

ROSS ENGINEERING LLC

Civil/Structural Engineering
& Surveying

909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

DATE: 2-16-2024

JOB #: 23-010

DOCUMENT TRANSMITTAL

TO: City of Portsmouth
ATTN: Planning Department
1 Junkins Ave
Portsmouth, NH 03801

VIA: By Hand

ATTACHED SENT SEPERATELY
 COPIES PRINTS REPRODUCIBLES DIGITAL
EACH OF:
 DRAWINGS SPECIFICATIONS
 DOCUMENTS

STATUS:

FINAL APPROVED
 PRELIMINARY APPROVED AS NOTED
 NO COMMENT UNACCEPTABLE
 COMMENTS AS NOTED

PLEASE NOTE:

REVISIONS OMISSIONS
 ADDITIONS CORRECTIONS
 COMMENTS

SENT FOR YOUR:

APPROVAL COMMENTS
 USE INFORMATION
 FILES

RE:

Project Location: 822 US Route 1 Bypass
Portsmouth, NH 03801
Tax Map 160, Lot 29

Owner: Rigz Enterprises LLC
18 Dixon Lane
Derry, NH 03038

Attached please find the following:

1. Project Description
2. Tax Map 160
3. Site Photos
4. Signed Application Checklist
5. Waiver Request Letter
6. Abutter's List
7. Civil Plan set dated 2-16-24 (full size to scale + 11x17 not to scale)
8. Low Impact Design & Green Building Description
9. Stormwater Management Operations & Maintenance Plan
10. Architectural Plan Set (full size to scale + 11x17 not to scale)

Please call (603-433-7560) if you have any questions.

Thank you,

Alex Ross

Ross Engineering, LLC
Civil / Structural Engineering

909 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net

822 US Route 1 Bypass
Project Description

February 16, 2024

This site review application is for improvements to an existing fully developed site. Tax Map 160, Lot 29 is a 0.68 Acre parcel with access from Burkitt Street, and the northbound side of the Route 1 by-pass. The existing lot includes a vacant gas station building. Per the town files, the existing building was built in 1969. Just this past summer the gas pumps, and tanks were properly removed. The gas pump island roof has been removed, and the building will be removed in the near future.

If you recall we were recently before TAC for the City Tobacco improvements next door on Lot 43. The existing City Tobacco store is limited to the small building on Lot 43, so the owner would like to build a larger building on Lot 29, and move the City Tobacco store to the larger building. The owner has a successful chain of stores in many locations, including, Seabrook, Portsmouth, Rochester, Plaistow, and Sanford Maine. A new 6,010 sf retail building is planned for a “City Tobacco and Beverage” store. A new 6’ wide sidewalk will be installed at the front of the building. Adequate parking will be provided on site. A portion of the existing asphalt driveway will be replaced with landscaping. As a result, there is a decrease in impervious surface. Also a storm drainage filtration jellyfish will be installed to improve water runoff quality.

The storm drainage catch basins and lines are located in an odd configuration with piping going directly under both buildings. We have been working closely with DPW to locate the existing lines and come up with the best solution to install new lines. A utility plan has been prepared to ensure that proper drainage, sewer, water, and electrical connections will be installed. The end result of all the improvements will be a code compliant site that will provide an upgrade to the site utilities including storm drainage/water/sewer/gas/electrical, while also improving landscaping, stormwater runoff, parking, and traffic safety.

In October 20, 2023 we went to TAC work session for this site. Then in January 2024 we obtained the necessary ZBA variances for parking.

Sincerely,

Alex Ross, P.E.

