR PROPOSED SITE WORK WITHIN FENCED AREA.
- NO MATERIALS OR EQUIPMENT SHALL BE STORED, STOCKPILED OR OPERATED WITHIN TREE PROTECTION AREAS.
- TREE PROTECTED AREAS WILL BE LEFT AS NATURAL AS POSSIBLE.
- IN AREAS OF EXCAVATION NEAR TREE, IDENTIFY AND CUT ROOTS IN CONSULTATION WITH OWNER.
- REMOVE POORLY ATTACHED AND RUBBING LIMBS. CLEAN THE CROWN OF DEAD, DISEASED AND WEAK LIMBS. THINNING OF HEALTHY LIMBS IS NOT RECOMMENDED AT THIS TIME.
- ANY NECESSARY TRENCHING SHALL BE IMMEDIATELY BACKFILLED WITH REMOVED SOIL OR OTHER SOIL MIX AS DESCRIBED IN CONTRACT SPECIFICATIONS.
- AN AIR SPADE/AIR KNIFE IS TO BE USED TO EXCAVATE DOWN TO MINIMUM OF 2". SEE DETAILS

SIGN DETAIL:

- ATTACHMENTS OF SIGNS TO TREES IS PROHIBITED.
- SIGNS SHOULD BE MADE OF VINYL OR PLASTIC.
- SIGNS SHOULD BE PROPERLY MAINTAINED, PENALTIES WILL BE ENFORCED FOR REMOVAL OF SIGNS.
- AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
- SIGNS SHOULD BE POSTED 50' O.C. AND WITHIN 20' OF THE BEGINNING AND END OF EACH FENCE TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL.
- SIGNS TO BE SECURELY FASTENED TO THE FENCE OR FENCE POSTS.
- SIGNS TO HAVE A WHITE BACKGROUND AND ORANGE OR RED TEXT.

FENCE DETAIL:

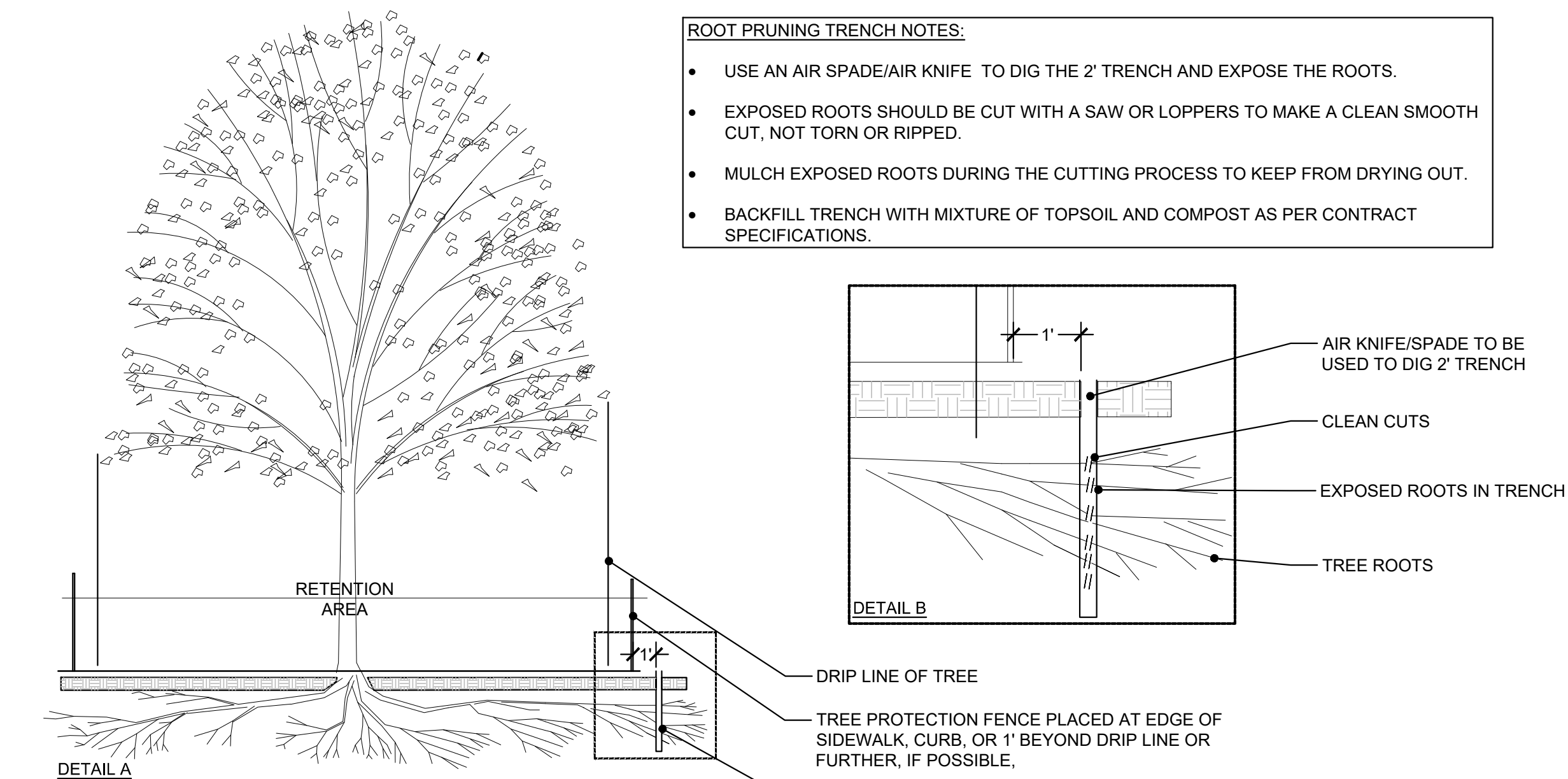
- THIS FENCE SERVES AS A TREE PROTECTION DEVICE ONLY.
- ROOT DAMAGE SHALL BE AVOIDED WITHIN FENCED AREA.
- FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.



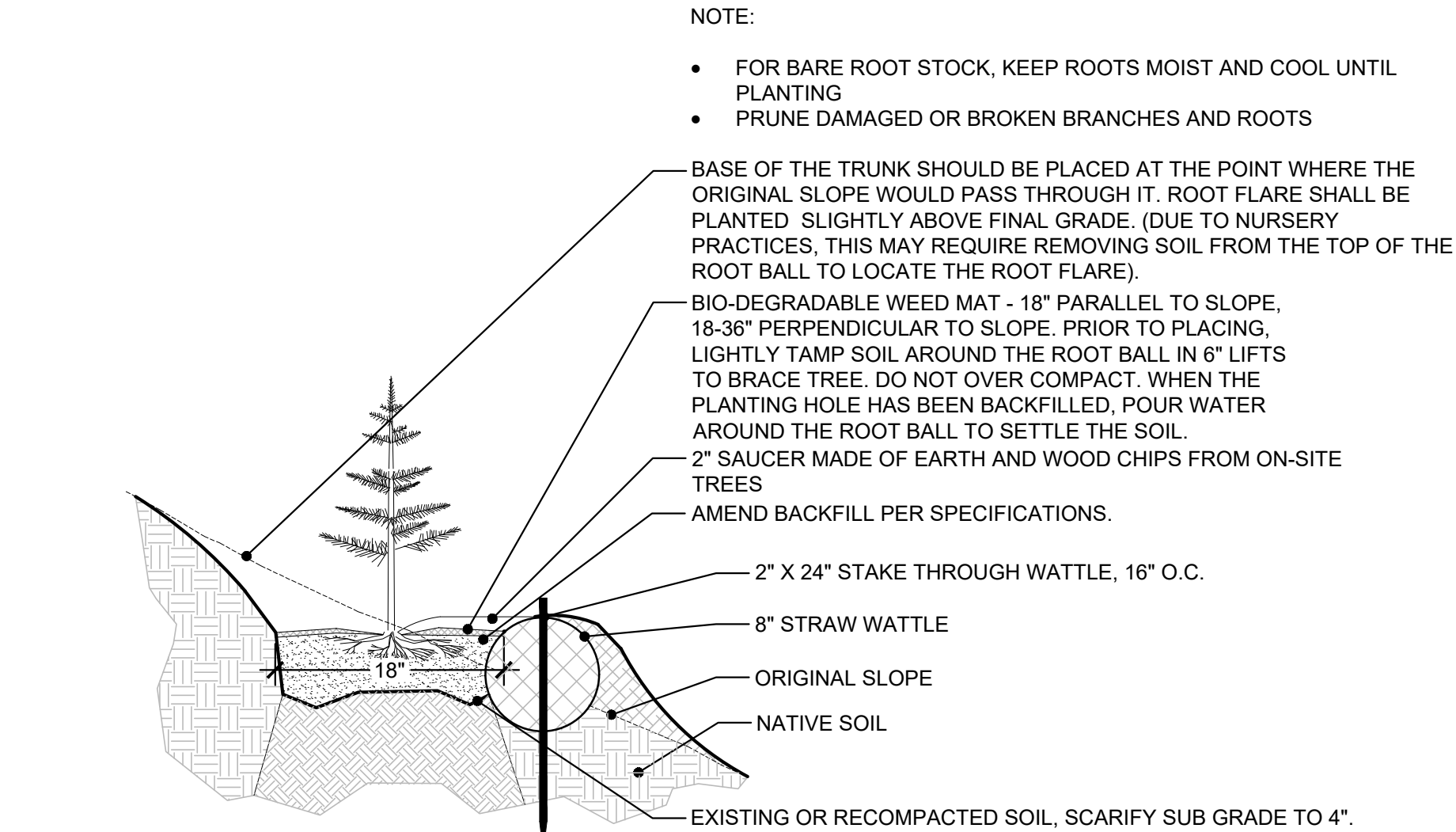
2 TREE PROTECTION FENCE
L2.0 NTS

ROOT PRUNING TRENCH NOTES:

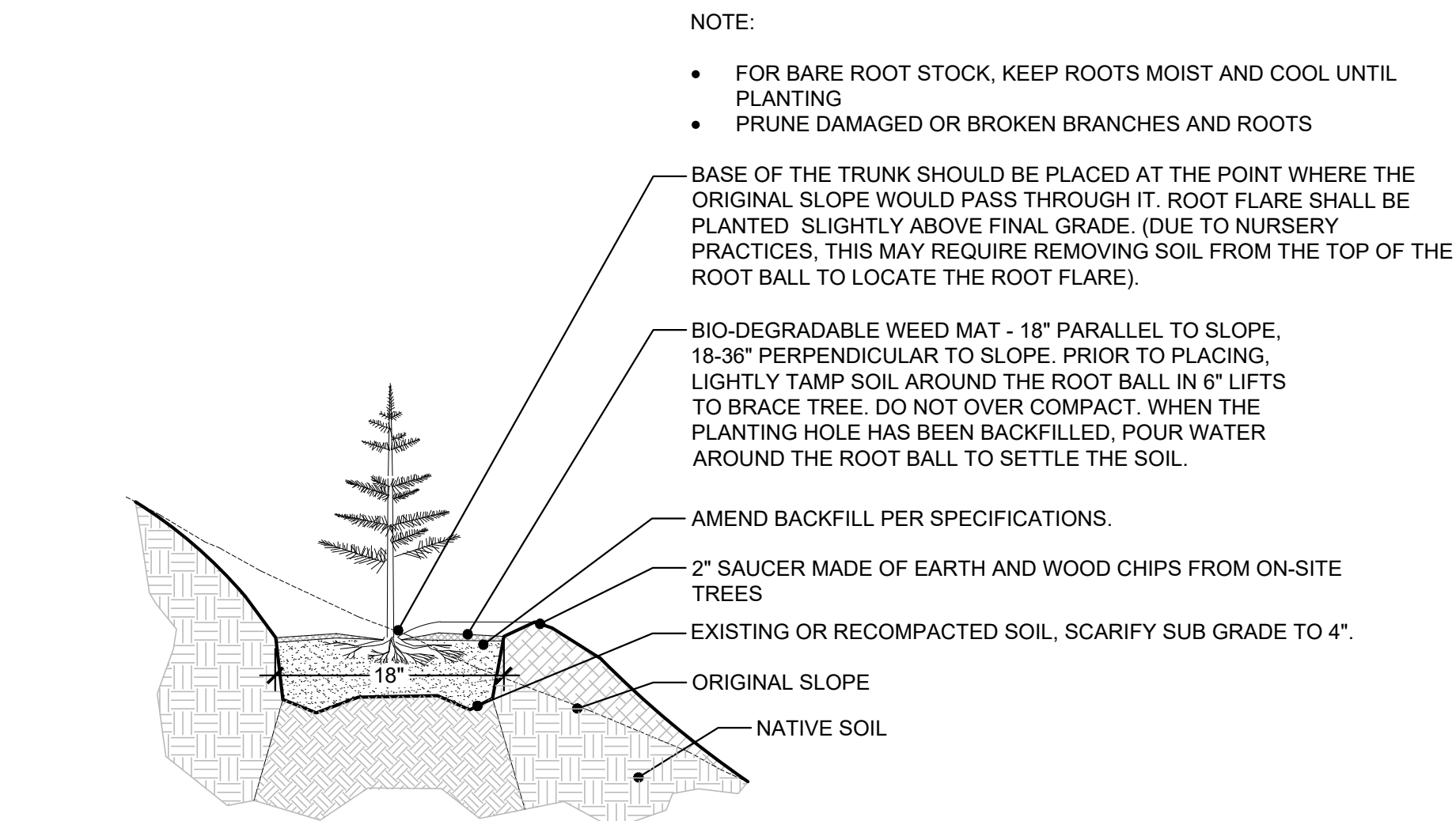
- USE AN AIR SPADE/AIR KNIFE TO DIG THE 2' TRENCH AND EXPOSE THE ROOTS.
- EXPOSED ROOTS SHOULD BE CUT WITH A SAW OR LOPPERS TO MAKE A CLEAN SMOOTH CUT, NOT TORN OR RIPPED.
- MULCH EXPOSED ROOTS DURING THE CUTTING PROCESS TO KEEP FROM DRYING OUT.
- BACKFILL TRENCH WITH MIXTURE OF TOPSOIL AND COMPOST AS PER CONTRACT SPECIFICATIONS.



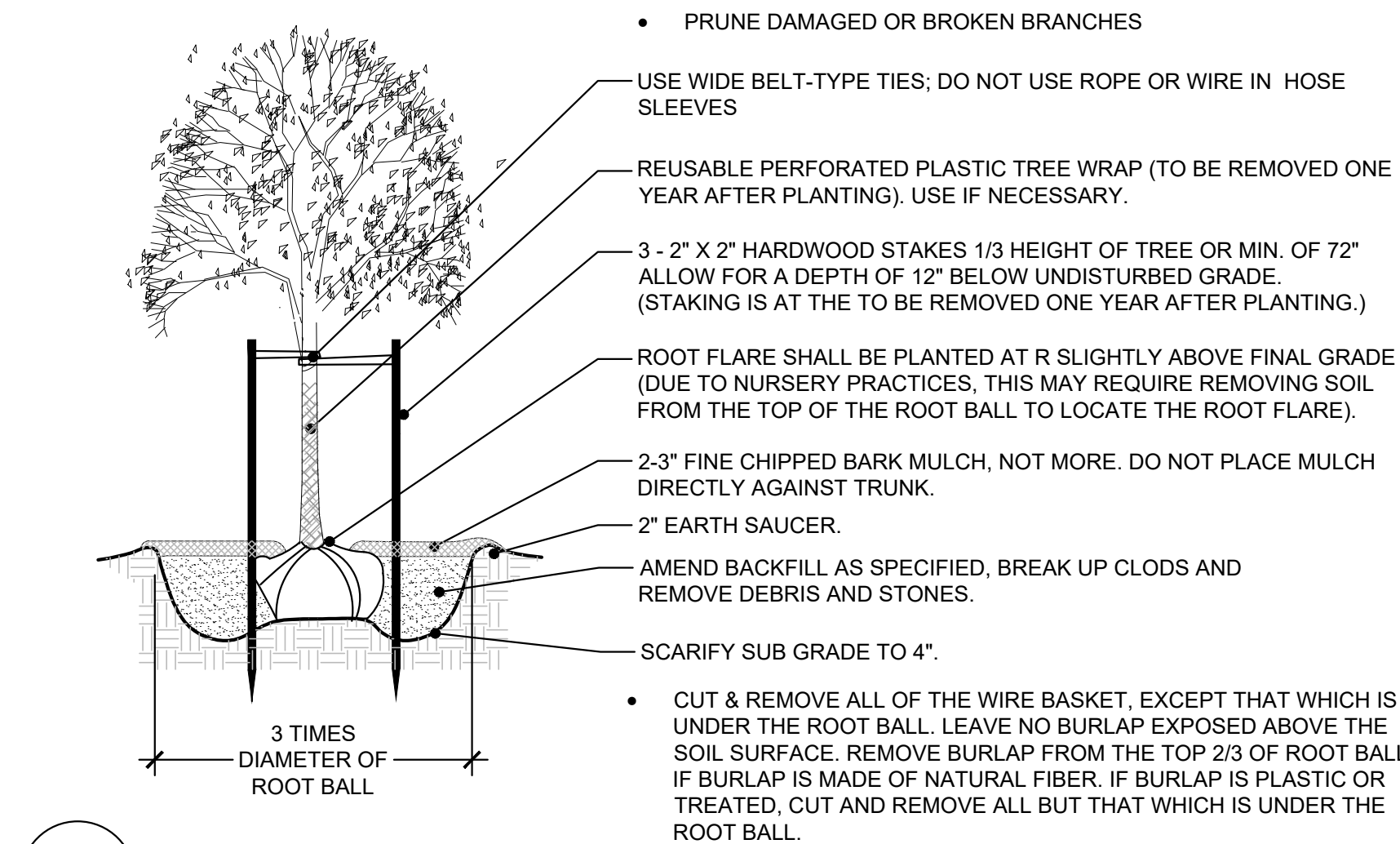
3 TREE PROTECTION
L2.0 NTS



4 SMALL TREE PLANTING ON STEEP SLOPE DETAIL - COIR LOG SAUCER OPTION
L2.0 NTS



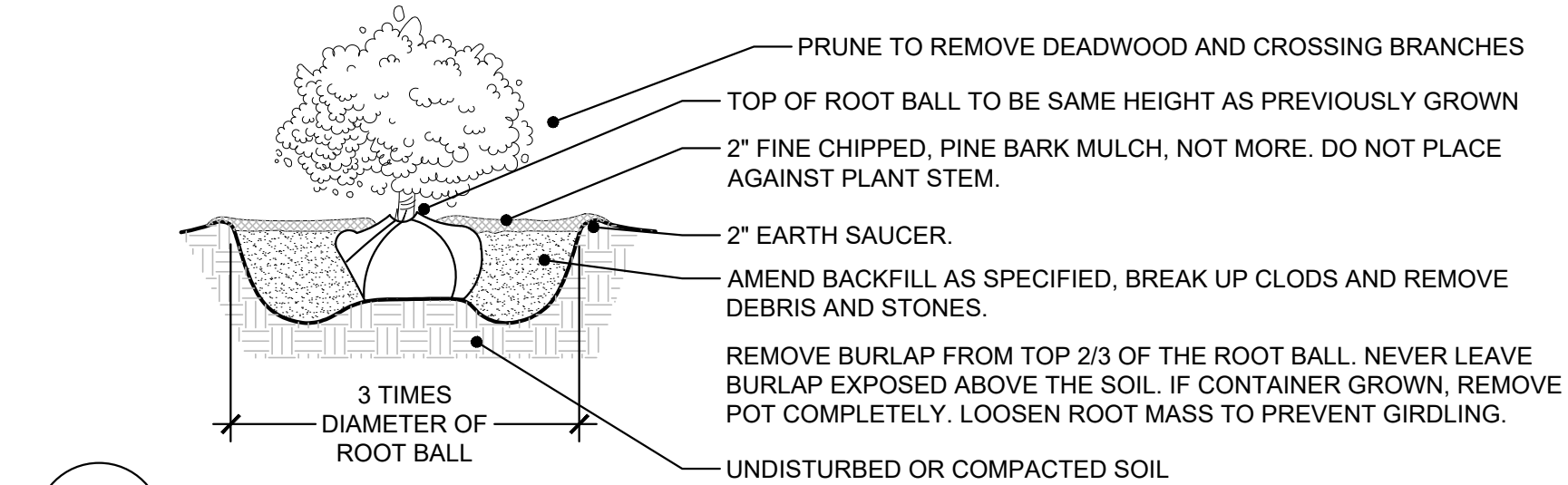
5 SMALL TREE PLANTING ON STEEP SLOPE DETAIL - ON-SITE WOOD CHIP SAUCER OPTION
L2.0 NTS