Ross Engineering, LLC
Civil / Structural Engineering

909 Islington Street
Portsmouth, NH 03801

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alexross@comcast.net

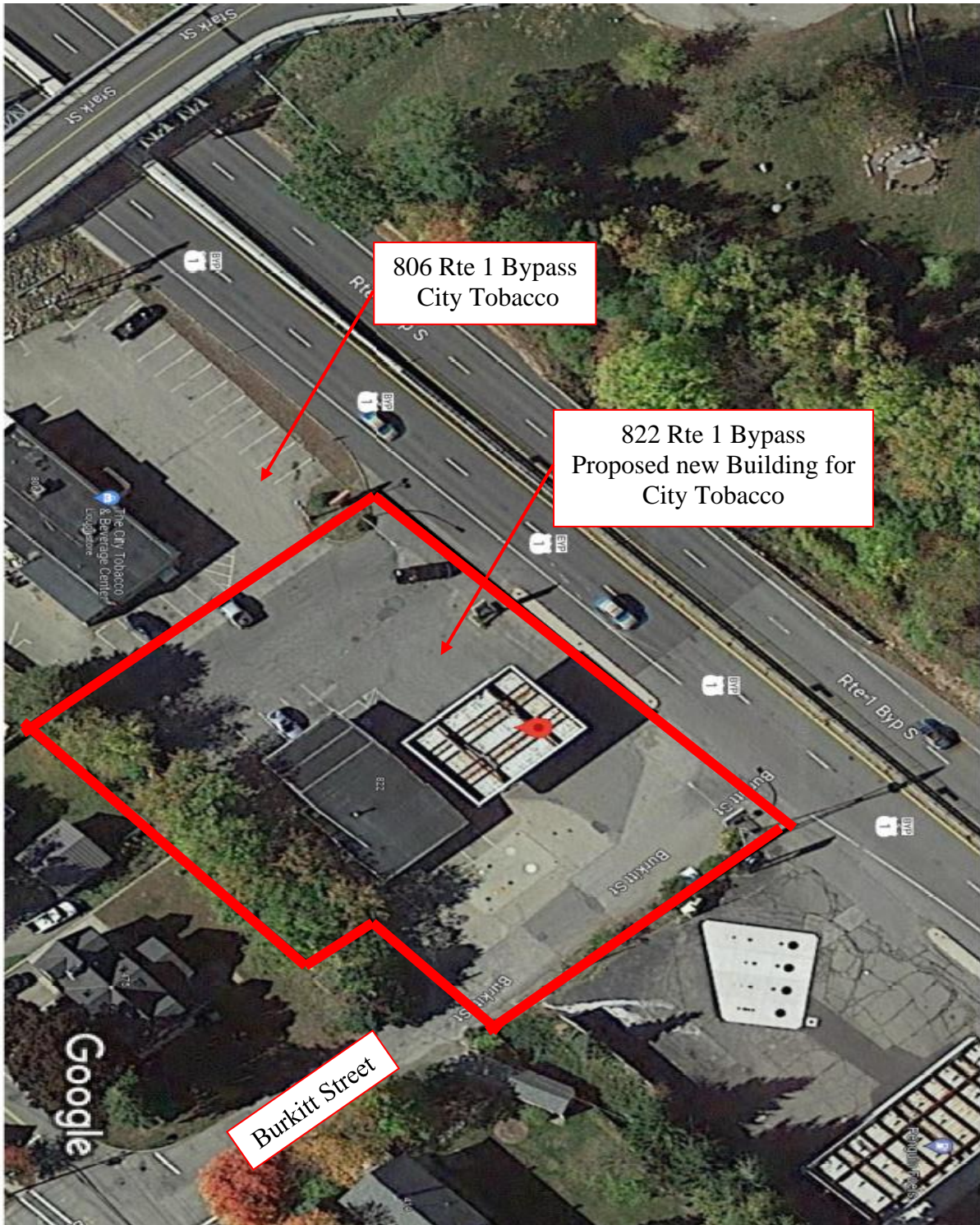


Photo 1: Google Aerial

Ross Engineering, LLC
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822 Rte 1 Bypass
Proposed new Building for City Tobacco



806 Rte 1 Bypass
City Tobacco



Photo 2: Front view 822 & 806 Rte 1 Bypass

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Photo 3: View of site from Rte 1 Bypass looking to the southeast



Photo 4: View lot looking to the southwest

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Photo 5: Site view from Burkitt St.



Photo 6: View from Rte 1 Bypass



City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: Alex Ross Date Submitted: 2/16/2024

Application # (in City's online permitting): LU-23-209

Site Address: 822 Route 1 Bypass Map: 160 Lot: 29

Application Requirements			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Complete application form submitted via the City's web-based permitting program (2.5.2.1(2.5.2.3A))	LU-23-209	N/A
<input checked="" type="checkbox"/>	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. (2.5.2.8)	Online Application in Viewpoint	N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Statement that lists and describes "green" building components and systems. (2.5.3.1B)	Low Impact Design & Green Building Description	
<input checked="" type="checkbox"/>	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. (2.5.3.1C)	Architectural Plan Set	N/A
<input checked="" type="checkbox"/>	Tax map and lot number, and current zoning of all parcels under Site Plan Review. (2.5.3.1D)	Sheet 1 "Existing Conditions" - Notes 1 & 3	N/A

Site Plan Review Application Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. (2.5.3.1E)	Rigz Enterprises LLC 18 Dixon Ln Dey, NH 030838	N/A
<input checked="" type="checkbox"/>	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. (2.5.3.1F)	See Abutter list	N/A
<input checked="" type="checkbox"/>	Names, addresses and telephone numbers of all professionals involved in the site plan design. (2.5.3.1G)	See Abutter list	N/A
<input checked="" type="checkbox"/>	List of reference plans. (2.5.3.1H)	Sheet 1 "Existing Conditions"	N/A
<input checked="" type="checkbox"/>	List of names and contact information of all public or private utilities servicing the site. (2.5.3.1I)	Sheet 4 "Utility Plan"	N/A

Site Plan Specifications			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. (2.5.4.1A)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. (2.5.4.1B)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. (2.5.4.1C)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. (2.5.4.1D)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. (2.5.4.1E)	No wetlands on site	N/A
<input checked="" type="checkbox"/>	Title (name of development project), north point, scale, legend. (2.5.4.2A)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Date plans first submitted, date and explanation of revisions. (2.5.4.2B)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Individual plan sheet title that clearly describes the information that is displayed. (2.5.4.2C)	Required on all plan sheets	N/A
<input checked="" type="checkbox"/>	Source and date of data displayed on the plan. (2.5.4.2D)	Required on all plan sheets	N/A