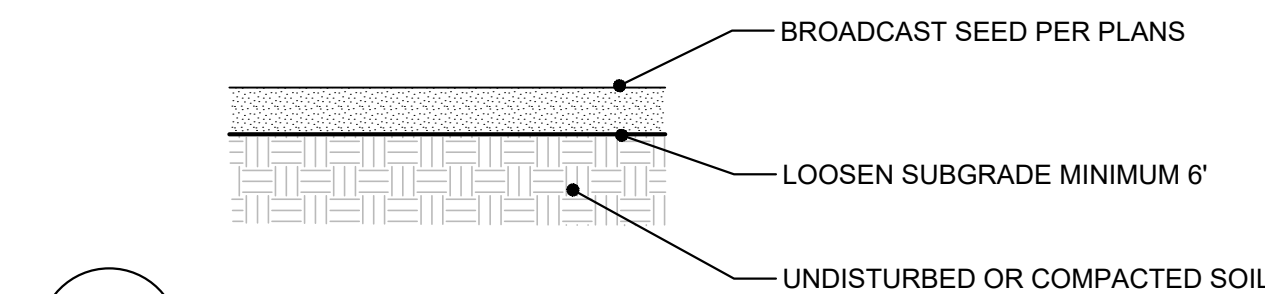
6 TREE PLANTING DETAIL
L2.0 NTS

GENERAL PLANTING NOTES:

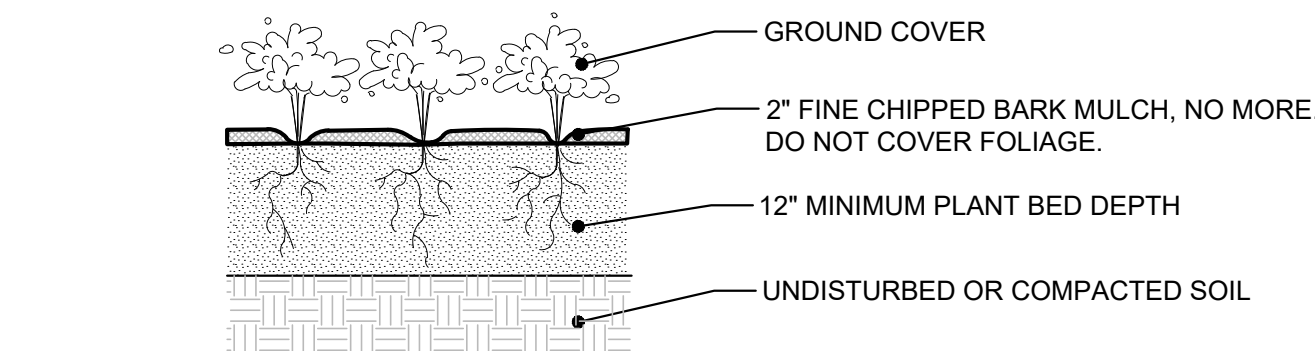
- THE LANDSCAPE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK. CONTACT DIG SAFE TWO FULL BUSINESS DAYS BEFORE PLANTING. (48 HOUR MIN.)
- THE LANDSCAPE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON ALL DRAWINGS. THE PLAN QUANTITIES SHALL ALWAYS SUPERCEDE THE PLANT LIST.
- ALL PLANT MATERIAL SHALL CONFORM AND BE INSTALLED TO THE GUIDELINES ESTABLISHED BY THE CURRENT ANSI Z60.1.
- NO PLANT SHALL BE PUT INTO THE GROUND BEFORE ROUGH GRADING HAS BEEN FINISHED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR EQUAL.
- REFER TO THE SOIL SPECIFICATIONS FOR PLANTING SOIL REQUIREMENTS.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE AMENDED PLANTING SOIL AS PER THE CONTRACT SPECIFICATIONS.
- NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOT WRAPPING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
- WITH CONTAINER GROWN STOCK, THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS.
- STAKING PLANTS IS AT THE DISCRETION OF THE LANDSCAPE CONTRACTOR. ONLY STAKE PLANTS IN THE MANNER SPECIFIED IN THE PLANTING DETAILS.
- ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY, IF NECESSARY, DURING THE FIRST GROWING SEASON.
- THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST FOR SEASONAL REQUIREMENTS RELATED TO THE TIME OF PLANTING.



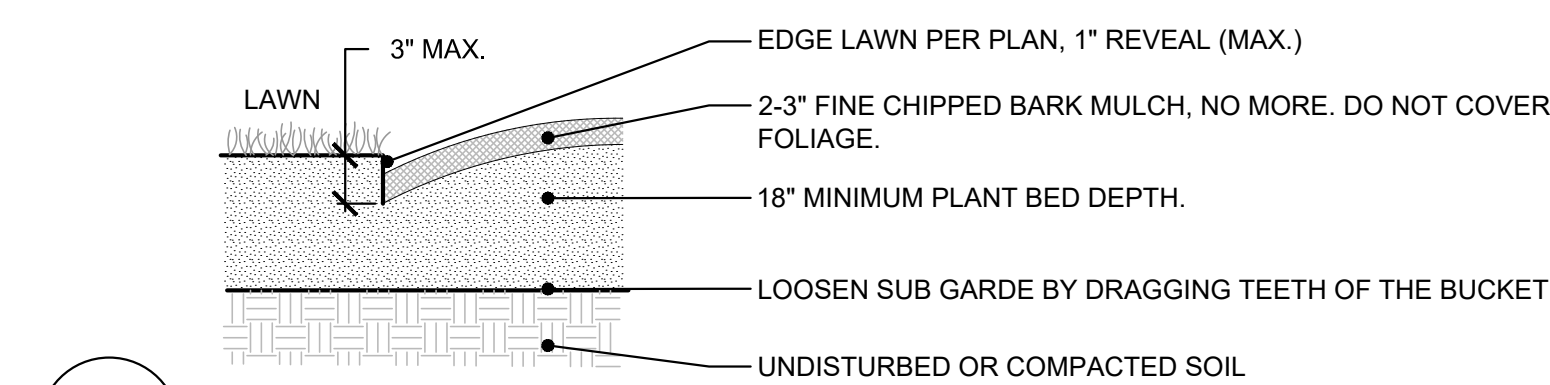
7 SHRUB PLANTING
L2.0 NTS



8 SEEDING AREA
L2.0 NTS



9 GROUNDCOVER PLANTING
L2.0 NTS



10 MULCHED PLANT BED
L2.0 NTS

LEGEND

- | | |
|--|--------------------------|
| | APPROXIMATE SETUP LINE |
| | EXISTING CONTOUR |
| | EXISTING CURB |
| | EXISTING CHAINLINK FENCE |
| | EXISTING WIRE FENCE |
| | EXISTING GRAVEL |
| | EXISTING PAVEMENT |
| | EXISTING GUARD RAIL |
| | EXISTING ELECTRIC |
| | EXISTING FORCEMAIN |
| | EXISTING GAS |
| | EXISTING STORM |
| | EXISTING GRAVITY SEWER |
| | EXISTING TELEPHONE |
| | EXISTING WATER |
| | EXISTING SWALE |
| | EXISTING SEWER MANHOLE |
| | EXISTING STORM MANHOLE |
| | EXISTING CATCH BASIN |
| | EXISTING WELL |
| | EXISTING HYDRANT |
| | EXISTING SHUT OFF |
| | EXISTING UTILITY POLE |
| | EXISTING LIGHT POLE |
| | EXISTING GUY WIRE/POLE |
| | EXISTING SIGN |
| | EXISTING DECIDUOUS TREE |
| | EXISTING CONIFEROUS TREE |
| | EDGE OF BRUSH/WOODS |
| | IRON ROD/PIPE FOUND |
| | CONCRETE MONUMENT FOUND |
| | RAILROAD RAIL FOUND |
| | TEST PIT |
| | PROJECT BENCHMARK |

STEEP SLOPE OVERLAY DISTRICT (AS
DEPICTED WITHIN CITY OF BURLINGTON
COMPREHENSIVE DEVELOPMENT
ORDINANCE, ARTICLE 5: CITYWIDE
GENERAL REGULATIONS, MAP 5.2.4-1)

LAKE CHAMPLAIN

N/F
CITY OF BURLINGTON
(LAKEVIEW CEMETERY)

N/F
COMMUNITY
USING L.L.C.

N/F
BC COMMUNITY
HOUSING L.L.C

N/F
BC COMMUNITY
HOUSING L.L.C.

N/F
S.D. IRELAND
COMPANIES

N/E
CHAMPLAIN
HOUSING
TRUST

N/F
CATHEDRAL
SQUARE CORP.

SQUARE CORP.

N/F
NOVA ENTERPRISES LLC
JOE REALTY LLC

N/F
N E CENTRAL RAILROAD

~~N/F
CALABRESE, EVON
& ELIZABETH~~

SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

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DRAWN

SAL

[illegible]

CHECKED
DOM

DSM

APPROVED

DSM

CLIENT:

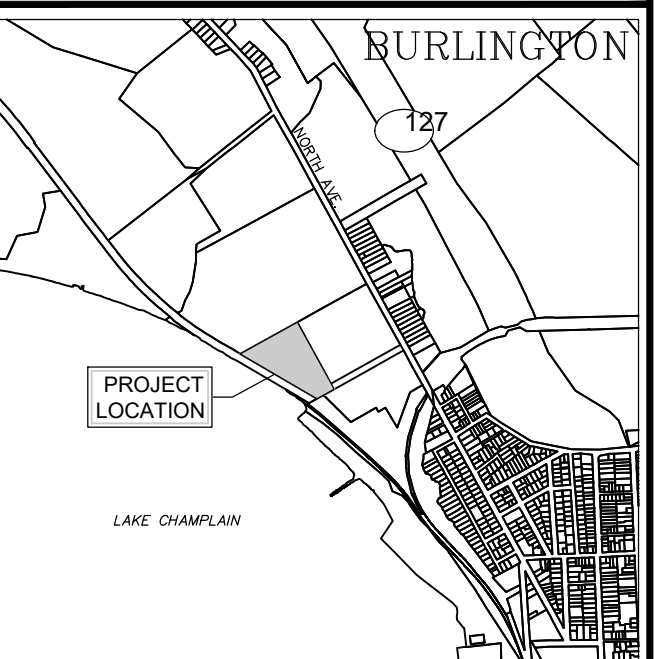
**BURLINGTON PARKS,
RECREATION &
WATERFRONT**

645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

311 NORTH AVE.
MULTI-USE PATH

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

$$= 2000'$$
[illegible]

STEEP SLOPES OVERLAY DISTRICT MAPPING

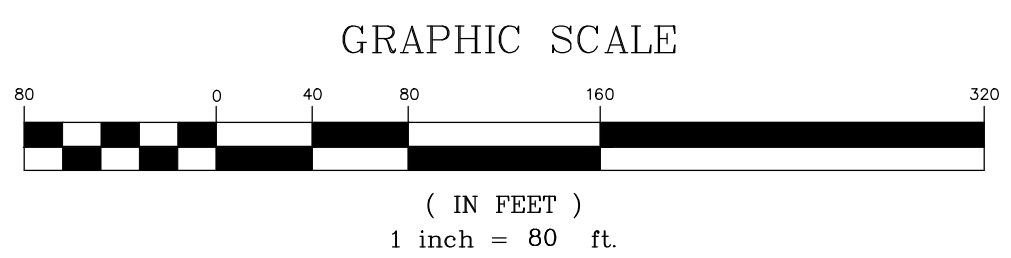
DATE
JUL., 2024

SCALE
1" = 80'

PROJ. NO.
18118

DRAWING NUMBER

C2.0A



LEGEND

- APPROXIMATE PROPERTY LINE
APPROXIMATE SETBACK LINE
-100- EXISTING CONTOUR
EXISTING CURB
EXISTING CHAINLINK FENCE
EXISTING WIRE FENCE
EXISTING GRAVEL
EXISTING PAVEMENT
EXISTING GUARD RAIL
EXISTING ELECTRIC
EXISTING FORCEMAIN
G EXISTING GAS
ST EXISTING STORM
S EXISTING GRAVITY SEWER
EXISTING TELEPHONE
W EXISTING WATER
EXISTING SWALE
EXISTING SEWER MANHOLE
EXISTING STORM MANHOLE
EXISTING CATCH BASIN
EXISTING WELL
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EXISTING SHUT OFF
EXISTING UTILITY POLE
EXISTING LIGHT POLE
EXISTING GUY WIRE/POLE
EXISTING SIGN
EXISTING DECIDUOUS TREE
EXISTING CONIFEROUS TREE
EDGE OF BRUSH/WOODS
IRON ROD/PIPE FOUND
CONCRETE MONUMENT FOUND
RAILROAD RAIL FOUND
TEST PIT
PROJECT BENCHMARK

AREAS WITHIN LIMITS OF DISTURBANCE
WHERE FINAL GRADING EXCEEDS 30% SLOPE



SITE ENGINEER:



CIVIL ENGINEERING ASSOCIATES, INC.
10 MANSFIELD VIEW LANE, SOUTH BURLINGTON, VT 05403
802-864-2323 FAX: 802-864-2271 web: www.cea-vt.com

COPYRIGHT © 2024 - ALL RIGHTS RESERVED

DRAWN

SAL

CHECKED

DSM

APPROVED

DSM

CLIENT:

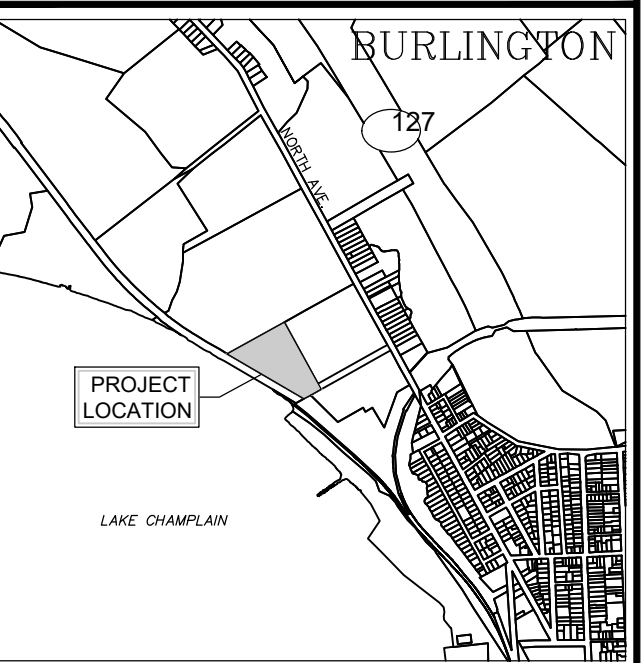
**BURLINGTON PARKS,
RECREATION &
WATERFRONT**

645 PINE ST., SUITE B
BURLINGTON, VERMONT
05401

PROJECT:

**311 NORTH AVE.
MULTI-USE PATH**

311 NORTH AVE.
BURLINGTON, VT



LOCATION MAP

1" = 2000'

DATE	CHECKED	REVISION
7/30/24	DSM	PERMIT REVIEW SUBMITTAL

**POST-
CONSTRUCTION
SLOPE ANALYSIS
(>30%)**

DATE
JUL., 2024

SCALE
1" = 80'

PROJ. NO.
18118

DRAWING NUMBER

C2.0B

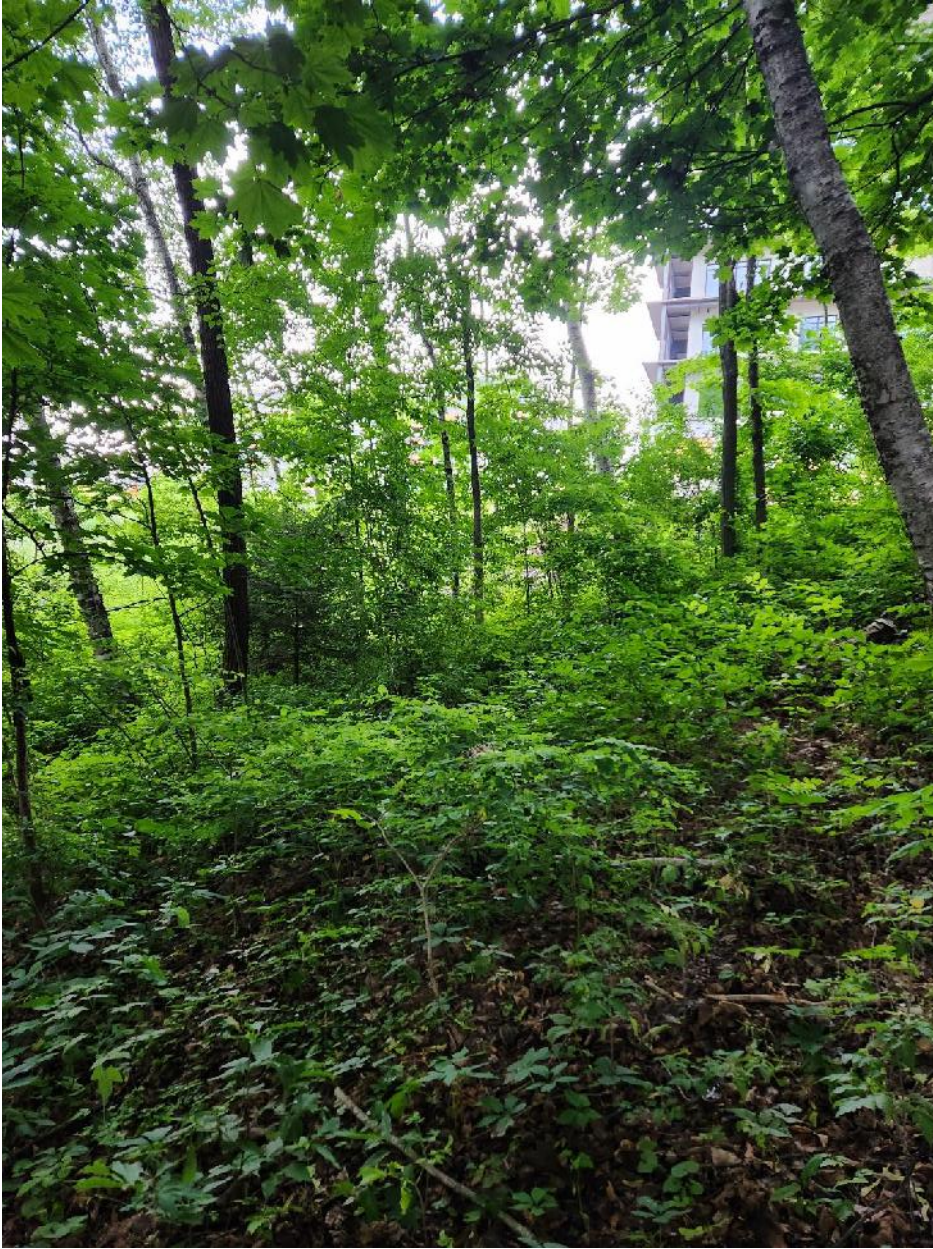
GRAPHIC SCALE



(IN FEET)
1 inch = 80 ft.