Site Plan Specifications – Required Exhibits and Data

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	<p>1. Existing Conditions: (2.5.4.3A)</p> <ul style="list-style-type: none"> • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required. 	Sheet 1 "Existing Conditions"	
<input checked="" type="checkbox"/>	<p>2. Buildings and Structures: (2.5.4.3B)</p> <ul style="list-style-type: none"> • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use. 	See Architectural & Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	<p>3. Access and Circulation: (2.5.4.3C)</p> <ul style="list-style-type: none"> • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC). 	Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	<p>4. Parking and Loading: (2.5.4.3D)</p> <ul style="list-style-type: none"> • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided). 	Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	<p>5. Water Infrastructure: (2.5.4.3E)</p> <ul style="list-style-type: none"> • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii). 	Sheet 4 "Utility Plan"	
<input checked="" type="checkbox"/>	<p>6. Sewer Infrastructure: (2.5.4.3F)</p> <ul style="list-style-type: none"> • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period. 	Sheet 4 "Utility Plan"	


<input checked="" type="checkbox"/>	7. Utilities: (2.5.4.3G) <ul style="list-style-type: none"> The size, type and location of all above & below ground utilities; Size type and location of generator pads, transformers and other fixtures. 	Sheet 4 "Utility Plan"	
<input checked="" type="checkbox"/>	8. Solid Waste Facilities: (2.5.4.3H) <ul style="list-style-type: none"> The size, type and location of solid waste facilities. 	Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	9. Storm water Management: (2.5.4.3I) <ul style="list-style-type: none"> The location, elevation and layout of all storm-water drainage. The location of onsite snow storage areas and/or proposed off-site snow removal provisions. Location and containment measures for any salt storage facilities Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures. 	Sheet 4 "Utility Plan"	
<input checked="" type="checkbox"/>	10. Outdoor Lighting: (2.5.4.3J) <ul style="list-style-type: none"> Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan. 	See Lighting Plan	
<input checked="" type="checkbox"/>	11. Indicate where dark sky friendly lighting measures have been implemented. (10.1)	See Lighting Plan	
<input checked="" type="checkbox"/>	12. Landscaping: (2.5.4.3K) <ul style="list-style-type: none"> Identify all undisturbed area, existing vegetation and that which is to be retained; Location of any irrigation system and water source. 	Sheet 3 "Landscape Plan"	
<input checked="" type="checkbox"/>	13. Contours and Elevation: (2.5.4.3L) <ul style="list-style-type: none"> Existing/Proposed contours (2 foot minimum) and finished grade elevations. 	Sheet 1 "Existing Conditions" & 2 "Site Plan"	
<input checked="" type="checkbox"/>	14. Open Space: (2.5.4.3M) <ul style="list-style-type: none"> Type, extent and location of all existing/proposed open space. 	Sheet 1 "Existing Conditions" & Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)	Sheet 1 "Existing Conditions"	
<input checked="" type="checkbox"/>	16. Character/Civic District (All following information shall be included): (2.5.4.3P) <ul style="list-style-type: none"> Applicable Building Height (10.5A21.20 & 10.5A43.30); Applicable Special Requirements (10.5A21.30); Proposed building form/type (10.5A43); Proposed community space (10.5A46). 	N/A - Not in Character/Civil District	
<input checked="" type="checkbox"/>	17. Special Flood Hazard Areas (2.5.4.3Q) <ul style="list-style-type: none"> The proposed development is consistent with the need to minimize flood damage; All public utilities and facilities are located and construction to minimize or eliminate flood damage; Adequate drainage is provided so as to reduce exposure to flood hazards. 	N/A - Site not located within special flood area	

Other Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	Traffic Impact Study or Trip Generation Report, as required. (3.2.1-2)		✓
<input checked="" type="checkbox"/>	Indicate where Low Impact Development Design practices have been incorporated. (7.1)	Sheet 2 "Site Plan"	
<input checked="" type="checkbox"/>	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. (7.3.1)	N/A - Not located within well head or aquifer protection area	
<input checked="" type="checkbox"/>	Stormwater Management and Erosion Control Plan. (7.4)		✓
<input checked="" type="checkbox"/>	Inspection and Maintenance Plan (7.6.5)	Sheet 11	

Final Site Plan Approval Required Information			
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	All local approvals, permits, easements and licenses required, including but not limited to: <ul style="list-style-type: none"> • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. (2.5.3.2A)	See Waiver request form	
<input checked="" type="checkbox"/>	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: <ul style="list-style-type: none"> • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post- construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. (2.5.3.2B)		✓
<input checked="" type="checkbox"/>	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. (2.5.3.2D)		

Final Site Plan Approval Required Information

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)	Waiver Requested
<input checked="" type="checkbox"/>	A list of any required state and federal permit applications required for the project and the status of same. (2.5.3.2E)	N/A - No State or Federal Permits Required	
<input checked="" type="checkbox"/>	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." (2.5.4.2E)	Sheet 2 "Site Plan"	N/A
<input checked="" type="checkbox"/>	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. (2.5.4.2F)	N/A - Site not located in a SFHA	
<input checked="" type="checkbox"/>	Plan sheets submitted for recording shall include the following notes: <ul style="list-style-type: none"> a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." (2.13.3)	Sheet 2 "Site Plan"	N/A

Applicant's Signature:  Date: 2/16/24

Ross Engineering
Civil/Structural Engineering & Surveying

909 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net

February 16, 2024

Planning Department
City of Portsmouth
1 Junkins Ave
Portsmouth, NH 03801
Waiver Request Letter

Re: Waiver Request Letter
822 US Route 1 Bypass
Portsmouth, NH 03801
Tax Map 160, Lot 29

Technical Advisor Committee Members, we are requesting waivers from the following regulations:

- *Section 3.2.1-2 “A traffic impact analysis shall be prepared by a professional engineer licensed in New Hampshire and experienced and qualified in traffic engineering”*

The existing site was previously a gas station for many years. The existing site does not have adequate parking or signage. The proposed site will provide adequate parking and signage that will provide a safer site than existing. The existing access roads will not be impacted and there is no need for a traffic analysis.

- *Section 7.4 “The applicant shall submit a Stormwater Management and Erosion Control Plan”*
This site is fully developed and does not meet open space requirements. The proposed plan will include landscaping beds that will reduce the impervious surface. A Jellyfish filter will be added into to the end of the drainage network, treating runoff.
- *Section 2.5.3.2B “Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to.....”*
This site has been fully developed for many decades. Adequate parking will be provided as per the City Zoning Ordinance, signage will be installed that will provide safe travel, landscaping will be added reducing the impervious surface on site improving stormwater runoff, and a jellyfish filter will be installed treating runoff that is currently untreated.

Sincerely,

Alex Ross, P.E.

**Ross Engineering
Civil / Structural Engineering**

909 Islington Street
Portsmouth, NH 03801

603-433-7560
alexross@comcast.net

List of Abutters

February 16, 2024

Applicant & Land Owner's Name:

Rigz Enterprises LLC
18 Dixon Ln
Derry, NH 03038

Location of Land:
822 Route 1 Bypass
Portsmouth, NH 03801
Tax Map 160, Lot 29

Abutters:

Peter & Judi Paradis
481 Dennett St
Portsmouth, NH 03801
Tax Map 160, Lot 27
Zone: GRA

Penguin Portsmouth, LLC
856 US Route 1 BYP
Portsmouth, NH 03801
Tax Map 160, Lot 30
Zone: B

Yoko & Junichi Fukuda
421 Dennett St
Portsmouth, NH 03801
Tax Map 160, Lot 31-1
Zone: GRA

Rigz Enterprises, LLC
18 Dixon Ln
Derry, NH 03038
Tax Map 161, Lot 43
Zone: B

Portsmouth, NH 03801

David B. Platt Revocable Trust
Tuyen Lang Revocable Trust
475 Dennett St
Portsmouth, NH 03801
Tax Map 160, Lot 28
Zone: GRA

Solano Group LLC
419 Dennet St
Portsmouth, NH 03801
Tax Map 160, Lot 31
Zone: GRA

Matthew Landry
419 Dennet St
Portsmouth, NH 03801
Tax Map 160, Lot 31-2
Zone: GRA

Lindsay Floryan & Brian Collier
493 Dennett St
Portsmouth, NH 03801
Tax Map 161, Lot 45
Zone: GRA

Civil Engineer & Surveyor

Alex Ross
Ross Engineering
Certified Professional Engineer
Licensed Land Surveyor
909 Islington Street

City of Portsmouth
New Franklin School
PO Box 628
Portsmouth, NH 03802
Tax Map 220, Lot 2
Zone: M

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822 US Route 1 Bypass
Low Impact Design & Green Building Description

February 16, 2024

The following Low Impact Design and Green Building Design practices are proposed to be implemented.

- A jelly fish filtration system will be added to the drainage network in the southwest of the site. This will collect the stormwater from the other catch basins on #806 & #822 US Route 1 Bypass as well as catch basins in the US Route 1 Bypass.
- Landscaping around the whole parcel that will include native plantings.
- LED energy efficient lighting for the site and building interior.
- Dark sky compliant lighting.
- Low flow plumbing fixtures.

Sincerely,

Alex Ross, P.E.

STORMWATER MANAGEMENT OPERATION & MAINTENANCE

822 US Route 1 Bypass, Portsmouth, NH

The proposed stormwater structures and improvements will result in a massive upgrade for stormwater runoff control and treatment. For all of these elements to work correctly in the future it is imperative to keep up with proper operation and maintenance.

Inspection and Maintenance of Facilities and Property

A. Maintenance of Common Facilities or Property

1. Future owners or assigns are responsible for maintenance of all stormwater infrastructure associated with the facility and the property. This includes the landscaped areas, drain lines, and Contech treatment structure.