Uphill opening of existing culvert.



View of approximate South connection





Eroding area at top of hill



Erosion of existing path



Erosion of existing path



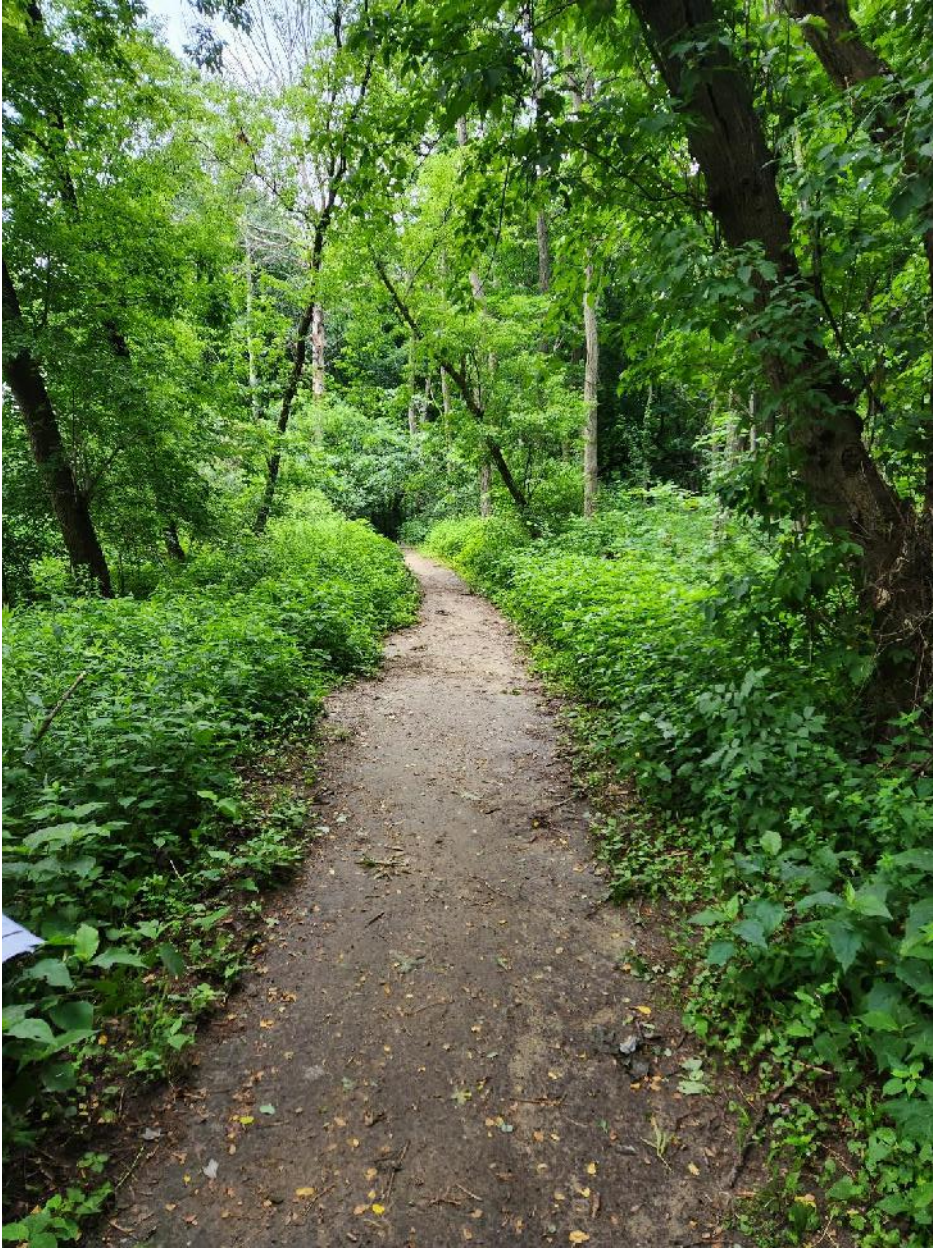
Erosion washing into bike path



Existing culvert outlet



Existing Northwest View



Existing Path, South view



Existing Southwest view



Path erosion



Existing path, steep section erosion



Steep gradient, view from bike path









LEGEND

S/N 001 DISCHARGE POINT

PR-1 SUBCATCHMENT I.D.

1P STRUCTURAL TREATMENT PRACTICE I.D.

PROPOSED STORMWATER TREATMENT PRACTICE

PROPOSED STORMWATER PRE-TREATMENT

PROPOSED SIMPLE DISCONNECTION

NCRS SOIL BOUNDARIES

**Kieslich Park
Multi-Use Path**
311 North Ave.
Burlington, VT

No. Revision Date Appr.

Designed by PLU Checked by PBS

Issued for Review Date July 19, 2024

Not Approved for Construction

Drawing Title
**Post-Construction
Stormwater Management
Plan**

Drawing Number
SW-1

Sheet 1 of 3

Project Number
57848.00

Kieslich Park Mixed-Use Path

Post Construction Stormwater Management Summary

Existing Conditions

Land cover in the northern and western portion of Kieslich Park consists of a combination of meadow, regenerating forest, and mature wooded areas. Above the steep bluff, land slopes range from 3% to 20% sloping downward to the west. Soils underlying this area are mapped as Adams and Windsor Loamy Sands, which have been assigned to Hydrologic Soils Group "A", which are characterized by high infiltration rates and low runoff potential. During smaller rainfall events, precipitation infiltrates into the underlying sandy soils. During larger events where surface runoff may be generated, runoff travels west by sheet flow across the existing meadow areas and overland down the bluff either by sheet flow or at several concentrated flow points along the bluff before crossing under the bike path in three culverts which outlet directly to Lake Champlain.

Proposed Conditions

Vegetation will be retained and managed to the extent feasible to mimic existing runoff generation as much as possible. Runoff from park areas east of the path, and from the path itself, will generally be collected in open channel treatment practices. These practices consist of four Dry Swales (STPs 1 through 4) as shown on the accompanying Sheet SW-1 by VHB, dated July 19, 2024. Pretreatment for the Dry Swales consists of either grass channels or use of filter strips. The Dry Swales have been designed to infiltrate the Water Quality Treatment Volume (first inch of runoff in a 24-hour period). Overflow from these channels is routed into a new 36-inch diameter stormwater line that will pass under the bike path and adjacent to the existing outfall at discharge Point S/N 001. Runoff from miscellaneous path surfaces that cannot be routed to the dry swales is treated via sheet flow to adjacent vegetated disconnection areas. The stormwater management system has been designed in accordance with the DEC 2017 Stormwater Management Manual and will be seeking coverage under General Permit 3-9050. The path results in 20,386 SF (0.468 acre) of new impervious surface on the parcel.

In addition to the localized infiltrative treatment provided by the proposed stormwater practices described above, the swale collection system will route runoff to the proposed pipe for stable conveyance down the bluff, and will significantly reduce overland flow across the bluff, thereby reducing erosion potential and existing sediment discharge to the bike path area and ultimately to Lake Champlain.

Department of Permitting and Inspections

Zoning Division

645 Pine Street

Burlington, VT 05401

<https://www.burlingtonvt.gov/DPI/Zoning-Permits>

Telephone: (802) 865-7188

(802) 865-7195 (FAX)

William Ward, Director
Scott Gustin, AICP, CFM, Principal Planner
Mary O'Neil, AICP, Principal Planner
Garret King, Associate Planner
Steven Cormier, Zoning Compliance Officer
Joseph Cava, Planning Technician
Ted Boylan, Permit Administrator



MEMORANDUM

To: Development Review Board

From: Mary O'Neil, AICP, Principal Planner

Date: August 6, 2024

RE: ZP-24-276; 206-208 Dale Road

Note: These are staff comments only. Decisions on projects are made by the Development Review Board, which may approve, deny, table or modify any project. THE APPLICANT OR REPRESENTATIVE MUST ATTEND THE MEETING.

File: ZP-24-276

Location: 206-208 Dale Road

Zone: RL **Ward:** 4

Parking District: Neighborhood

Date application accepted: June 27, 2024

Applicant/ Owner: Wild Dale LLC/Matt Brouillard

Request: Construct duplex on vacant lot.



Background:

- **Zoning Permit ZP-24-159;** Subdivision of existing parcel (144 Wildwood Drive) to create a new 5793.5 sq. ft. lot. June 2024.

Overview:

The newly created 206-208 Dale Road parcel is the result of a recent subdivision of 144 Wildwood Drive; allowable by the Neighborhood Code. The application seeks to construct a duplex.

The programs and services of the City of Burlington are accessible to people with disabilities. For accessibility information call 865-7188 (for TTY users 865-7142).

The **Design Advisory Board** reviewed the application at their July 23, 2024 meeting and voted to recommend approval of the application (4-1) with the following conditions:

1. The roof overhangs are increased (front + back) to 18-20”; and
2. Windows shall be the same size around the house.

Plans were revised 7.29.2024 to reflect these conditions.

Recommended motion: Certificate of Appropriateness approval, per the following Findings and Conditions:

I. Findings

Article 3: Applications, Permits and Project Reviews

Part 3: Impact Fees

Section 3.3.5 Calculation of Impact Fee

SF of
Project 3,564

	<u>Residential</u>	
Department	Rate	Fee
Traffic	0.231	823.08
Fire	0.261	929.64
Police	0.053	187.40
Parks	0.874	3,115.96
Library	0.541	1,929.10
Schools	1.129	4,023.56
Total	3.089	\$ 11,008.74

Section 3.3.8 Time and Place of Payment

(a) New Buildings: Impact fees must be paid at least seven (7) days prior to occupancy of a new building or any portion thereof. Affirmative finding as conditioned.

Article 4: Zoning Maps and Districts

Section 4.4.5 Residential Districts

1. The **Residential Lower Intensity (Residential Low, RL)** district is intended primarily for residential development that includes a mix of housing types such as single detached dwellings, with or without accessory dwelling units, duplexes, triplexes and quadplex organized in a compact neighborhood-scale that complements respective neighborhoods' development and open space patterns. Building heights typically vary from one to two and half stories, and development generally results in lower lot coverage than in other residential districts. Limited commercial uses take the form of home-based businesses and the adaptive reuse of historic buildings as neighborhood-serving uses.

(b) Dimensional Standards

Table 4.4.5-1 Lot Size, Frontage, Setback, and Lot Coverage Standards in Residential Districts

District	Min. Lot Frontage ^{2,3,4,5} (linear feet)	Setbacks ^{1,6,7,8,9}			Lot Coverage ^{1,10}
		Front	Side	Rear	
Residential Low (RL)	30'	Min: Avg. of front setback 2 adjacent lots on both sides +/- 5 feet Max required: 25 ft	Min: 10% of lot width or avg. of side setback of 2 adjacent lots on both sides Max required: 20 ft	20 ft.	45%
206-208 Dale Road	68.6'	21' – see calculation on plan C1	10% lot width	20'	40.14% base lot coverage, 45.75% with bonus allowance See corrected calculation Sec. 4.4.5 (d) C.

Affirmative finding.

Table 4.4.5-2 Principal & Secondary Structures Massing and Placement Standards in Residential Districts

District	Max Height & Stories ^{1,3}	Max Dwelling Units per Structure ^{2,3}	Max. Principal Structure Footprint ³	Max. Secondary Structure Footprint ³	Max Building face before providing offset ⁵	Min. Distance between Structures on same lot
Residential Low (RL)	35' 3 stories	4	1,800 sq.ft	1,100 sq.ft.	50'	15'
206-208 Dale Road	2 ½ stories	2	1,782	n/a	n/a	n/a

Affirmative finding.

(c) Permitted and Conditional Uses:

The principal land uses that may be permitted, or conditionally permitted pursuant to the requirements of Article 3, within the Residential districts shall be as defined in Appendix A – Use Table and as may be modified by district specific regulations in Sec. 4.4.5 (d).

Duplex is a permitted use. **Affirmative finding.**

(d) District Specific Regulations:

The following regulations are district-specific exceptions, bonuses, and standards unique to the residential districts. They are in addition to, or may modify, city-wide standards as provided in Article 5 of this ordinance and district standards as provided above.

1. Additional Residential Development Permitted

In addition to any applicable development permitted according to Article 11 – Planned Unit Development, the following additional development types and intensities shall be allowed within the Residential Districts, subject to the following standards.

A. Reserved

Table 4.4.5-3 Reserved

B. Residential Development Bonuses

No residential bonuses are sought. Not applicable.

2. Exceptions to Dimensional Standards

A. Encroachment into Side Setback for Residential Driveways

Not applicable.

B. Encroachment into the Waterfront Setback

Not applicable.

C. Exceptions to Lot Coverage for Accessory Residential Features

In addition to lot coverage exemptions in Sec. 5.2.3 (b), within the RL and RM districts, an additional ten (10) percent of lot coverage above the otherwise applicable limit may be permitted for the following amenity features accessory to residential uses provided that such features shall at no time be enclosed:

- (i) *Decks;*
- (ii) *Patios;*

- (iii) *Porches;*
- (iv) *Terraces;*
- (v) *Tennis or other outdoor game courts;*
- (vi) *Swimming pool aprons;*
- (vii) *Walkways;*
- (viii) *Window Wells; and/or*
- (ix) *Pervious pavement designed and maintained to infiltrate the 1-year/24-hour storm event onsite, subject to review and approval by the Stormwater Administrator.*

The application includes the following breakdown of lot coverage:

LOT COVERAGE			
LOT SIZE:	5793.5 SF		
HOUSE FOOTPRINT	1,782 SF		
DRIVEWAYS:	473 SF		
TOTAL:	2,255 SF	38.9%	LOT COVERAGE
PORCHES & STEPS	120 SF		
WALKWAYS:	162 SF		
WINDOW WELLS	64 SF		
REAR STEPS	36 SF		
CONDENSER PADS	18 SF		
TOTAL:	391 SF	6.7%	BONUS LOT COVERAGE
TOTAL:	2646 SF	52.4%	TOTAL LOT COVERAGE

Steps and condenser pads do not fall within the allowance for accessory features, requiring an adjustment to lot coverage calculations. Additionally, there is a math error in calculating all features. The corrected breakdown is as follows:

Base lot coverage: Structures (1782), driveway (473), steps (52.56) and condenser pads (18) = 2325.56, or **40.14%**.

Bonus features: Porches (98.82), walkways (162) and window wells (64) = 324.82 or **5.6%**. Total lot coverage is 2650.38 sf, or **45.75%**. All fall within acceptable limits of Table 4.4.5-1.

Affirmative finding.

3. Exception for Neighborhood Commercial Uses

Not applicable

4. Miscellaneous Standards

A. Additions to Existing Residential Structures.

Not applicable.

B. Accessory Residential Structures, Buildings, and Uses

No accessory structures are proposed. Not applicable.

C. Residential Occupancy Limits.

The Home Act has removed residential occupancy limits. Housing standards shall apply. Not applicable for zoning.

(e) Effective Date.

The amendments to this Section 4.4.5 that allow for a secondary structure within RL and RM zones, except as may otherwise be allowed by Article 11, are effective October 1, 2024.

No secondary structure is requested within this application. Not applicable.

Article 5: Citywide General Regulations

Section 5.2.1 Reserved.

Section 5.2.2 Required Frontage or Access

Per the recently adopted Neighborhood Code, 30' is the required frontage. See Table 4.4.5-1 for confirmation of compliance. **Affirmative finding.**

Section 5.2.3 Lot Coverage Requirements

See Table 4.4.5-1, above.

Section 5.2.4 Buildable Area Calculation & Steep Slopes Overlay District

The parcel is not within the Steep Slopes Overlay; nor does it exceed 2 acres in size. Not applicable.

Section 5.2.5 Setbacks

See Table 4.4.5-1, above.

Section 5.2.6 Building Height Limits

See Table 4.4.5-2, above.

Section 5.2.7 Density and Intensity of Development Calculations

The Neighborhood Code has eliminated density calculations. Not applicable.

Part 3: Non Conformities

Not applicable.

Part 4: Special Use Regulations

Not applicable.

Sec. 5.4.8 Historic Buildings and Sites

Not applicable.

Article 6: Development Review Standards

Part 1: Land Division Design Standards

The parcel has already been created by ZP-24-159. No further subdivision is proposed.

Affirmative finding.

Part 2: Site Plan Design Standards

Sec. 6.2.2 Review Standards

(a)Protection of Important Natural Features:

The landscape, existing terrain and any significant trees and vegetation shall be preserved in their natural state insofar as practicable in keeping with the objectives of the underlying zoning district. Development and site disturbance shall preserve watercourses, wetlands, steep slopes, flood-prone areas, rock outcroppings, wildlife habitat and travel corridors, specimen trees and contiguous stands of forest, and other sensitive ecological and geological areas insofar as practicable in keeping with the objectives of the underlying zoning district.

The rear of the 144 Wildwood lot is treed. The landscaping plan defines two red maples, a sugar maple and a white birch in the rear yard, and existing lilacs along the northwest corner of the front yard.

Site plans shall provide suitable buffers from any proposed site improvements, and maintain continuity and contiguousness of greenspace while allowing reasonable development in support of the overall intent of the zoning district. Where any natural features are proposed to be removed or the topography altered, special attention shall be given to replace or mitigate the loss of such features. Any development occurring on parcels containing significant natural areas identified in the city's Open Space Protection Plan shall avoid disturbance to these natural areas and establish appropriate buffers that protect their natural functions.

The site is not identified within the City's Open Space Protection Plan. **Affirmative finding.**

(b) Topographical Alterations:

Plans do not define a change in topography. **Affirmative finding.**

(c)Protection of Important Public Views:

There are no protected Important Public Views at or through this parcel. **Affirmative finding.**

(d) Protection of Important Cultural Resources:

Not applicable.

(e) Supporting the Use of Renewable Energy Resources:

Where feasible, the site plan should be so designed as to take advantage of the site's inherent potential to utilize sources of renewable energy including direct sunlight, wind, or running water. The site plan should also incorporate site planning and landscaping decisions intended to minimize energy demand such as siting buildings to maximize solar access or the use of deciduous and coniferous trees to create shade and windbreak.

Buildings should, where appropriate within the context of the neighborhood development pattern, maximize their solar exposure by being oriented to maximize natural light and heat gain during winter months, and to minimize casting shadows into ground floor living space of a building on an adjacent property.