B. General Inspection and Maintenance Requirements

1. Permanent stormwater and sediment and erosion control facilities to be maintained on the site include but are not limited to the following:
 - a. Parking areas
 - b. Landscaped areas
 - c. Culverts & Drain lines
 - d. Contech jellyfish
2. Maintenance of permanent measures shall follow the following schedule:
 - a. **Parking Areas:**
Inspection at the end of every winter, prior to the start of the spring rain season. Sweeping shall be done once in early fall and then after spring snowmelt. Sand/debris that has collected off the driveway and parking lot should be removed off-site and disposed of properly.
 - b. **Landscaped Areas:**
Annual inspection of site's vegetation and landscaping. Any areas that are bare shall be reseeded and mulched with hay or, if the case is extreme, loamed and seeded or sodded to ensure adequate vegetative cover. Landscape specimens shall be replaced in-kind, if they are found to be dead or dying.

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- c. **Drain Lines:**
Inspect twice a year, more often if needed. Inspect for accumulation of debris. Remove material from inlet/outlet as necessary, dispose of offsite.
 - d. **Contech jellyfish treatment structure:**
See attached Jellyfish Maintenance Guide.
- C. Owners shall provide a report on activities performed throughout the year. Report shall include documentation that inspection and maintenance is accomplished per this document and a certification that the systems continue to function as designed.

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Annual Operations and Maintenance Report

Activity	Date of Inspection	Who Inspected	Satisfactory: Yes, No, N/A	Maintenance Needed	Implemented date of corrective action	Findings of Inspector
Parking Areas						
Landscaped Areas						
Culverts & Drain lines						
Contech Jellyfish						

Jellyfish[®] Filter Maintenance Guide





JELLYFISH® FILTER INSPECTION & MAINTENANCE GUIDE

Jellyfish units are often just one of many structures in a more comprehensive stormwater drainage and treatment system.

In order for maintenance of the Jellyfish filter to be successful, it is imperative that all other components be properly maintained. The maintenance and repair of upstream facilities should be carried out prior to Jellyfish maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil loading, and discharges of inappropriate materials.

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1.0 Inspection and Maintenance Overview

The primary purpose of the Jellyfish® Filter is to capture and remove pollutants from stormwater runoff. As with any filtration system, these pollutants must be removed to maintain the filter's maximum treatment performance. Regular inspection and maintenance are required to insure proper functioning of the system.

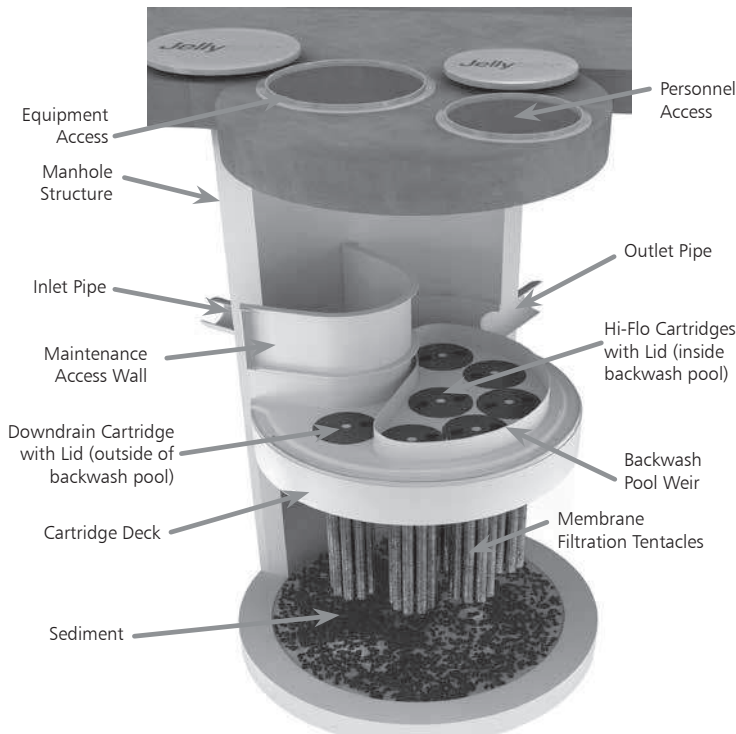
Maintenance frequencies and requirements are site specific and vary depending on pollutant loading. Additional maintenance activities may be required in the event of non-storm event runoff, such as base-flow or seasonal flow, an upstream chemical spill or due to excessive sediment loading from site erosion or extreme runoff events. It is a good practice to inspect the system after major storm events.