The proposed duplex will retain the street arrangement along Dale Road with the home facing the public right-of-way (west). There is nothing noted within the plan to include solar, wind, geothermal, or other renewable energy resource. The most easily accessible renewable resource is direct sunlight; the opportunity minimized with largely blank walls on the north/west and south/east elevations of the house. Adding windows to both the first and second floors would greatly improve access to natural sunlight to the building's interior, increasing the use of a renewable resource and improve the the livability of the property.

The Design Advisory Board has conditioned their support upon consistent sizes of windows on all sides (rather than the small hallway windows), and construction of a roof overhang at least 18-20" to reduce the heating effect of summer sunlight while still allowing plenty of light as the sun dips closer to the horizon in the fall and winter. Those changes are reflected in revised plans of 7.29.2024.

The project is required to comply with the City's adopted Thermal Energy Plan. Reference is made to **Article V. Thermal Heating Systems (8-76)** of the Burlington Code of Ordinances. **Affirmative finding as conditioned.**

(f) Brownfield Sites:

Not applicable.

(g) Provide for nature's events:

Special attention shall be accorded to stormwater runoff so that neighboring properties and/or the public stormwater drainage system are not adversely affected. All development and site disturbance shall follow applicable city and state erosion and stormwater management guidelines in accordance with the requirements of Art 5, Sec 5.5.3.

Annotated plan C.-1 illustrates the anticipated Stormwater Flow around the building and onto Leddy Park land. Both the EPSC and Stormwater plan must be approved by the Stormwater Engineering program. **Affirmative finding as conditioned.**

Design features which address the effects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage from circulation areas shall also be incorporated.

Front entries are sheltered under open porches. Rear doors are now covered with modest pent-roof canopies.

Affirmative finding.



(h) Building Location and Orientation:

The introduction of new buildings and additions shall be consistent with the intent of the district. New buildings and additions should be aligned with the front façade of neighboring buildings to reinforce the existing “street-edge,”

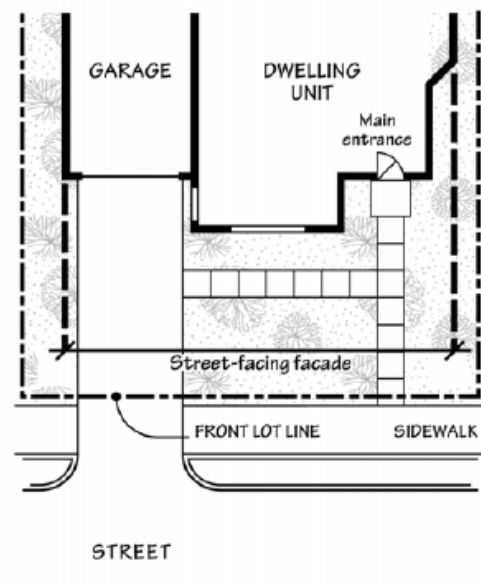
or where necessary, located in such a way that complements existing natural features and landscapes.

The duplex is proposed to face Dale Road, and will be oriented as similar residences along the public way, continuing to define the street “wall.”

Principal buildings shall have their main entrance facing and clearly identifiable from the public street.

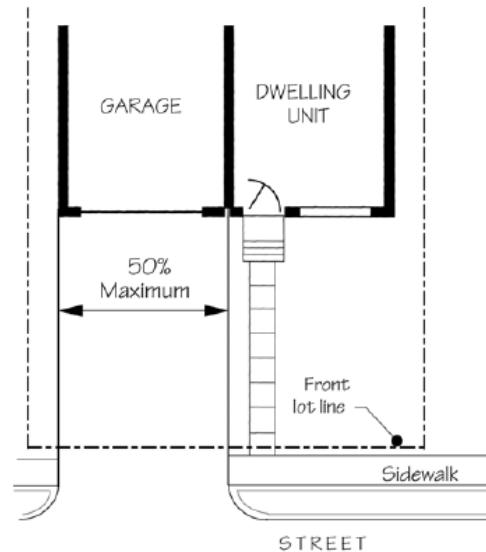
Main entrances both face the street and are clearly identifiable.

In residential areas, accessory buildings shall be located in such a way so as to be secondary and subordinate in scale and design to the principal structure. A parking structure – either attached or detached – shall be setback from the longest street-facing wall of the principal structure and be deferential yet consistent in character and design. Where a garage is not oriented towards the street (i.e. the garage doors face the rear or side yard), the street-facing garage wall shall have windows or doors or other features that break-up the mass into smaller elements, and be blended with the character of the residential portion of the structure.



Where a garage is attached to a principal single-family or duplex residential structure and oriented to the street (i.e. the garage doors face the street) the following standards shall apply:

1. *Except as provided in subsections 3, 4 and 5 below, a street-facing garage wall shall constitute no more than 50% of the width of the street-facing façade of the entire structure (including the garage portion), and shall not exceed 24-feet. In cases where a street-facing garage wall constitutes between 30%-50% of the street-facing façade, living space is encouraged above to integrate the garage more closely into the design and mass of the overall structure. In cases where the street-facing garage wall constitutes more than 50% of the width of the street-facing façade, living space above is required.*



The street facing structural measurement is 44' in width, and the garage openings measure 22' of that; 50%. Living space is above the garage. **Affirmative finding.**

2. *Each bay of the garage shall have a separate entrance door of no more than 10-feet in width.*

Garage door openings are measured at 9.0'. **Affirmative finding.**

3. *Where the width of the street-facing façade of the residential portion of the structure is less than 14 feet, the street-facing garage portion may be allowed up to but not exceeding 14 feet in order to allow for a single garage bay.*

Not applicable.

4. *Where a garage entrance is within a single roofline and wholly integrated into the overall design the front façade of the structure, it may constitute more than 50% of the width of the street-facing façade provided there is interior living space above, and the primary pedestrian entrance offers a clear and welcoming entrance from the street.*

Not applicable.

5. *Enclosed space originally designed and constructed as a garage for vehicular parking but converted to living space may be converted back to enclosed vehicular parking provided there is no expansion of the building footprint necessary to complete the conversion.*

Not applicable.

(i) Vehicular Access:

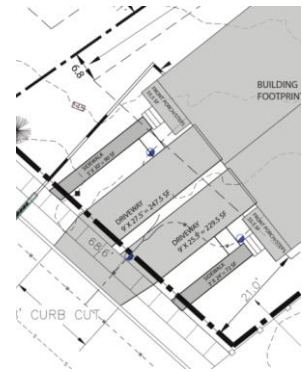
Curb cuts shall be arranged and limited in number to reduce congestion and improve traffic safety. A secondary access point from side roads is encouraged where possible to improve traffic flow and safety along major streets. The width and radius of curb cuts should be kept to the minimum width necessary, and sight triangles and sufficient turnarounds for vehicles shall be provided to reduce the potential for accidents at points of egress.

A single curb cut of 18' is proposed, leading to two discrete driveways. A separate curb cut permit will be required from the Department of Public Works. **Affirmative finding as conditioned.**

(j) Pedestrian Access:

Pedestrians shall be provided one or more direct and unobstructed paths between a public sidewalk and the primary building entrance. Well defined pedestrian routes shall be provided through parking areas to primary building access points and be designed to provide a physical separation between vehicles and pedestrians in a manner that minimizes conflicts and improves safety. Where sidewalks and driveways meet, the sidewalk shall be clearly marked by differentiated ground materials and/or pavement markings.

Separate pedestrian walkways are provided from each unit to the public way. The existing public sidewalk extends to the end of the street, accommodating this development. **Affirmative finding.**



(k) Accessibility for the Handicapped:

While encouraged, handicap access is not a requirement for construction of a duplex. Vermont's Visitability Standards are encouraged for incorporation in the plan. **Affirmative finding.**

(l) Parking and Circulation:

To the extent possible, parking should be placed at the side or rear of the lot and screened from view from surrounding properties and adjacent public rights of ways.

Parking is provided for each unit within garages, with an opportunity for tandem parking in each driveway. **Affirmative finding.**

Parking shall be laid out to provide ease in maneuvering of vehicles and so that vehicles do not have to back out onto city streets. Dimensions of spaces shall at a minimum meet the requirements as provided in Article 8. The perimeter of all parking areas shall be designed with anchored curb stops, landscaping, or other such physical barriers to prevent vehicles from encroaching into adjacent green spaces.

At 25-27' in length with an 18' curb cut, there is adequate room for maneuvering vehicles in and out of the driveway. **Affirmative finding.**

All parking areas shall provide a physical separation between moving and parked vehicles and pedestrians in a manner that minimizes conflicts and gives pedestrians a safe and unobstructed route to building entrance(s) or a public sidewalk.

Discrete pedestrian paths are provided to each unit. **Affirmative finding.**

Where bicycle parking is provided, access shall be provided along vehicular driveways or separate paths, with clearly marked signs indicating the location of parking areas. Where bicycle parking is located proximate to a building entrance, all shared walkways shall be of sufficient width to separate bicycles and pedestrians, and be clearly marked to avoid conflicts. All bicycle parking areas shall link directly to a pedestrian route to a building entrance. All bicycle parking shall be in conformance with applicable design & construction details as provided by the dept. of public works.

Article 8, Part 2 (Table 8.2.4-1) requires 1 bike long term bike parking space per 2 bedrooms. Based on two units, each with 3 bedrooms, $6/2 = 3$ long term bike parking spaces are required. The applicant notes that these will be provided within the garage(s). **Affirmative finding.**

(m) Landscaping, Fences and Retaining Walls:

Landscaping shall be used to beautify the development site and to provide specific functions and benefits to the uses and buildings on the site. These include but are not limited to stormwater retention and erosion control, winter windbreaks and summer shade, recreational and habitat corridors, buffers and screening of parking areas, and creating privacy for and from adjacent property.

Existing trees shall be retained and incorporated into a landscape plan to the extent possible, and existing trees to be retained shall be protected during construction in accordance with specifications provided by the city arborist. Contiguous green space, both within the site and with adjacent properties, should be provided on a site whenever possible and be designed to provide wildlife travel corridors and habitat preservation, as well as enabling recreational access. If open space is intended to be publicly accessible, it shall be designed to maximize accessibility for all individuals including the disabled, encourage social interaction, and facilitate ease of maintenance. Along the street edge, landscaping shall be used to provide a visual buffer into parking areas from the public

*street and reinforce the streetscape. The selection of plant materials and planting sites should create a sustainable landscape, and consideration shall be given to factors such as hardiness, salt tolerance, disease resistance, invasiveness, root and canopy spread, underground and overhead utilities, soil conditions, and microclimates. The use of native plant materials is encouraged, and the use of plants considered invasive by VT Agency of Agriculture shall be prohibited. For more information on sustainable landscapes, applicants are encouraged to consult *Planting Sustainable Landscapes: A Guide for Plan Reviewers* prepared for the Vermont Department of Forests Parks and Recreation by the Vermont Chapter of the American Society of Landscape Architects.*

New or replacement street trees shall be provided consistent with the city's Street Tree Master Plan. All proposed street trees shall be selected and planted in accordance with specifications provided by the city arborist.



The provided “landscape plan” (C-1, annotated) defines four existing trees in the backyard; existing lilacs along the front property line at the northwest corner, and hydrangeas at each entrance. A Native Vermont Rain Garden is illustrated between the driveways, although no specific planting plan is included for that feature.

Fences may be placed within the required setback along a property line, but shall be setback sufficiently to provide for the maintenance of both sides of the fence without entering onto the adjacent property and shall present a finished side to the adjoining property and public street. Fences placed within a clear sight triangle shall adhere to the standards of Sec. 5.2.6 (c). Styles, materials, and dimensions of the proposed fence shall be compatible with the context of the neighborhood and the use of the property.

Retaining walls greater than 5 feet tall shall incorporate textured surfaces, terracing, and/or vegetation to avoid long monotonous unarticulated expanses and to minimize adverse visual impacts to neighboring properties. As with fences, retaining wall styles, materials, and dimensions shall be compatible with the context of the neighborhood and use of the property.

No fences or retaining walls are identified within the submission. **Affirmative finding.**

(n) Public Plazas and Open Space:

There are no identified public plazas or intentional open space within the application. There is a modest amount of lawn available for tenant amenity, which includes a shared garden space in close proximity to the window wells. **Affirmative finding.**

(o) Outdoor Lighting:

Where exterior lighting is proposed the applicant shall meet the lighting performance standards as per Sec 5.5.2.

Recessed lighting is proposed at front entrance porches and under the garage canopy. Exterior fixtures are residential style fixtures, and acceptable for new construction. **Affirmative finding.**

(p) Integrate infrastructure into the design:

Exterior storage areas, machinery and equipment installations, service and loading areas, utility meters and structures, mailboxes, and similar accessory structures shall utilize setbacks, plantings, enclosures and other mitigation or screening methods to minimize their auditory and visual impact on the public street and neighboring properties to the extent practicable.

Condensing units are illustrated at the northwest (side) elevation. Mailboxes are adjacent to front entrances. Trash and recycling will be located within the garages. Utility meters are located on a side (northwest) elevation. Reference is made to Plan A2.1. **Affirmative finding.**

Utility and service enclosures and screening shall be coordinated with the design of the principal building, and should be grouped in a service court away from public view. On-site utilities shall be placed underground whenever practicable. Trash and recycling bins and dumpsters shall be located, within preferably, or behind buildings, enclosed on all four (4) sides to prevent blowing trash, and screened from public view.

Trash and recycling shall be accommodated within the garages. **Affirmative finding.**

Any development involving the installation of machinery or equipment which emits heat, vapor, fumes, vibration, or noise shall minimize, insofar as practicable, any adverse impact on neighboring properties and the environment pursuant to the requirements of Article 5, Part 5 Performance Standards.

HVAC components are proposed to be included, and are required to meet setbacks and be screened from view. **Affirmative finding.**

PART 3: ARCHITECTURAL DESIGN STANDARDS

Sec. 6.3.2 Review Standards

(a) Relate development to its environment:

Proposed buildings and additions shall be appropriately scaled and proportioned for their function and with respect to the purpose of the zoning district. They should integrate harmoniously into the topography, and to the use, scale, and architectural details of existing buildings in the vicinity; however, such consideration shall not require building

height to be more limited than otherwise allowed within an applicable zoning district or overlay zone per Article 4.

The following shall be considered:

1. Massing, Height and Scale:

While architectural styles or materials may vary within a streetscape, proposed development should maintain an overall scale similar to that of surrounding buildings, or provide a sensitive transition, where appropriate, to development of a dissimilar scale.

The proposed duplex is fully two stories. The majority of houses within this neighborhood are ranch-style (1 story), Cape (1 ½ story) and a handful of Split Level residences. The proposed duplex is not wholly out-of-scale with the existing neighborhood, and compliant with height allowances of Article 4. **Affirmative finding.**

In low and medium residential districts, the height and massing of existing residential buildings should be carefully considered when evaluating the compatibility of additions and infill development; however, no modifications by the DRB shall be made to projects which otherwise limit the allowable Principal Structure footprint, height, and number of units per building otherwise permitted by Tables 4.4.5-1 and 4.4.5-2.

The Neighborhood Code allows buildings up to 35' in height and a maximum principal structure footprint of 1,800 sf. (Building footprint of 1,782 proposed.) See Table 4.4.5-2. **Affirmative finding.**

Buildings should maintain consistent massing and perceived building height at the street level, regardless of the overall bulk or height of the building. Buildings should maintain a relationship to the human scale through the use of architectural elements, variations of proportions and materials, and surface articulations. Large expanses of undifferentiated building wall along the public street or sidewalk shall be avoided. The apparent mass and scale of buildings shall be broken into smaller parts by articulating separate volumes reflecting existing patterns in the streetscape, and should be proportioned to appear more vertical than horizontal in order to avoid monotonous repetition. (See also (d) Provide an active and inviting street edge below.)

Building elevations define front entry porches, symmetrical arrangement of building openings, a pent roof over the garage/porches, and a centered 2nd story gable. Materials are proposed to be differentiated between the first and second floor.

There remain large expanses of blank walls on the north and south elevations that could improve the livability of the units and provide additional interior daylighting if more windows were included. To successfully achieve these goals, a revised floor plan is recommended, placing interior stairs along interior party walls rather than along exterior walls.

Affirmative finding as conditioned.

2. Roofs and Rooflines.

New buildings should incorporate predominant roof forms and pitches within the existing neighborhood and appropriate to the context. Large expanses of undifferentiated roof forms shall be avoided. This can be achieved by incorporating dormers or some variation in the roof form to lessen the impact of the massing against the sky. While flat roofs can be a reasonable architectural solution, pitched roof forms and architectural elements that enhance the city's skyline are strongly encouraged. Roof eaves, parapets, and cornices should be articulated as an architectural detail. Roof-top mechanicals shall be screened from view from the public street, and should be incorporated into and hidden within the roof structure whenever possible.

The eaves-front plan is broken up with a centered gable creating the illusion of an extruded pavilion, although the wall plane remains static. A pent roof extrudes at the top of the first floor primary elevation, extending over the porches and creating a canopy over the garage entrances.

The Design Advisory Board conditioned their support upon extending the roof overhang to 18-20" to reduce the heating effect of summer sunlight. Canopies over rear entrances are also recommended.

Affirmative finding as conditioned.

3. Building Openings

Principal entrances shall be clearly defined and readily identifiable from a public street whether by a door, a canopy, porch, or other prominent architectural or landscape features. People with physical challenges should be able to use the same entrance as everyone-else and shall be provided an "accessible route" to the building. Attention shall also be accorded to design features which provide protection from the affects of rain, snow, and ice at building entrances, and to provisions for snow and ice removal or storage.

The primary entrances are clearly defined and readily identifiable. Vermont Visitability Standards are recommended for incorporation. While the primary entrances are protected from inclement weather, the rear double doors could benefit from a minor canopy to provide similar protection.

Window openings shall maintain consistent patterns and proportions appropriate to the use. The window pattern should add variety and interest to the architecture, and be proportioned to appear more vertical than horizontal.

Windows have been symmetrically placed across all elevations. The deficiency in the plan is the dearth of windows on north and south elevations, resulting from the proposal to arrange interior stairs along exterior walls. (This was a similar weakness in the original 41 Adams Street triplex review.) This floor plan limits window openings in the Master Bedroom, kitchen, and living/dining areas and creates windowless kitchens and 6 powder rooms. Instead, small

windows are provided in hallways (including those on the primary elevation) rather than daylighting living areas. For natural light, air circulation, and an overall improvement in residential comfort, the floor plan is recommended to be revised to:

1. Increase windows in living areas, and
2. Create additional opportunities for natural daylight, air circulation, and overall improvement in function and enjoyment. Moving the interior stairs to interior walls will help provide additional sound buffering between units, provide the opportunity for additional windows to be placed in the kitchen, Master bedroom, and bathrooms, increase natural daylight and air circulation within each unit, and avoid the large expanses of uninterrupted walls on the north and south elevations.

The DAB has conditioned support upon maintaining a consistent window size around the structure.

Affirmative finding if conditioned.

(b) Protection of Important Architectural Resources:

Not applicable.

(c) Protection of Important Public Views:

Not applicable.

(d) Provide an active and inviting street edge:

Building facades shall be varied along the street edge by the integration of architectural features, building materials, or physical step-backs of the façade along its length. Large expanses of undifferentiated building wall shall be avoided. This may be accomplished by incorporating fenestration patterns, bays, horizontal and vertical façade articulations, the rhythm of openings and prominent architectural features such as porches, patios, bays, articulated bases, stepping back an elevation relative to surrounding structures, and other street level details. The use of traditional facade components such as parapet caps, cornices, storefronts, awnings, canopies, transoms, kick plates, and recessed entries are highly encouraged.