Inspection activities are typically conducted from surface observations and include:

- Observe if standing water is present
- Observe if there is any physical damage to the deck or cartridge lids
- Observe the amount of debris in the Maintenance Access Wall (MAW) or inlet bay for vault systems

Maintenance activities include:

- Removal of oil, floatable trash and debris
- Removal of collected sediments
- Rinsing and re-installing the filter cartridges
- Replace filter cartridge tentacles, as needed



Note: Separator Skirt not shown

2.0 Inspection Timing

Inspection of the Jellyfish Filter is key in determining the maintenance requirements for, and to develop a history of, the site's pollutant loading characteristics. In general, inspections should be performed at the times indicated below; *or per the approved project stormwater quality documents (if applicable), whichever is more frequent.*

1. A minimum of quarterly inspections during the first year of operation to assess the sediment and floatable pollutant accumulation, and to ensure proper functioning of the system.
2. Inspection frequency in subsequent years is based on the inspection and maintenance plan developed in the first year of operation. Minimum frequency should be once per year.
3. Inspection is recommended after each major storm event.
4. Inspection is required immediately after an upstream oil, fuel or other chemical spill.

3.0 Inspection Procedure

The following procedure is recommended when performing inspections:

1. Provide traffic control measures as necessary.
2. Inspect the MAW or inlet bay for floatable pollutants such as trash, debris, and oil sheen.
3. Measure oil and sediment depth in several locations, by lowering a sediment probe until contact is made with the floor of the structure. Record sediment depth, and presences of any oil layers.
4. Inspect cartridge lids. Missing or damaged cartridge lids to be replaced.
5. Inspect the MAW (where appropriate), cartridge deck and receptacles, and backwash pool weir, for damaged or broken components.

3.1 Dry weather inspections

- Inspect the cartridge deck for standing water, and/or sediment on the deck.
- No standing water under normal operating conditions.
- Standing water inside the backwash pool, but not outside the backwash pool indicates, that the filter cartridges need to be rinsed.



Inspection Utilizing Sediment Probe

- Standing water outside the backwash pool is not anticipated and may indicate a backwater condition caused by high water elevation in the receiving water body, or possibly a blockage in downstream infrastructure.
- Any appreciable sediment ($\geq 1/16''$) accumulated on the deck surface should be removed.

3.2 Wet weather inspections

- Observe the rate and movement of water in the unit. Note the depth of water above deck elevation within the MAW or inlet bay.
- Less than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges (i.e. cartridges located outside the backwash pool).
- Greater than 6 inches, flow should be exiting the cartridge lids of each of the draindown cartridges and each of the hi-flo cartridges (i.e. cartridges located inside the backwash pool), and water should be overflowing the backwash pool weir.
- 18 inches or greater and relatively little flow is exiting the cartridge lids and outlet pipe, this condition indicates that the filter cartridges need to be rinsed.

4.0 Maintenance Requirements

Required maintenance for the Jellyfish Filter is based upon results of the most recent inspection, historical maintenance records, or the site specific water quality management plan; whichever is more frequent. In general, maintenance requires some combination of the following:

1. Sediment removal for depths reaching 12 inches or greater, or within 3 years of the most recent sediment cleaning, whichever occurs sooner.
2. Floatable trash, debris, and oil removal.
3. Deck cleaned and free from sediment.
4. Filter cartridges rinsed and re-installed as required by the most recent inspection results, or within 12 months of the most recent filter rinsing, whichever occurs sooner.
5. Replace tentacles if rinsing does not restore adequate hydraulic capacity, remove accumulated sediment, or if damaged or missing. It is recommended that tentacles should remain in service no longer than 5 years before replacement.
6. Damaged or missing cartridge deck components must be repaired or replaced as indicated by results of the most recent inspection.
7. The unit must be cleaned out and filter cartridges inspected immediately after an upstream oil, fuel, or chemical spill. Filter cartridge tentacles should be replaced if damaged or compromised by the spill.

5.0 Maintenance Procedure

The following procedures are recommended when maintaining the Jellyfish Filter:

1. Provide traffic control measures as necessary.
2. Open all covers and hatches. Use ventilation equipment as required, according to confined space entry procedures.
Caution: Dropping objects onto the cartridge deck may cause damage.

3. Perform Inspection Procedure prior to maintenance activity.
4. To access the cartridge deck for filter cartridge service, descend into the structure and step directly onto the deck. Caution: Do not step onto the maintenance access wall (MAW) or backwash pool weir, as damage may result. Note that the cartridge deck may be slippery.
5. Maximum weight of maintenance crew and equipment on the cartridge deck not to exceed 450 lbs.

5.1 Filter Cartridge Removal

1. Remove a cartridge lid.
2. Remove cartridges from the deck using the lifting loops in the cartridge head plate. Rope or a lifting device (available from Contech) should be used. **Caution: Should a snag occur, do not force the cartridge upward as damage to the tentacles may result. Wet cartridges typically weigh between 100 and 125 lbs.**
3. Replace and secure the cartridge lid on the exposed empty receptacle as a safety precaution. Contech does not recommend exposing more than one empty cartridge receptacle at a time.

5.2 Filter Cartridge Rinsing

1. Remove all 11 tentacles from the cartridge head plate. Take care not to lose or damage the O-ring seal as well as the plastic threaded nut and connector.