The primary façade is neatly arranged and provides easily identifiable entrances. Porches and a centered gable are included. Materials are proposed to be differentiated. Walkways are provided to segregate pedestrians from vehicular movement.

It is a lost opportunity that the second story windows on three elevations include windows into hallways, rather than profiting from an improved floor plan that would accommodate additional windows for interior rooms; providing much greater improvement in function, air circulation, daylighting and resident comfort.

Affirmative finding.

(e) Quality of materials:

All development shall maximize the use of highly durable building materials that extend the life cycle of the building, and reduce maintenance, waste, and environmental impacts. Such materials are particularly important in certain highly trafficked locations such as along major streets, sidewalks, loading areas, and driveways. Efforts to incorporate the use of recycled content materials and building materials and products that are extracted and/or manufactured within the region are highly encouraged.

Plan A2.1 defines the intention of asphalt shingle roofing, composite board and batten in the gable ends and vinyl siding for the bulk of the structure. All are considered acceptable for new construction.

(f) Reduce energy utilization:

New structures should incorporate the best available technologies and materials in order to maximize energy efficient design. All new construction shall meet the Guidelines for Energy Efficient Construction pursuant to the requirements of Article VI. Energy Conservation, Section 8 of the City of Burlington Code of Ordinances.

Per Burlington's adopted Thermal Energy Ordinance, new buildings are required to demonstrate the building will utilize renewable energy thermal energy systems. Reference is made to **8-78** of Burlington's Code of Ordinances.

New structures should take advantage of solar access where available, and shall undertake efforts to reduce the impacts of shadows cast on adjacent buildings where practicable, in order to provide opportunities for the use of active and passive solar utilization.

See above comments about increasing daylight with a recommendation for floor plan revision to provide the opportunity for windows within occupied rooms.

Affirmative finding as conditioned.

(g) Make advertising features complementary to the site:

Not applicable.

(h) Integrate infrastructure into the building design:

See Section 6.2.2. (p), above.

(i) Make spaces secure and safe:

Spaces shall be designed to facilitate building evacuation, accessibility by fire, police or other emergency personnel and equipment, and, to the extent feasible, provide for adequate and secure visibility for persons using and observing such spaces. Building entrances/entry points shall be visible and adequately lit, and intercom systems for multi-family housing should be incorporated where possible, to maximize personal safety.

The City's E-911 Coordinator has provided a new address assignment for this parcel, allowing it to be easily identifiable to emergency responders.

Development shall comply with all required building and life safety code as defined by the building official and fire marshal. **Affirmative finding as conditioned.**

Article 8: Parking

Section 8.1.8 Minimum Off-Street Parking Requirements

Requirements for a minimum number of off-street parking spaces have been recognized as an impediment to building housing and other desired uses, inhibit the expansion of alternative transportation and transportation demand management, and act as an instrument to overbuilding parking and incentivize single occupancy automobile use. Therefore, minimum off-street spaces are eliminated in all parking districts for all uses...

There are no minimum parking requirements. Not applicable.

II. Conditions of Approval

1. A curb cut permit is required from the Department of Public Works.
2. The project is required to comply with the City's adopted Thermal Energy Plan. Reference is made to Article V. Thermal Heating Systems (8-76) of the Burlington Code of Ordinances.
3. Both the EPSC and Stormwater plan must be approved by the Stormwater Engineering program **prior to release of the zoning permit.**
4. 3 long term bike parking spaces shall be provided on-site. (6 bedrooms / 2 = 3.)
5. Minor canopies are recommended over rear doors to shelter residents from inclement weather.
6. Condensing units shall be screened from public view.
7. A revised floor plan is strongly recommended; placing interior stairs along party walls to accommodate more windows along northwest and southeast elevations. Revisions will allow for expanded opportunities for daylight into interior rooms, increased air circulation with cross-ventilation, and an improved floor plan allowing greater resident enjoyment.
8. Based on the gross area of 3,564 as reported on Plan C1, the following Impact Fees shall be paid to the city's chief administrative officer/city treasurer at least seven (7) days prior to occupancy of a new building or any portion thereof.

SF of
Project 3,564

Department	<u>Residential</u>	
	Rate	Fee
Traffic	0.231	823.08
Fire	0.261	929.64
Police	0.053	187.40
Parks	0.874	3,115.96
Library	0.541	1,929.10

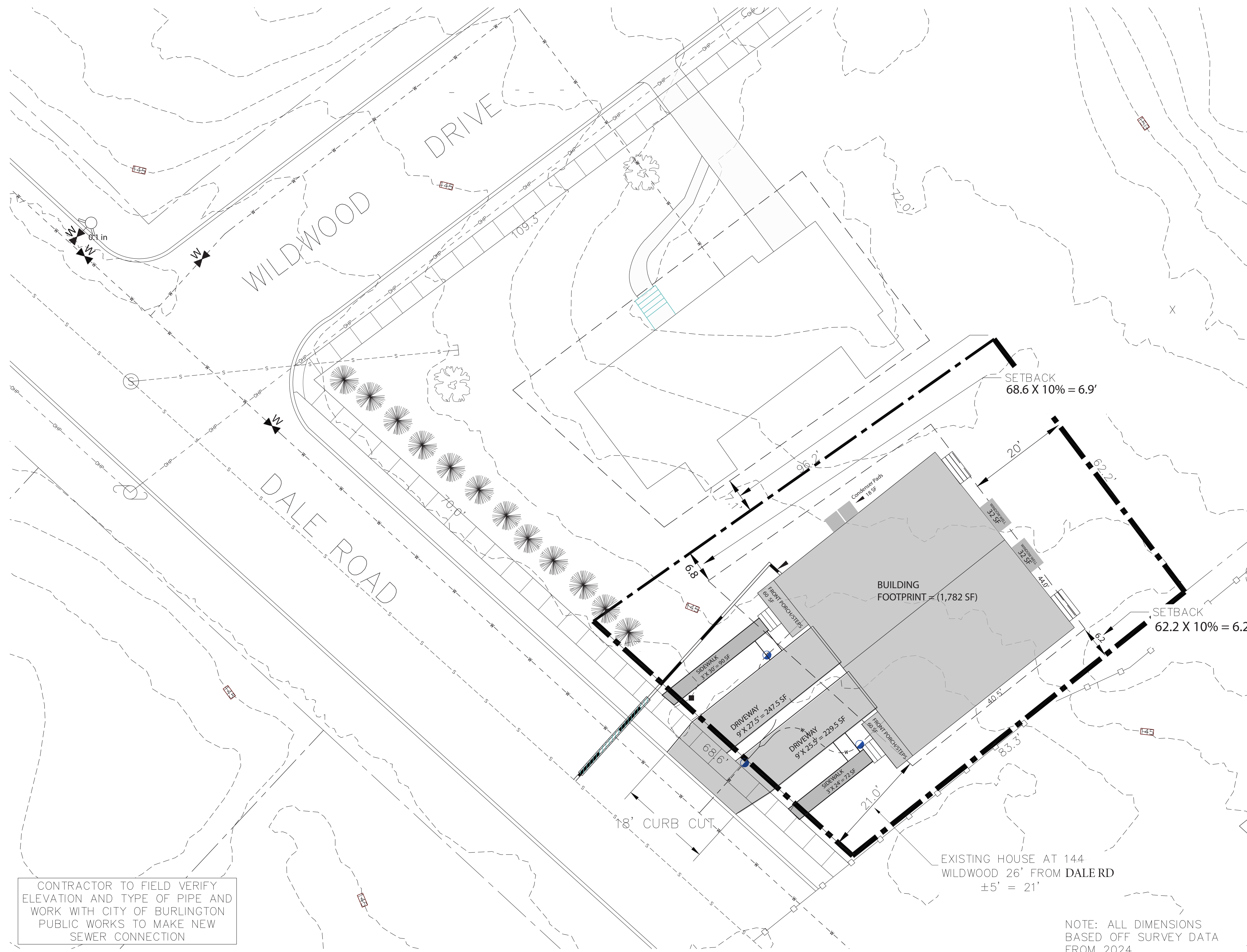
Schools	1.129	4,023.56
Total	3.089	\$ 11,008.74

9. Standard Permit Conditions 1-15.

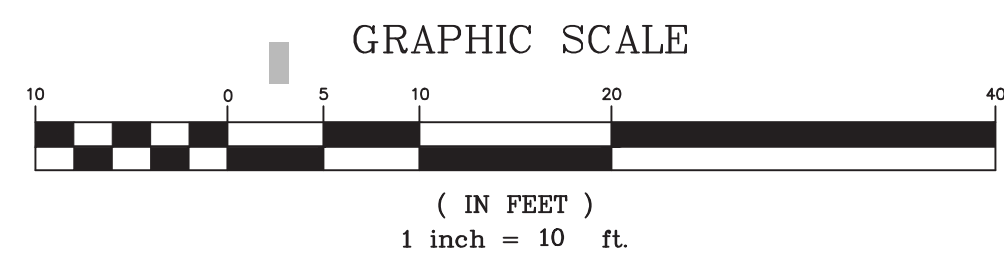
NOTE: These are staff comments only. The Development Review Board, who may approve, table, modify, or deny projects, makes decisions.



Proposed Subdivision



CONTRACTOR TO FIELD VERIFY ELEVATION AND TYPE OF PIPE AND WORK WITH CITY OF BURLINGTON PUBLIC WORKS TO MAKE NEW SEWER CONNECTION



NOTE: ALL DIMENSIONS BASED OFF SURVEY DATA FROM 2024

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



LOCATION PLAN N.T.S.

LEGEND

- PROJECT BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- BUILDING SETBACK
- EXISTING MAJOR CONTOUR LIDAR 5'
- EXISTING MINOR CONTOUR LIDAR 1'
- EXISTING SEWER MANHOLE AND LINE
- EXISTING WATERLINE
- EXISTING GATE VALVE & HYDRANT
- PROPOSED PROPERTY LINE
- PROPOSED WATER SHUTOFF-SERVICE
- PROPOSED SEWER SERVICE

ZONING INFORMATION

PARCEL ID:
ZONED: RESIDENTIAL- LOW DENSITY (RL)
DIMENSIONAL REQUIREMENTS
MINIMUM LOT AREA: N/A
MINIMUM LOT FRONTAGE: 30 FT
MAXIMUM ALLOWED COVERAGE: 45%

SETBACKS: REQUIRED
FRONT: 21' - SEE CALC
SIDE: 10% OF LOT WIDTH - SEE CALC
REAR: 20'

LOT COVERAGE

LOT SIZE:	5793.5 SF	
HOUSE FOOTPRINT	1,782 SF	
DRIVEWAYS:	473 SF	
TOTAL:	2,255 SF	38.9% LOT COVERAGE
PORCHES & STEPS	120 SF	
WALKWAYS:	162 SF	
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CONDENSER PADS	18 SF	
TOTAL:	391 SF	6.7% BONUS LOT COVERAGE
TOTAL:	2646 SF	52.4% TOTAL LOT COVERAGE

BUILDING AREA	
FIRST FLOOR:	1,304 SF
GARAGES:	478 SF
SECOND FLOOR:	1,782 SF
TOTAL:	3,564 SF (INCLUDING GARAGE)

DATE	REVISION	BY
SURVEY JRF	RECORD DRAWING	DATE 6/22/24
DESIGN PWK/KGM	PRELIMINARY	JOB# 2024-02
DRAWN PWK/KGM	SKETCH/CONCEPT	FILE 2024-02-25
CHECKED KGM		PLAN SHEET #
SCALE 1"=10'		C1
O'LEARY-BURKE CIVIL ASSOCIATES, PLC		
13 CORPORATE DRIVE ESSEX JCT., VT PHONE: 878-9990 FAX: 878-9989 E-MAIL: OBCA@olearyburke.com		
OWNER: WILD DALE LLC		
DALE ROAD DUPLEX		
SITE PLAN		

New Duplex Build
at
206 - 208 Dale Road
Burlington, Vermont

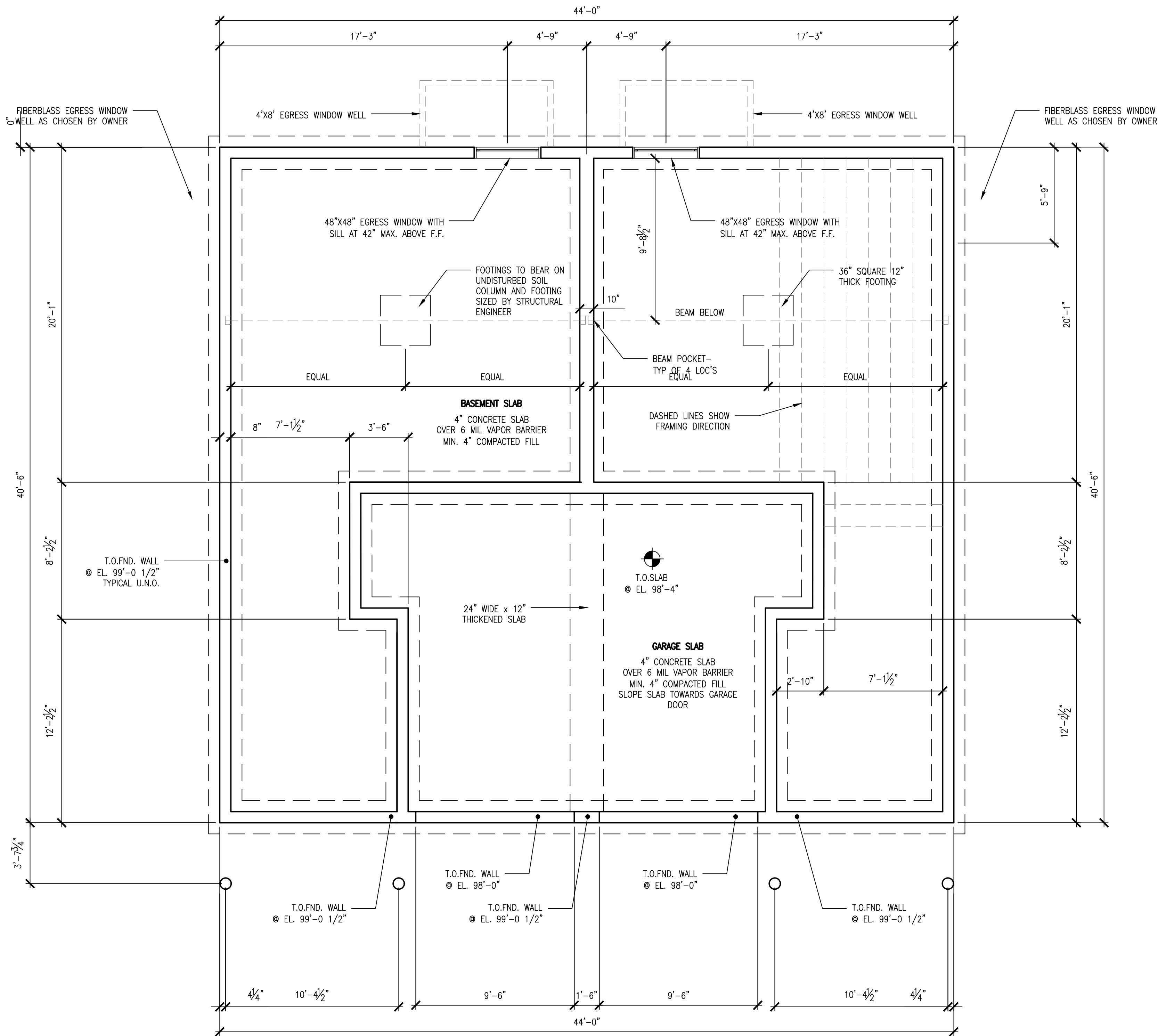


Drawing List

C1	Civil Site Plan
A1.0	Foundation Plan
A1.1	Floor Plans
A2.1	Elevations
A3.1	Building Section

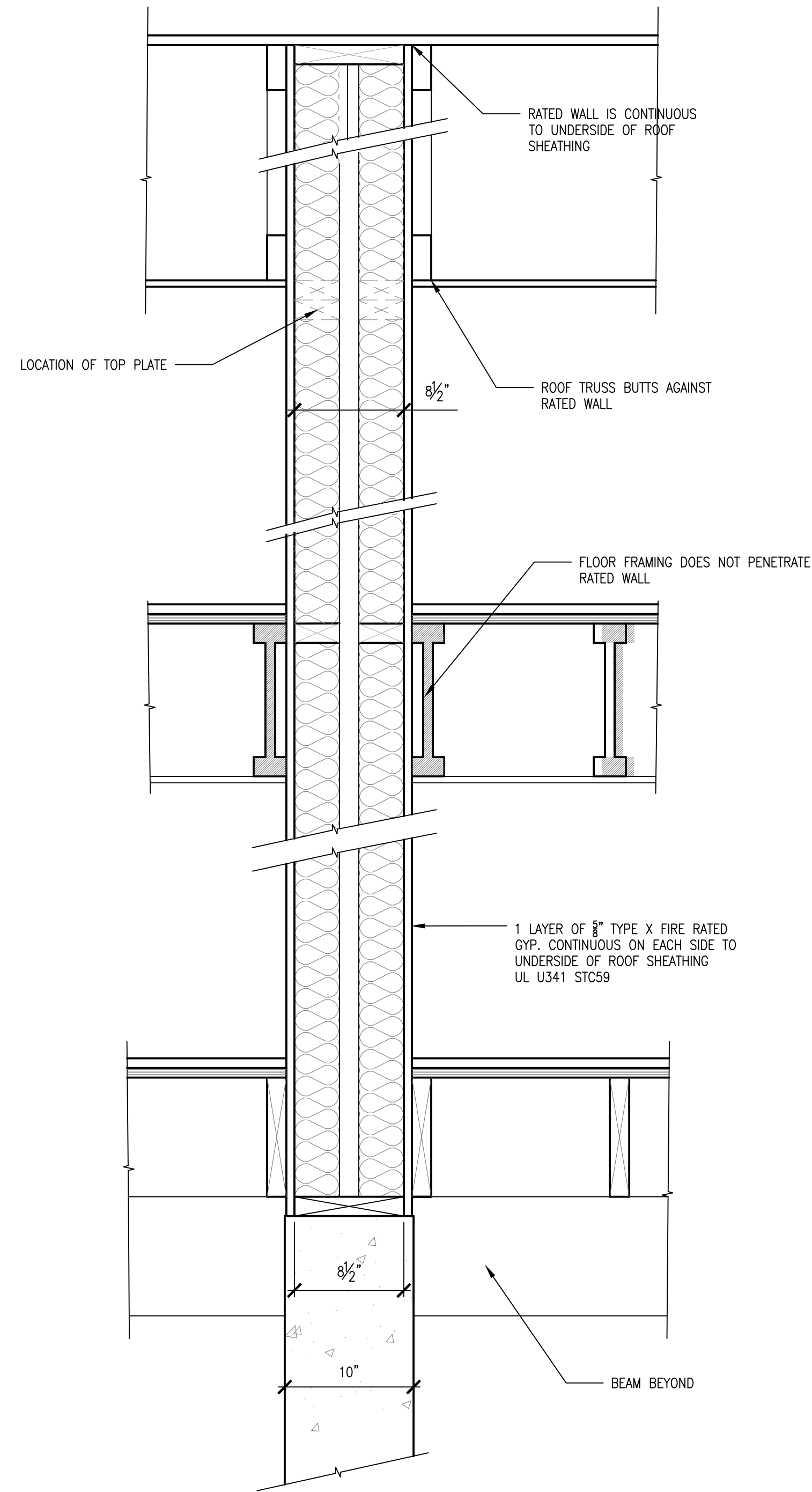
PROJECT NOTES:

1. PROJECT IS DESIGNED TO CONVEY INTENT, MATERIALS, DIMENSIONS TO BUILDER.
2. BUILDER IS RESPONSIBLE FOR MEANS AND METHODS, INCLUDING QUALITY, SCHEDULING.
3. ARCHITECT HAS SIZED STRUCTURE NOMINALLY. BUILDER IS RESPONSIBLE FOR FINAL STRUCTURE.
 - a. ANY QUESTIONS OR CONCERNS ARE TO BE BROUGHT TO ARCHITECT.
4. OWNER WILL BE CHOOSING FINISHES
5. ELECTRICAL, MECHANICAL AND LIGHTING ARE TO BE DESIGN BUILD – COORDINATE WITH OWNER.
6. BUILDER IS TO ALERT OWNER & ARCHITECT OF ANY DISCREPENCIES IN PLAN OR IF ADDITIONAL DESIGN ELEMENTS ARE NEEDED.



1 Foundation Plan
1/4" = 1'-0"

NOTES:
1. ALL DIMENSIONS ARE TO FACE OF CONCRETE UNLESS NOTED OTHERWISE.
2. ALL WALL THICKNESSES ARE 8" UNLESS NOTED OTHERWISE.



2 Rated Party Detail
1 1/2" = 1'-0"



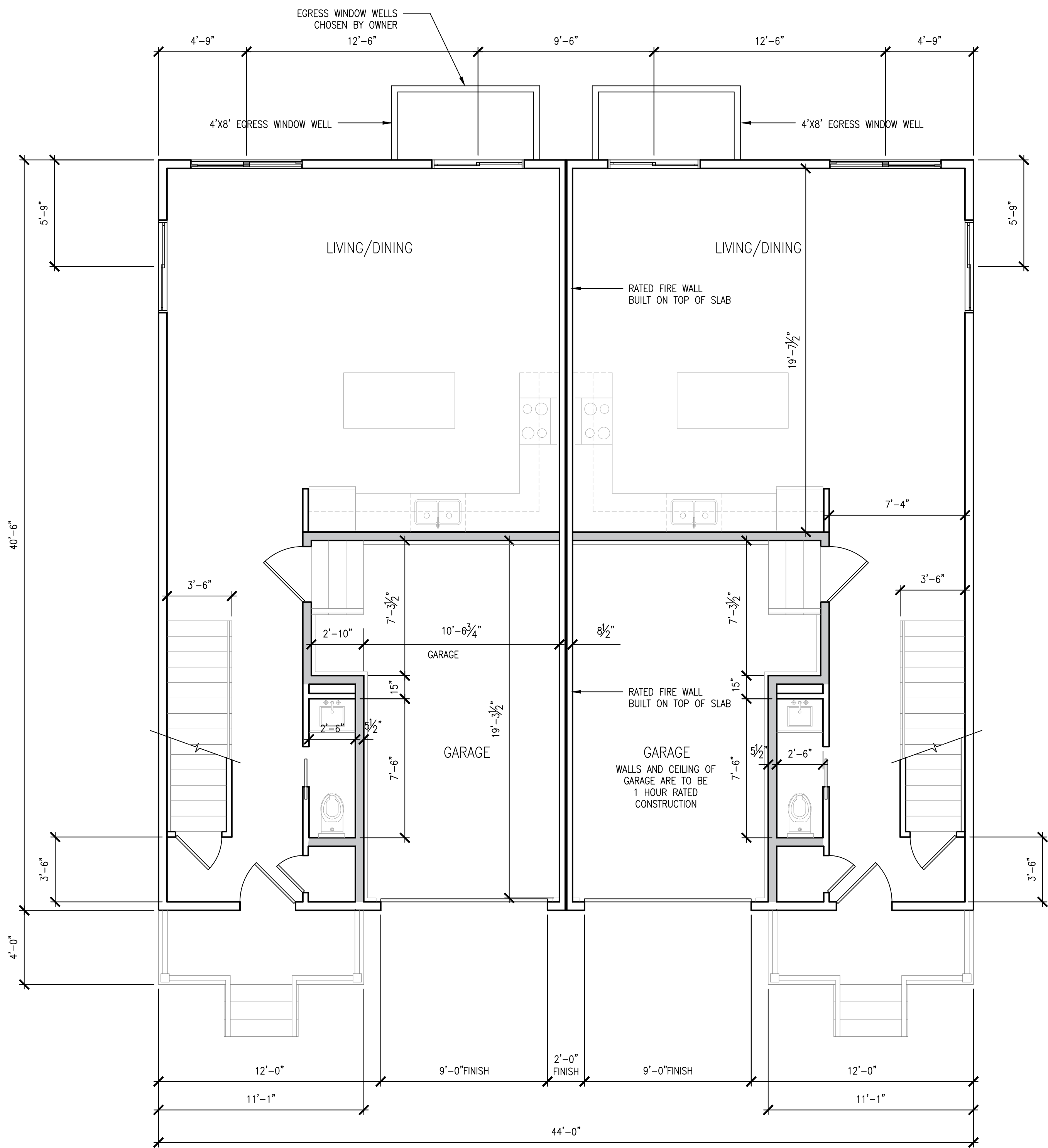
New Duplex Build
at
206-208 Dale Rd.
Burlington, Vermont

FOUNDATION
PLAN

DATE
07/28/24

SHEET NUMBER

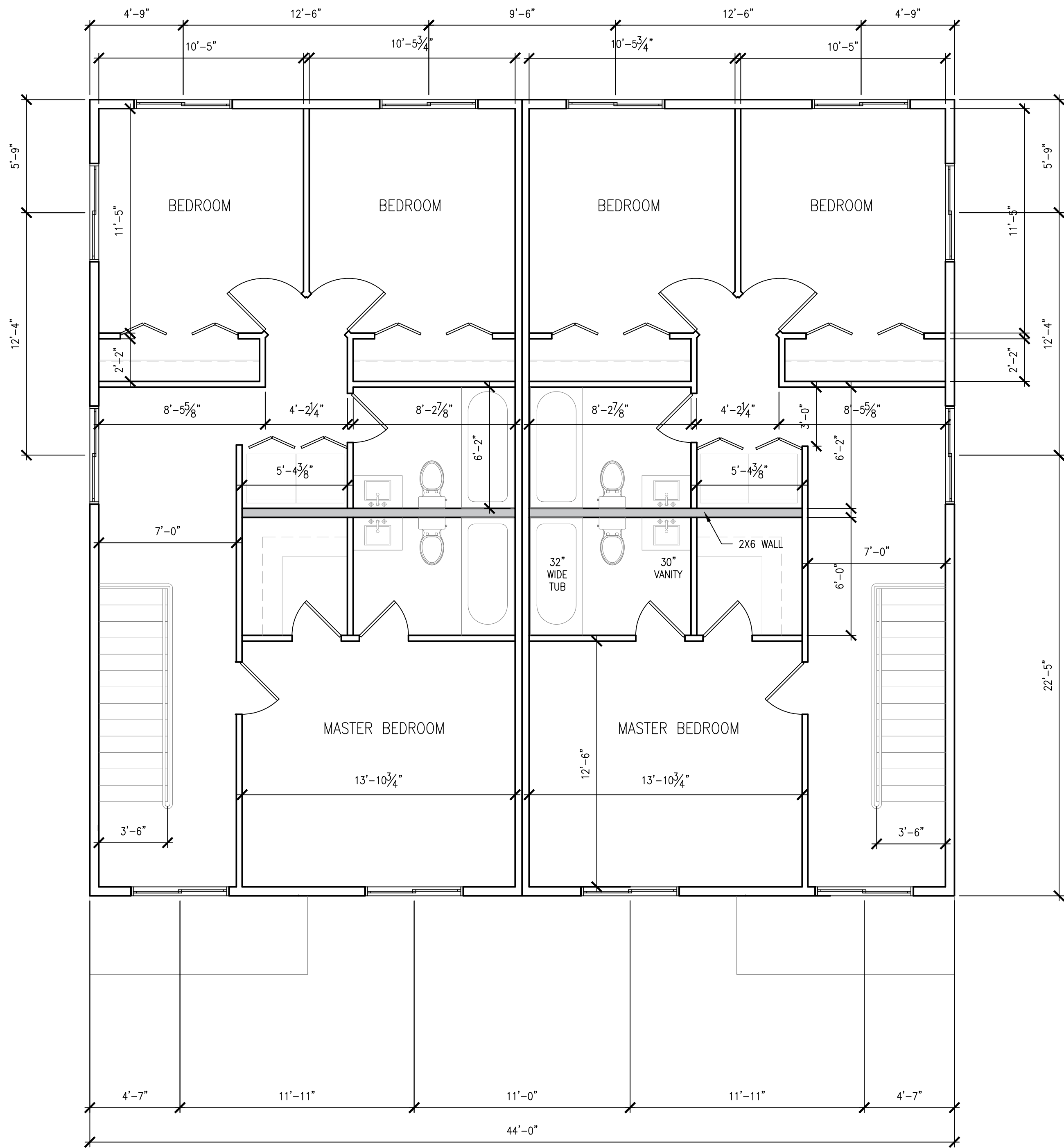
A1.0



1 First Floor Plan

1/4" = 1'-0"

- NOTES:
1. ALL DIMENSIONS ARE FACE OF STUD UNLESS NOTED OTHERWISE
 2. INTERIOR WALLS ARE 2X4 UNLESS NOTED OTHERWISE
 3. 2X6 INTERIOR WALLS ARE SHADED
 4. PLUMBING FIXTURES ARE TO BE INSTALLED AS SHOWN ON THIS PLAN



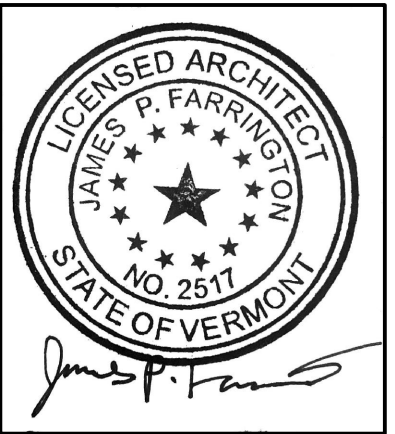
2 Second Floor Plan

1/4" = 1'-0"

- NOTES:
1. ALL DIMENSIONS ARE FACE OF STUD UNLESS NOTED OTHERWISE
 2. INTERIOR WALLS ARE 2X4 UNLESS NOTED OTHERWISE
 3. 2X6 INTERIOR WALLS ARE SHADED
 4. PLUMBING FIXTURES ARE TO BE INSTALLED AS SHOWN ON THIS PLAN

Building Area

FIRST FLOOR:	1,304 SF
GARAGES:	478 SF
SECOND FLOOR:	1,782 SF
TOTAL:	3,564 SF (INCLUDING GARAGE)



New Duplex Build
at
206-208 Dale Rd.
Burlington, Vermont

FLOOR
PLANS

DATE

07/28/24

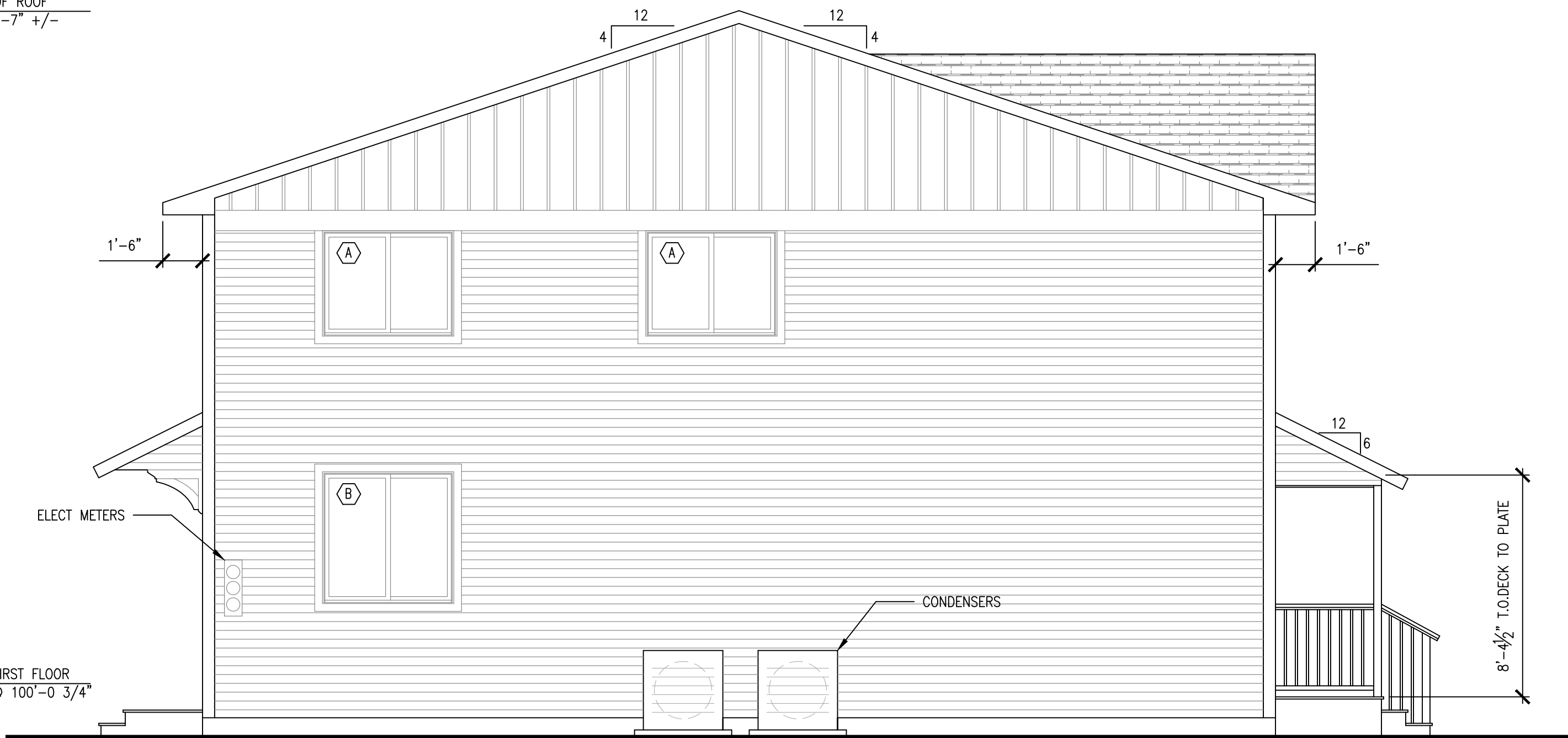
SHEET NUMBER

A1.1



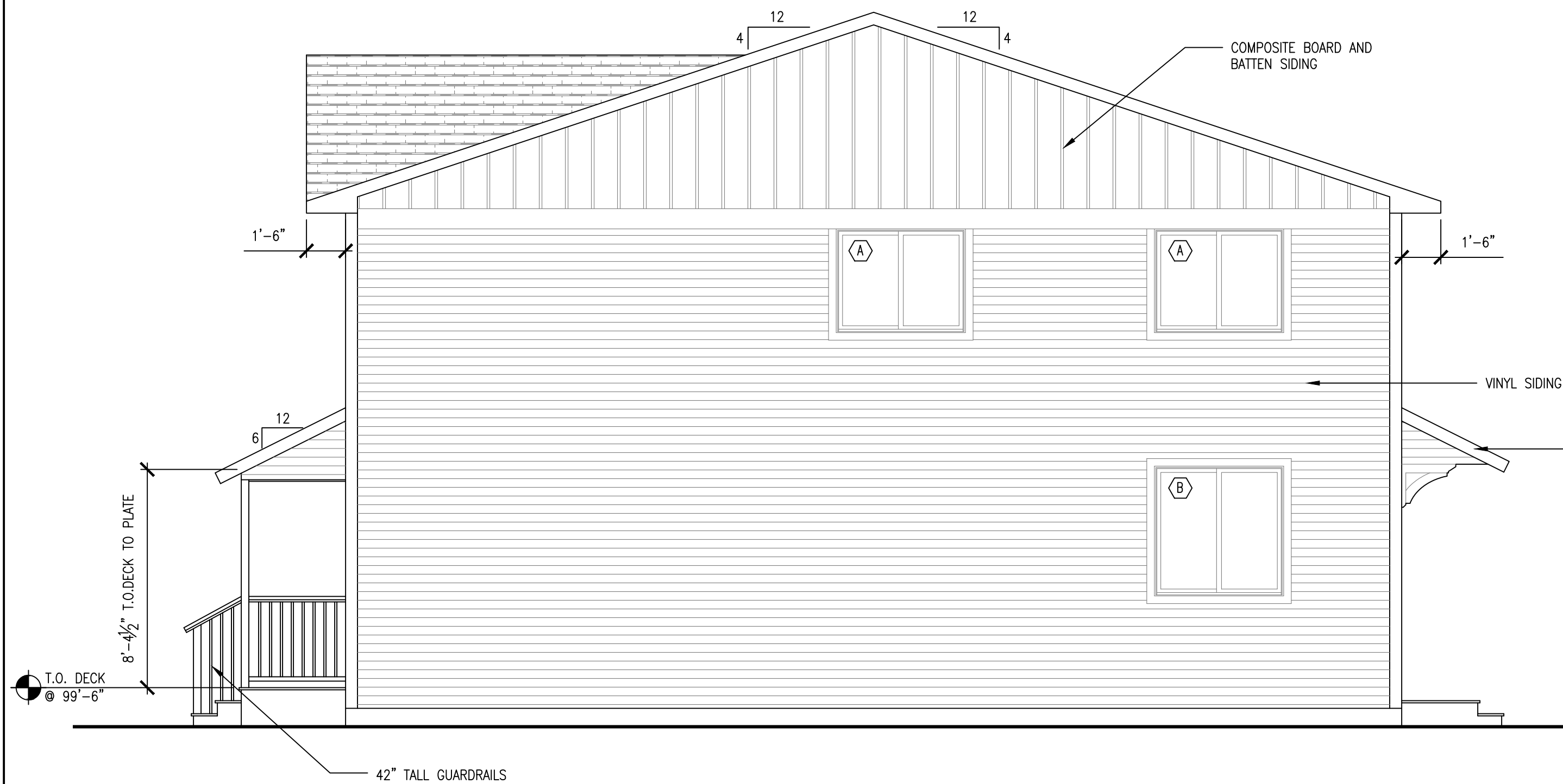
1 South West Elevation
1/4" = 1'-0"