Cartridge Removal & Lifting Device



2. Position tentacles in a container (or over the MAW), with the threaded connector (open end) facing down, so rinse water is flushed through the membrane and captured in the container.
3. Using the Jellyfish rinse tool (available from Contech) or a low-pressure garden hose sprayer, direct water spray onto the tentacle membrane, sweeping from top to bottom along the length of the tentacle. Rinse until all sediment is removed from the membrane. **Caution: Do not use a high pressure sprayer or focused stream of water on the membrane. Excessive water pressure may damage the membrane.**

4. Collected rinse water is typically removed by vacuum hose.
5. Reassemble cartridges as detailed later in this document. Reuse O-rings and nuts, ensuring proper placement on each tentacle.

5.3 Sediment and Floatables Extraction

1. Perform vacuum cleaning of the Jellyfish Filter only after filter cartridges have been removed from the system. Access the lower chamber for vacuum cleaning only through the maintenance access wall (MAW) opening. Be careful not to damage the flexible plastic separator skirt that is attached to the underside of the deck on manhole systems. Do not lower the vacuum wand through a cartridge receptacle, as damage to the receptacle will result.
2. Vacuum floatable trash, debris, and oil, from the MAW opening or inlet bay. Alternatively, floatable solids may be removed by a net or skimmer.



Vacuuming Sump Through MAW

3. Pressure wash cartridge deck and receptacles to remove all sediment and debris. Sediment should be rinsed into the sump area. Take care not to flush rinse water into the outlet pipe.
4. Remove water from the sump area. Vacuum or pump equipment should only be introduced through the MAW or inlet bay.
5. Remove the sediment from the bottom of the unit through the MAW or inlet bay opening.



Vacuuming Sump Through MAW

6. For larger diameter Jellyfish Filter manholes (≥ 8 -ft) and some vaults complete sediment removal may be facilitated by removing a cartridge lid from an empty receptacle and inserting a jetting wand (not a vacuum wand) through the receptacle. Use the sprayer to rinse loosened sediment toward the vacuum hose in the MAW opening, being careful not to damage the receptacle.

5.4 Filter Cartridge Reinstallation and Replacement

1. Cartridges should be installed after the deck has been cleaned. It is important that the receptacle surfaces be free from grit and debris.
2. Remove cartridge lid from deck and carefully lower the filter cartridge into the receptacle until head plate gasket is seated squarely in receptacle. **Caution: Do not force the cartridge downward; damage may occur.**
3. Replace the cartridge lid and check to see that both male threads are properly seated before rotating approximately 1/3 of a full rotation until firmly seated. Use of an approved rim gasket lubricant may facilitate installation. See next page for additional details.
4. If rinsing is ineffective in removing sediment from the tentacles, or if tentacles are damaged, provisions must be made to replace the spent or damaged tentacles with new tentacles. Contact Contech to order replacement tentacles.

5.5 Chemical Spills

Caution: If a chemical spill has been captured, do not attempt maintenance. Immediately contact the local hazard response agency and contact Contech.

5.6 Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in accordance with regulatory protocols. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads. Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. When scheduling maintenance, consideration must be made for the disposal of solid and liquid wastes. This typically requires coordination with a local landfill for solid waste disposal. For liquid waste disposal a number of options are available including a municipal vacuum truck decant facility, local waste water treatment plant or on-site treatment and discharge.