PEAK OF ROOF
@ 125'-7" +/-



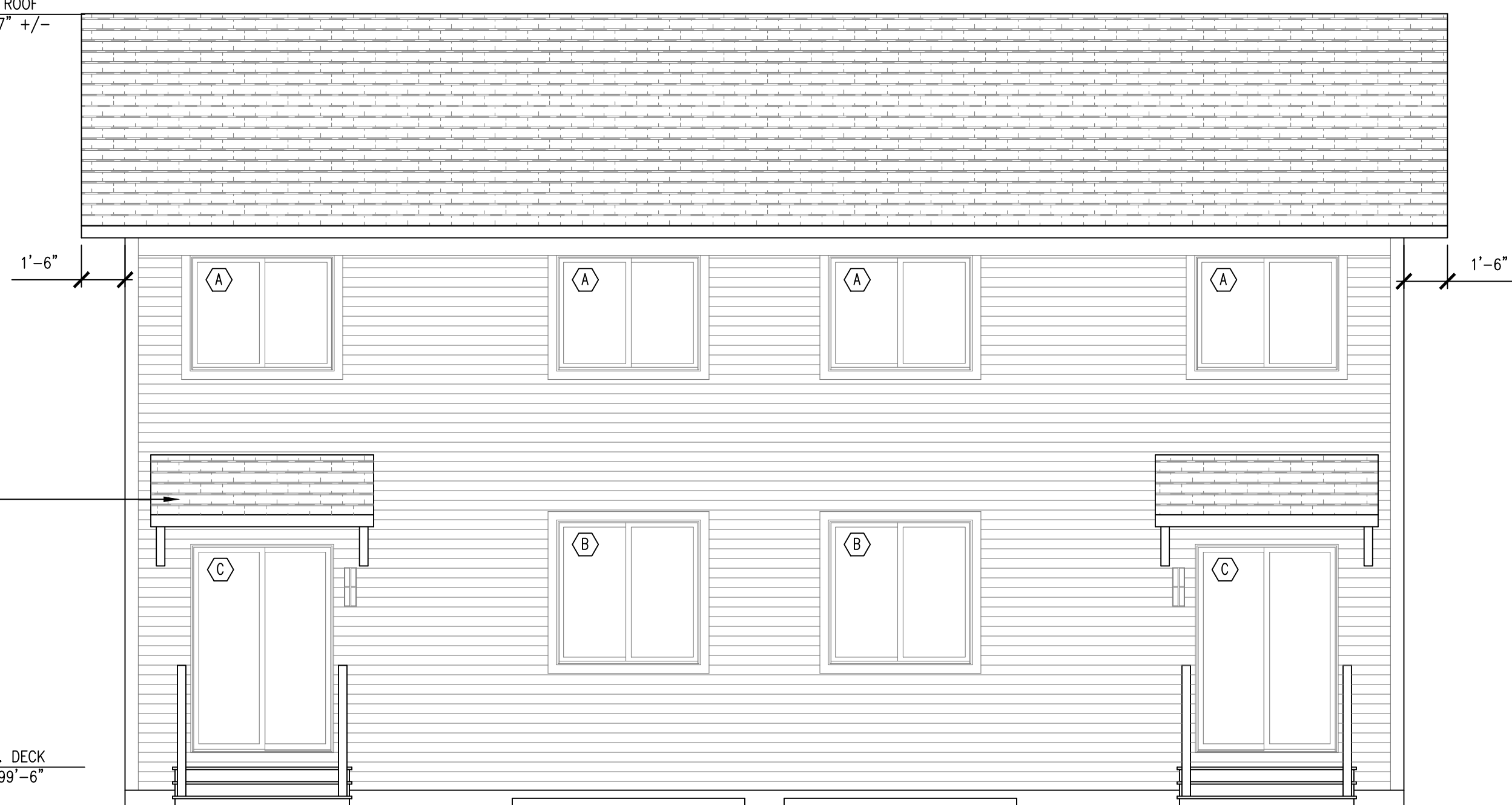
2 North West Elevation
1/4" = 1'-0"

FIRST FLOOR
@ 100'-0 3/4"



3 South East Elevation
1/4" = 1'-0"

PEAK OF ROOF
@ 125'-7" +/-



4 North East Elevation
1/4" = 1'-0"

T.O. DECK
@ 99'-6"

WINDOW & GLASS DOOR SCHEDULE				
TYPE	MANUF & TYPE	MODEL #	HEAD HT.	NOTES
A	MARVIN ELEVATE GLIDER	ELGL 6048	7'-0"	
B	MARVIN ELEVATE GLIDER	ELGL 6060	7'-0"	
C	MARVIN ELEVATE SLIDING FRENCH DOOR	ELSPD 5070		

JPF Architecture, PLLC
802.318.3947
jpfarchitecture.com

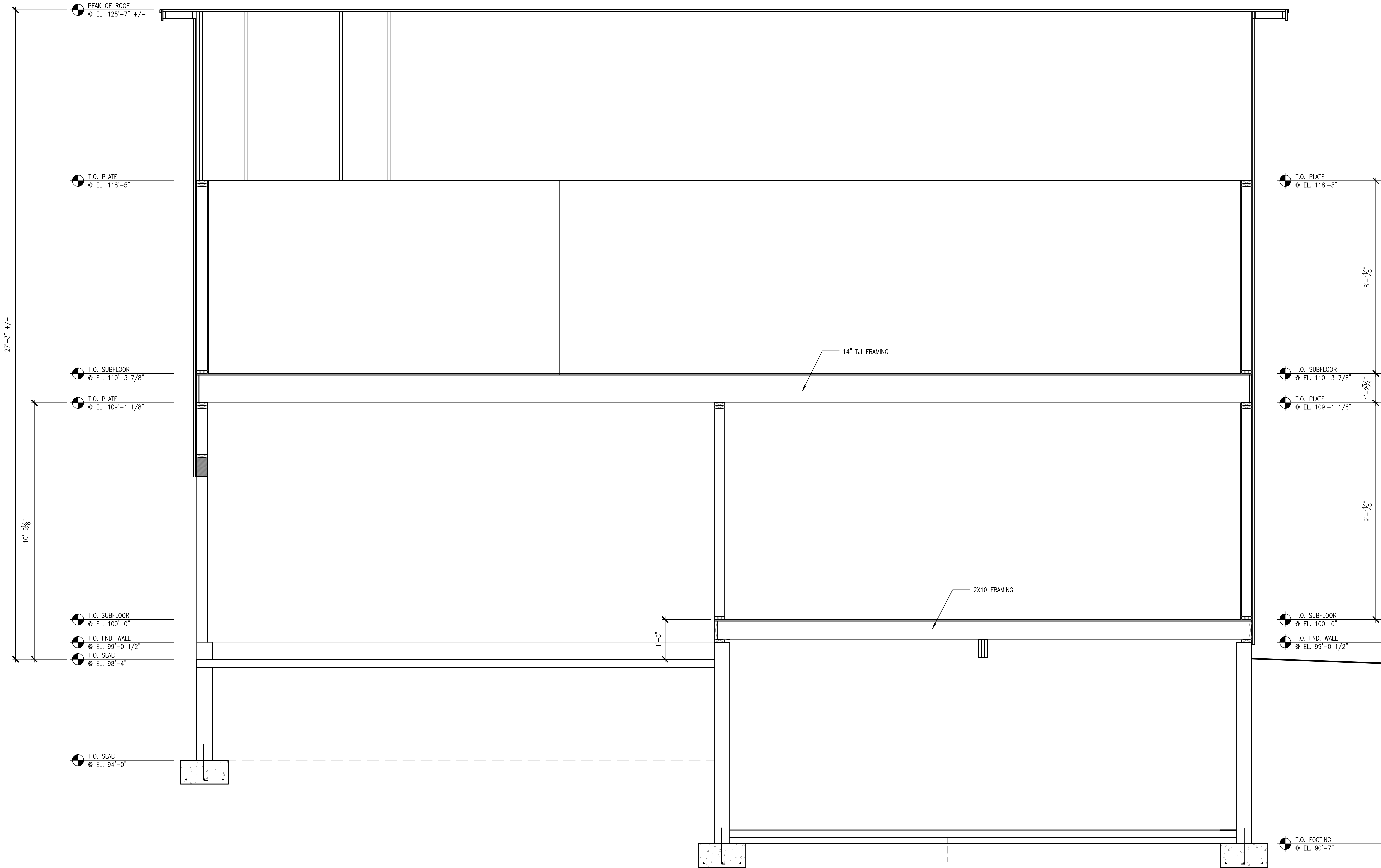
New Duplex Build
at
206-208 Dale Rd.
Burlington, Vermont

ELEVATIONS

DATE
07/28/24

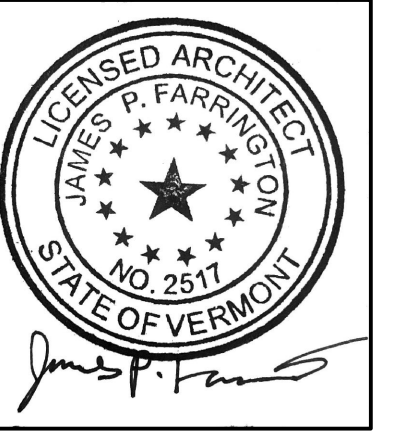
SHEET NUMBER

A2.1



1 Building Section
1/2" = 1'-0"

JPF Architecture, pllc
802.318.3947
jpfarchitecture.com



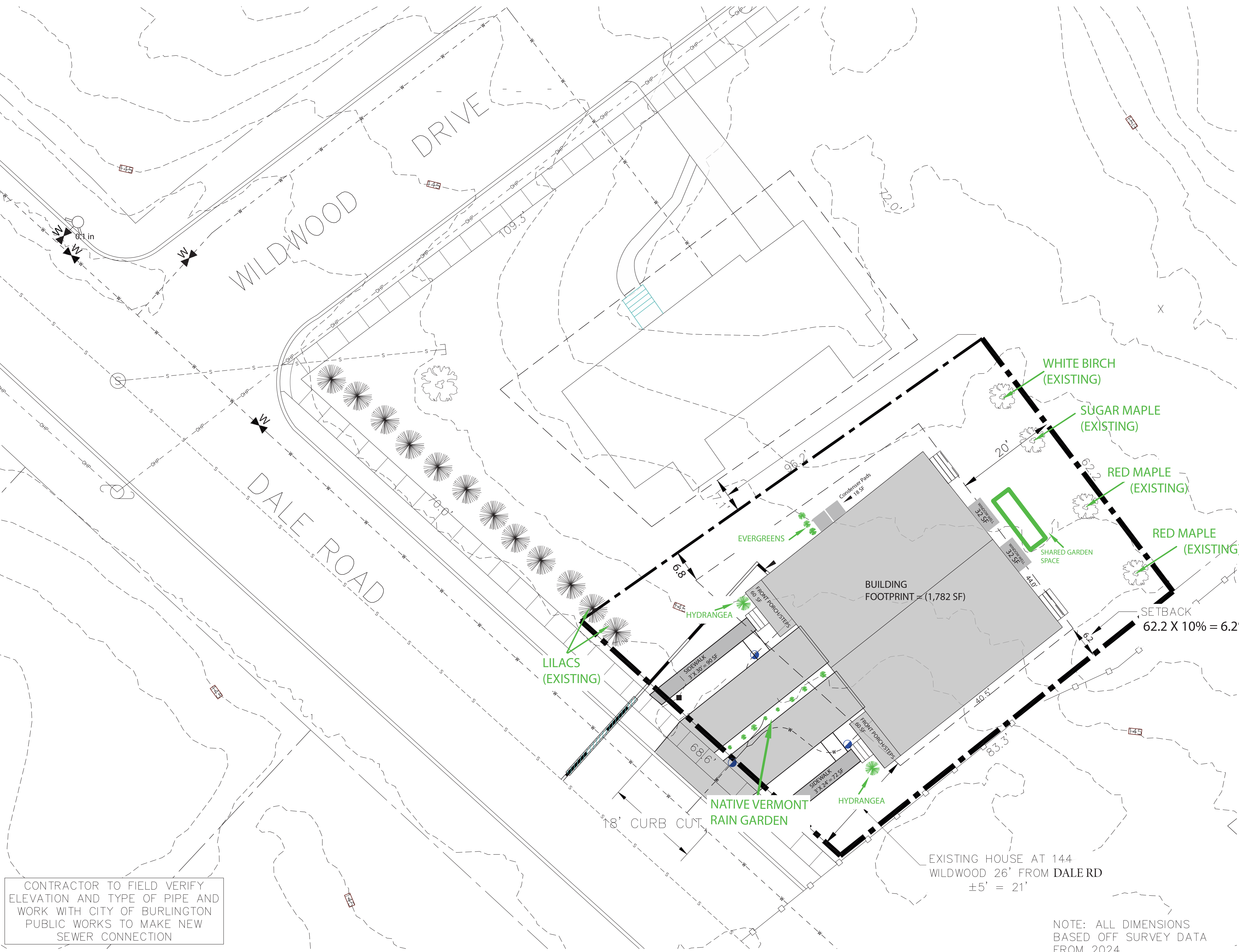
New Duplex Build
at
206-208 Dale Rd.
Burlington, Vermont

BUILDING
SECTION

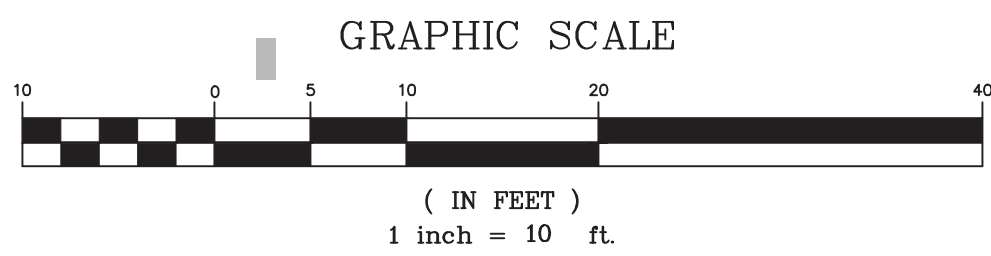
DATE
07/28/24

SHEET NUMBER

A3.1

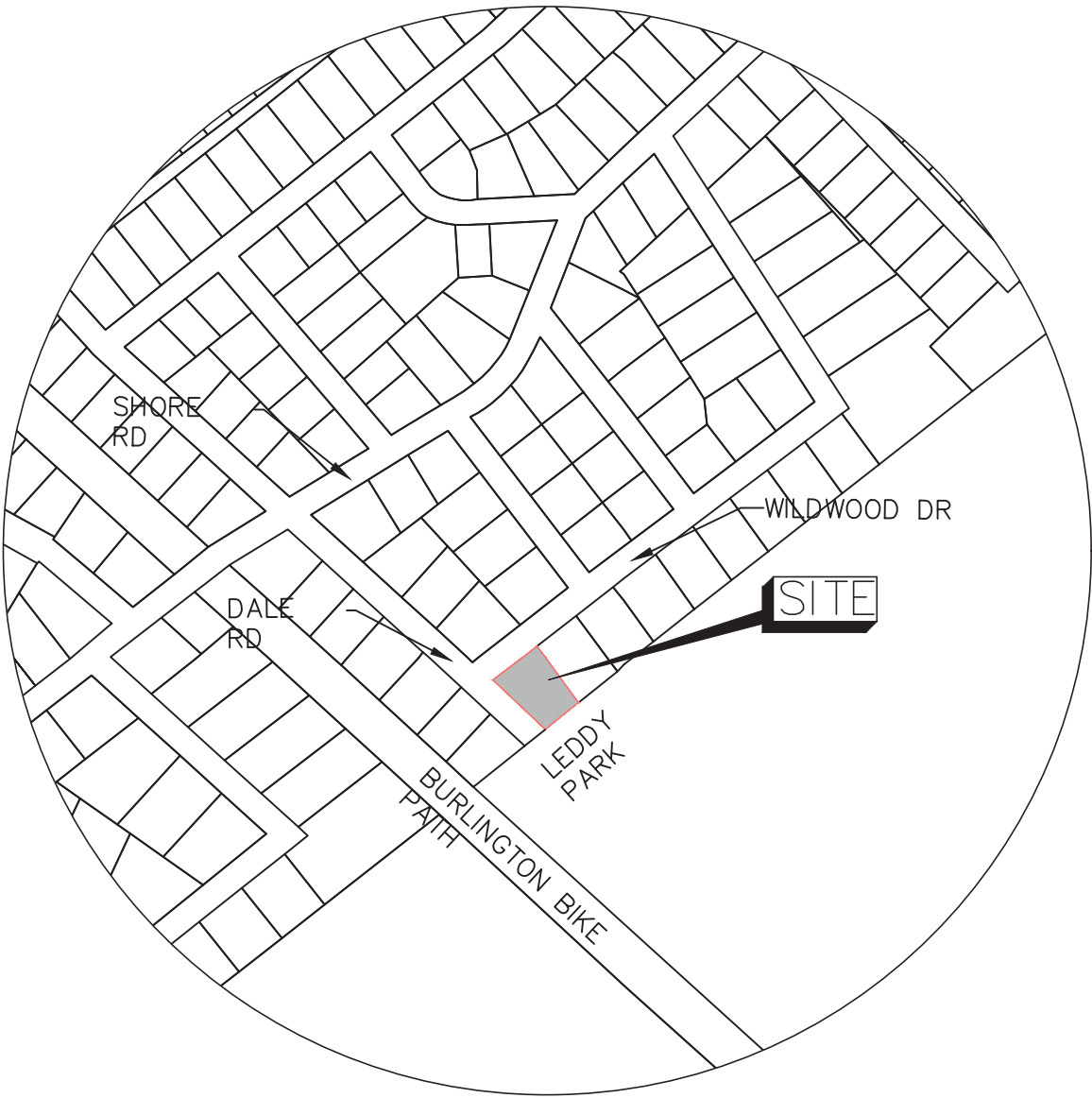


CONTRACTOR TO FIELD VERIFY ELEVATION AND TYPE OF PIPE AND WORK WITH CITY OF BURLINGTON PUBLIC WORKS TO MAKE NEW SEWER CONNECTION



NOTE: ALL DIMENSIONS BASED OFF SURVEY DATA FROM 2024

THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



LOCATION PLAN

N.T.S.

LEGEND

- PROJECT BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- BUILDING SETBACK
- EXISTING MAJOR CONTOUR LIDAR 5'
- EXISTING MINOR CONTOUR LIDAR 1'
- EXISTING SEWER MANHOLE AND LINE
- EXISTING WATERLINE
- EXISTING GATE VALVE & HYDRANT
- PROPOSED PROPERTY LINE
- PROPOSED WATER SHUTOFF-SERVICE
- PROPOSED SEWER SERVICE

ZONING INFORMATION

PARCEL ID:
ZONED: RESIDENTIAL- LOW DENSITY (RL)
DIMENSIONAL REQUIREMENTS
MINIMUM LOT AREA: N/A
MINIMUM LOT FRONTAGE: 30 FT
MAXIMUM ALLOWED COVERAGE: 45%
68.6'
38.9%

SETBACKS: REQUIRED
FRONT: 21' - SEE CALC
SIDE: 10% OF LOT WIDTH - SEE CALC
REAR: 20'

LOT COVERAGE

LOT SIZE:	5793.5 SF	
HOUSE FOOTPRINT	1,782 SF	
DRIVEWAYS:	473 SF	
TOTAL:	2,255 SF	38.9% LOT COVERAGE
PORCHES & STEPS	120 SF	
WALKWAYS:	162 SF	
WINDOW WELLS	64 SF	
REAR STEPS	36 SF	
CONDENSER PADS	18 SF	
TOTAL:	391 SF	6.7% BONUS LOT COVERAGE
TOTAL:	2646 SF	52.4% TOTAL LOT COVERAGE

BUILDING AREA

FIRST FLOOR:	1,304 SF
GARAGES:	478 SF
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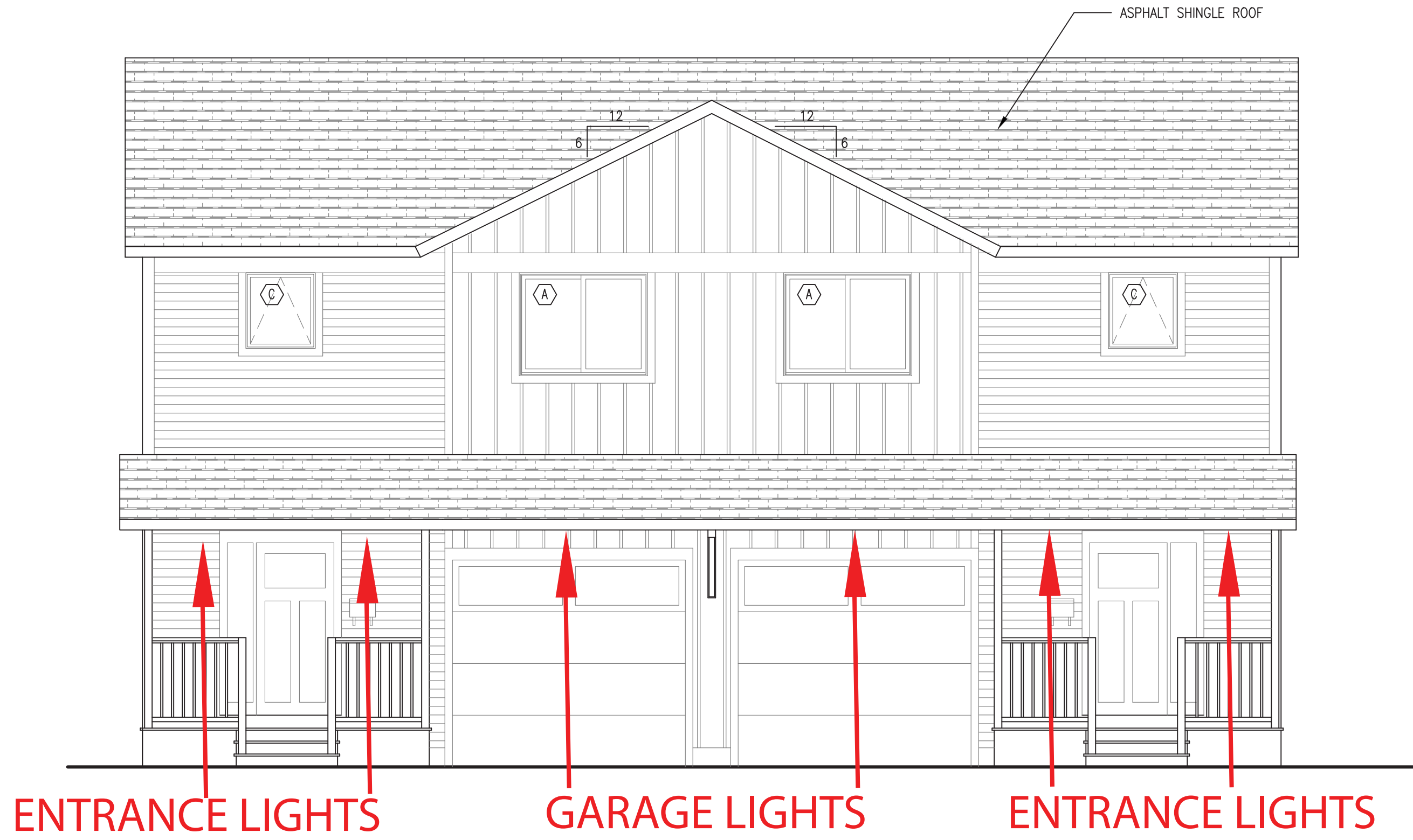
DATE	REVISION	BY
SURVEY JRF	☐ RECORD DRAWING ☐ PRELIMINARY	DATE 6/22/24
DESIGN PWK/KGM	☒ FINAL ☐ SKETCH/CONCEPT	JOB# 2024-02
DRAWN PWK/KGM		FILE 2024-02-05
CHECKED KGM		PLAN SHEET #
SCALE 1"=10'		C1

OWNER: WILD DALE LLC

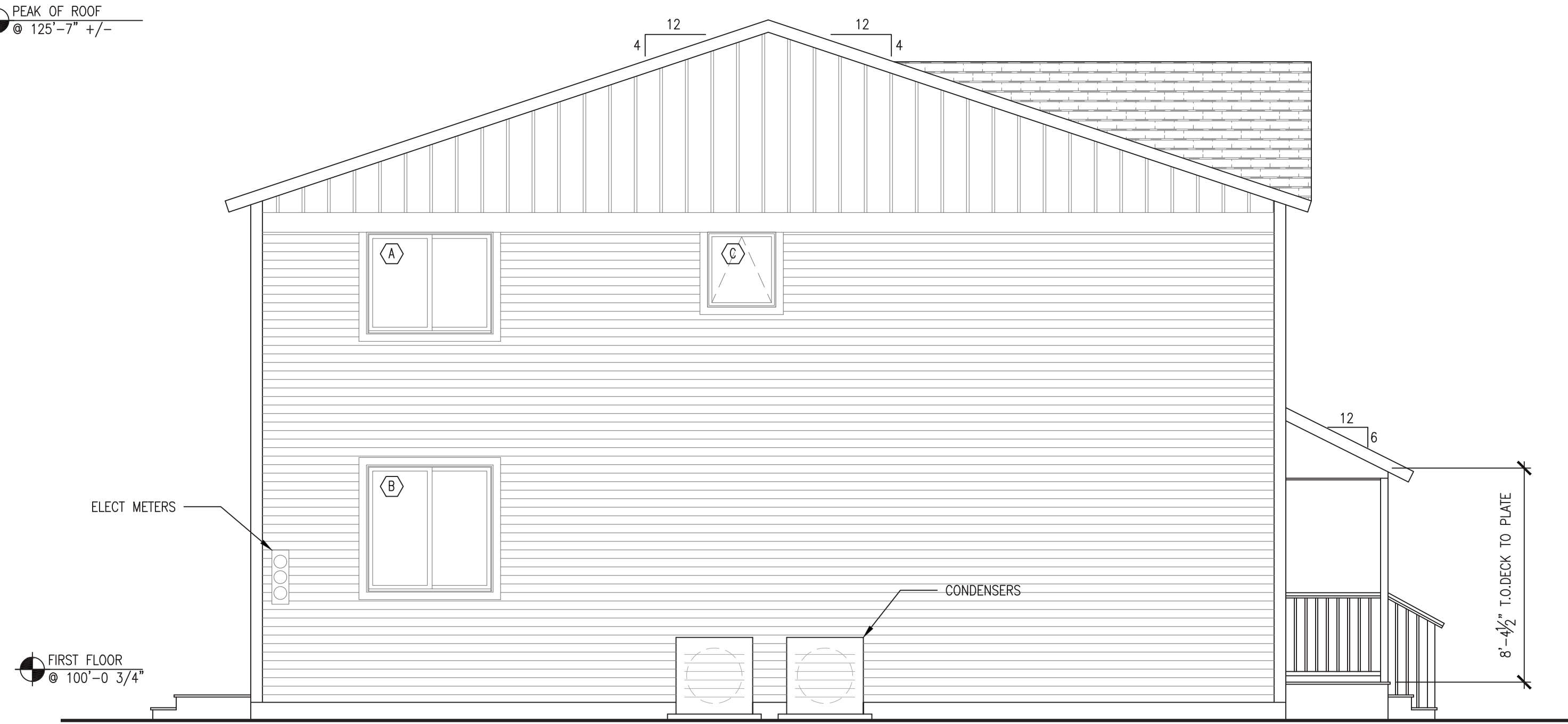
DALE ROAD DUPLEX

SITE PLAN

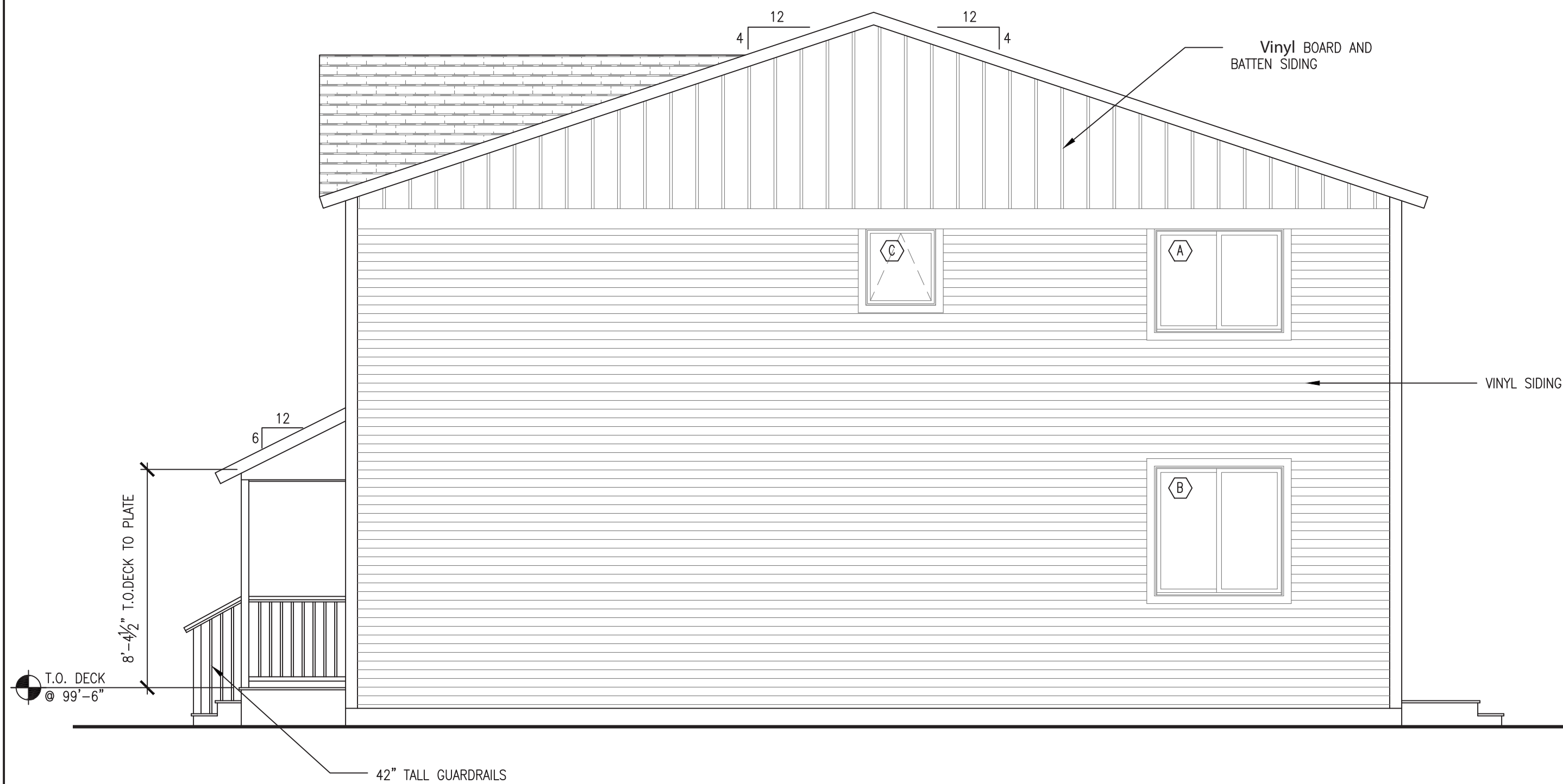
13 CORPORATE DRIVE
ESSEX JCT., VT
PHONE: 878-9990
FAX: 878-9989
E-MAIL: OBCA@o'leary-burke.com



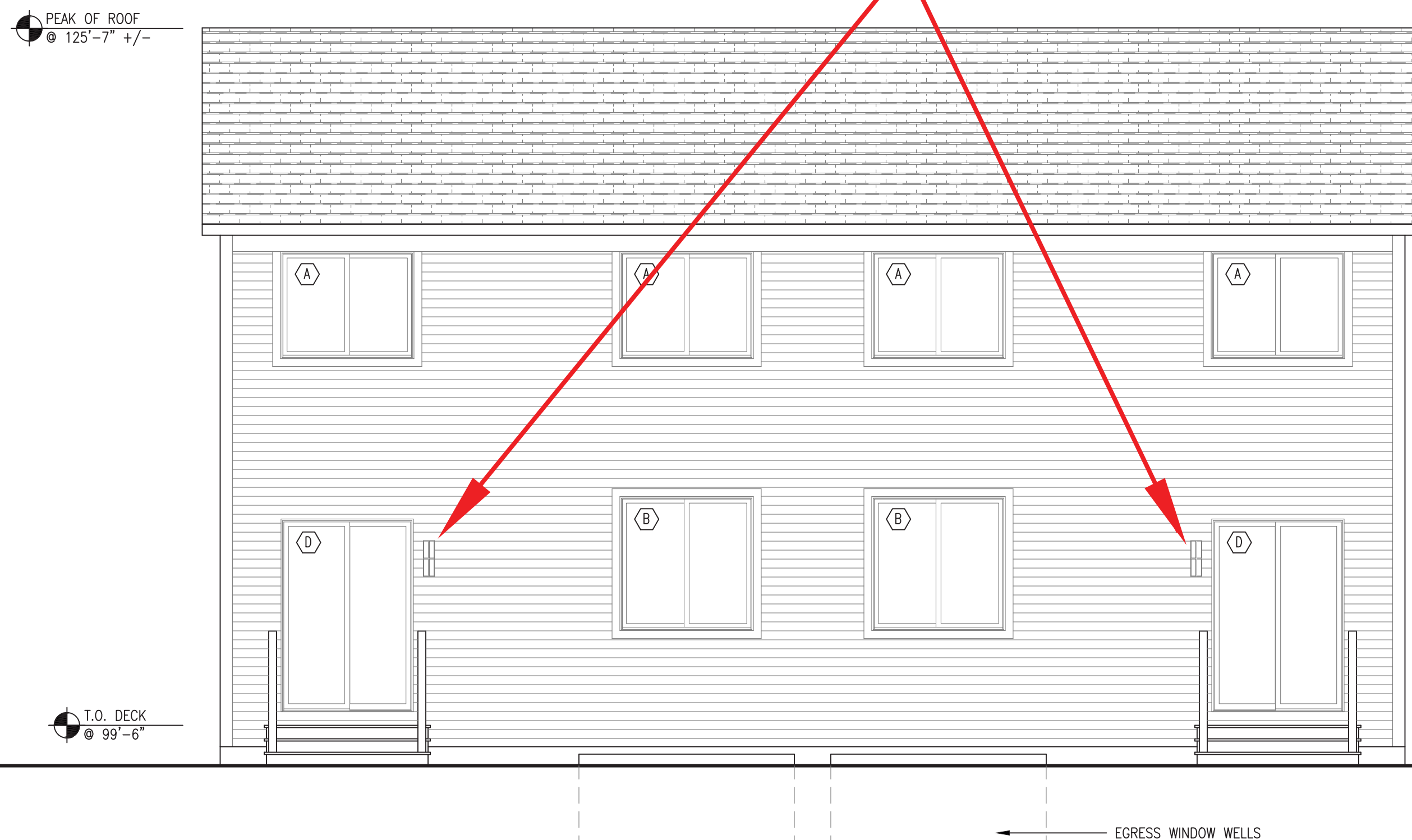
1 South West Elevation
1/4" = 1'-0"



2 North West Elevation
1/4" = 1'-0"



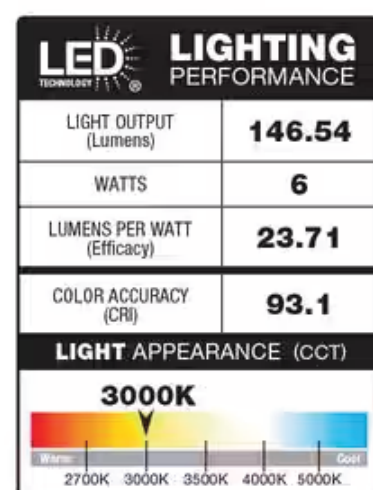
3 South East Elevation
1/4" = 1'-0"



4 North East Elevation
1/4" = 1'-0"

WINDOW & GLASS DOOR SCHEDULE				
TYPE	MANUF & TYPE	MODEL #	HEAD HT.	NOTES
A	MARVIN ELEVATE GLIDER	ELGL 6048	7'-0"	
B	MARVIN ELEVATE GLIDER	ELGL 6060	7'-0"	
C	MARVIN ELEVATE SLIDING FRENCH DOOR	ELSPD 5070		
D	MARVIN ELEVATE AWNING	ELAWN 3335	7'-0"	





Sand Black Finish
White Glass Shade



10.25" H

4.75" W 4.62"

1005 207 103

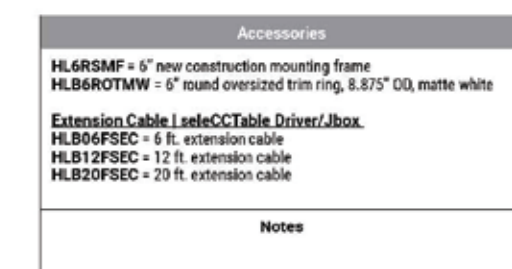
Tap and Hold to Zoom



- Direct mount - does not require recessed housing or junction box
- Delivers up to 1,049 lumens
- Achieves L70 at 35,000 hours in IC and non-IC applications
- 2700, 3000, 3500, 4000 and 5000, 6000K field selectable CCT



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- Plastic mounting frame with integral flange provides passive thermal cooling achieving L70 at 35,000 hours in IC and non-IC applications

Optics

- Precision acrylic light guide organizes source flux into wide distribution with 1.28 spacing criteria, useful for general area illumination

- Die formed metal driver / junction box with captive hinged junction box cover
- Listed for (6) #12 AWG 90° C splice conductors, 2-in, 2-out plus (2) ground
- (4) ½" conduit pry-outs
- Accepts 14-2, 14-3, 12-2, 12-3 U.S. and 14-2, 14-3, 12-2 Canadian NM cable
- (3) wire nuts for quick and reliable mains voltage connections
- Integral mounting facilitates direct mounting to building structure or mounting frame

- 120V 60 Hz constant current driver provides noise free operation
- Continuous, flicker-free dimming from 100% to 10% with select leading or trailing edge 120V phase cut dimmers

- Can be installed in 3/8" to 5/8" thick ceilings
- Round ceiling cutout
- Heat treated springs hold fixture fitting securely in the ceiling eliminating light leaks
- Housing is less than 1/2" thick and can span a 2" nominal framing member
- Can be removed from below the ceiling for service or replacement

- cULus certified type IC suitable for direct contact with air permeable insulation
- cULus certified for use in direct contact with spray foam insulation, reference NEMA I-157/201:
- Wet location listed and IP44 ingress protection
- Airtight per ASTM E2838-04
- Suitable for use in wet locations in accordance with the NEC 410.16 spacing requirements
- EMI/RFI interference per FCC 47CFR Part 5 consumer limits
- Contains no mercury and lead and RoHS compliant
- Photostatic testing in accordance with IES LM-79
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11
- Can be used for State of California Title 24 High Efficiency Lighting Ordinance under IES reference Modernized Appliance Efficiency Database System (MADBES) for 2019 JAH High Efficiency Lighting Fixture List, certified, reference "Certified Light Fixtures" database

- Five year warranty standard.

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FRONT PORCH AND GARAGE LIGHTING