Jellyfish Filter Components & Filter Cartridge Assembly and Installation

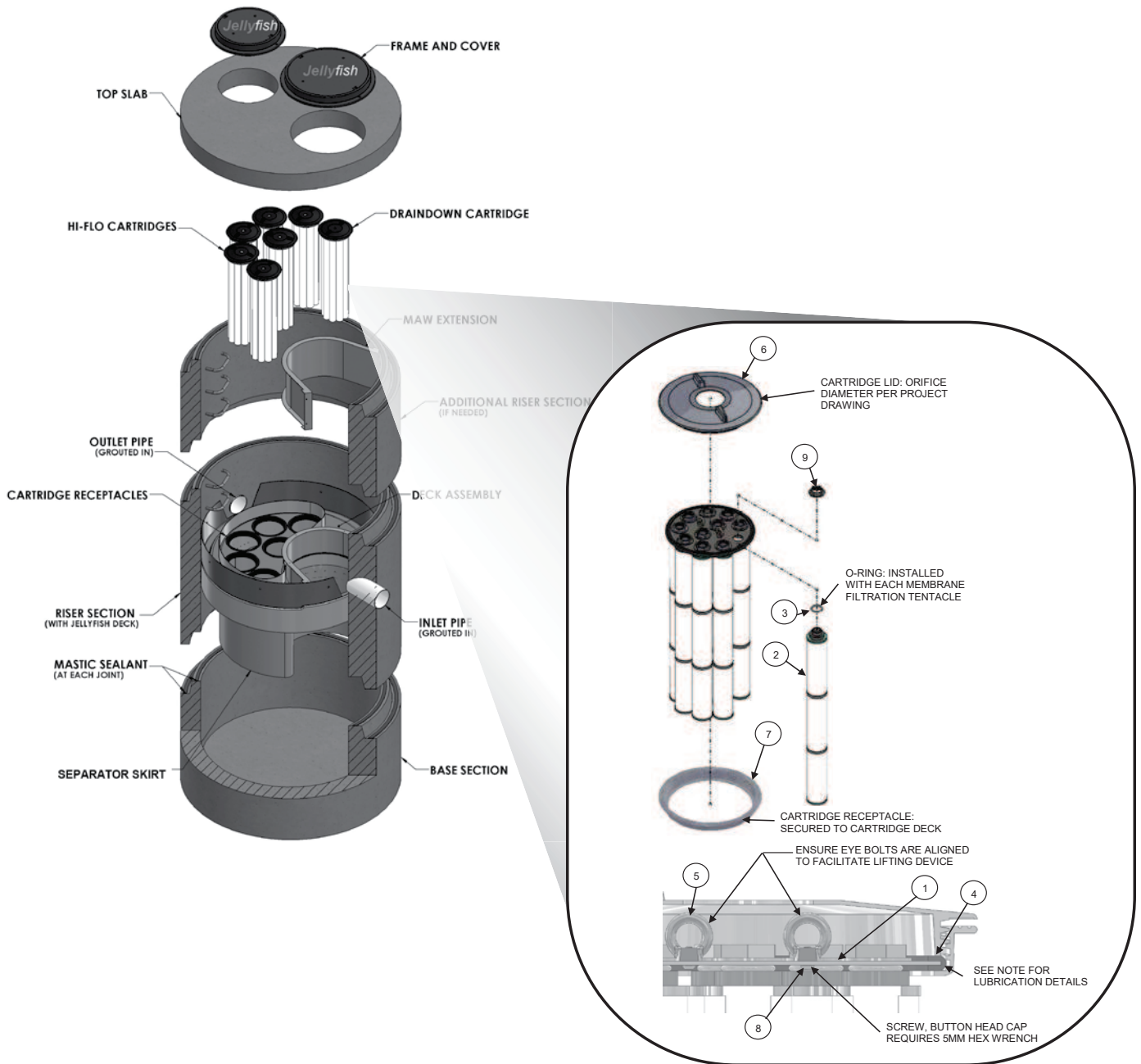


TABLE 1: BOM

ITEM NO.	DESCRIPTION
1	JF HEAD PLATE
2	JF TENTACLE
3	JF O-RING
4	JF HEAD PLATE GASKET
5	JF CARTRIDGE EYELET
6	JF 14IN COVER
7	JF RECEPTACLE
8	BUTTON HEAD CAP SCREW M6X14MM SS
9	JF CARTRIDGE NUT

TABLE 2: APPROVED GASKET LUBRICANTS

PART NO.	MFR	DESCRIPTION
78713	LA-CO	LUBRI-JOINT
40501	HERCULES	DUCK BUTTER
30600	OATEY	PIPE LUBRICANT
PSLUBXL1Q	PROSELECT	PIPE JOINT LUBRICANT

NOTES:

Head Plate Gasket Installation:

Install Head Plate Gasket (Item 4) onto the Head Plate (Item 1) and liberally apply a lubricant from Table 2: Approved Gasket Lubricants onto the gasket where it contacts the Receptacle (Item 7) and Cartridge Lide (Item 6). Follow Lubricant manufacturer's instructions.

Lid Assembly:

Rotate Cartridge Lid counter-clockwise until both male threads drop down and properly seat. Then rotate Cartridge Lid clock-wise approximately one-third of a full rotation until Cartridge Lid is firmly secured, creating a watertight seal.

Jellyfish Filter Inspection and Maintenance Log

Owner:		Jellyfish Model No:	
Location:		GPS Coordinates:	
Land Use:	Commercial:	Industrial:	Service Station:
	Roadway/Highway:	Airport:	Residential:

Date/Time:						
Inspector:						
Maintenance Contractor:						
Visible Oil Present: (Y/N)						
Oil Quantity Removed:						
Floatable Debris Present: (Y/N)						
Floatable Debris Removed: (Y/N)						
Water Depth in Backwash Pool						
Draindown Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Draindown Cartridges: (Y/N)						
Hi-Flo Cartridges externally rinsed and recommissioned: (Y/N)						
New tentacles put on Hi-Flo Cartridges: (Y/N)						
Sediment Depth Measured: (Y/N)						
Sediment Depth (inches or mm):						
Sediment Removed: (Y/N)						
Cartridge Lids intact: (Y/N)						
Observed Damage:						
Comments:						



Support

- Drawings and specifications are available at www.conteches.com/jellyfish.
- Site-specific design support is available from Contech Engineered Solutions.
- Find a Certified Maintenance Provider at www.conteches.com/ccmp

Jellyfish[®]

CONTECH[®]
ENGINEERED SOLUTIONS

800.338.1122

www.ContechES.com

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Site Plan Review

822 Route 1 Bypass

Portsmouth, New Hampshire

PREPARED FOR:

RIGZ ENTERPRISES LLC

PREPARED BY:

ROSS ENGINEERING, LLC

Civil/Structural Engineering
& Surveying

909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

February 21, 2024

LIST OF PROJECT PLANS:

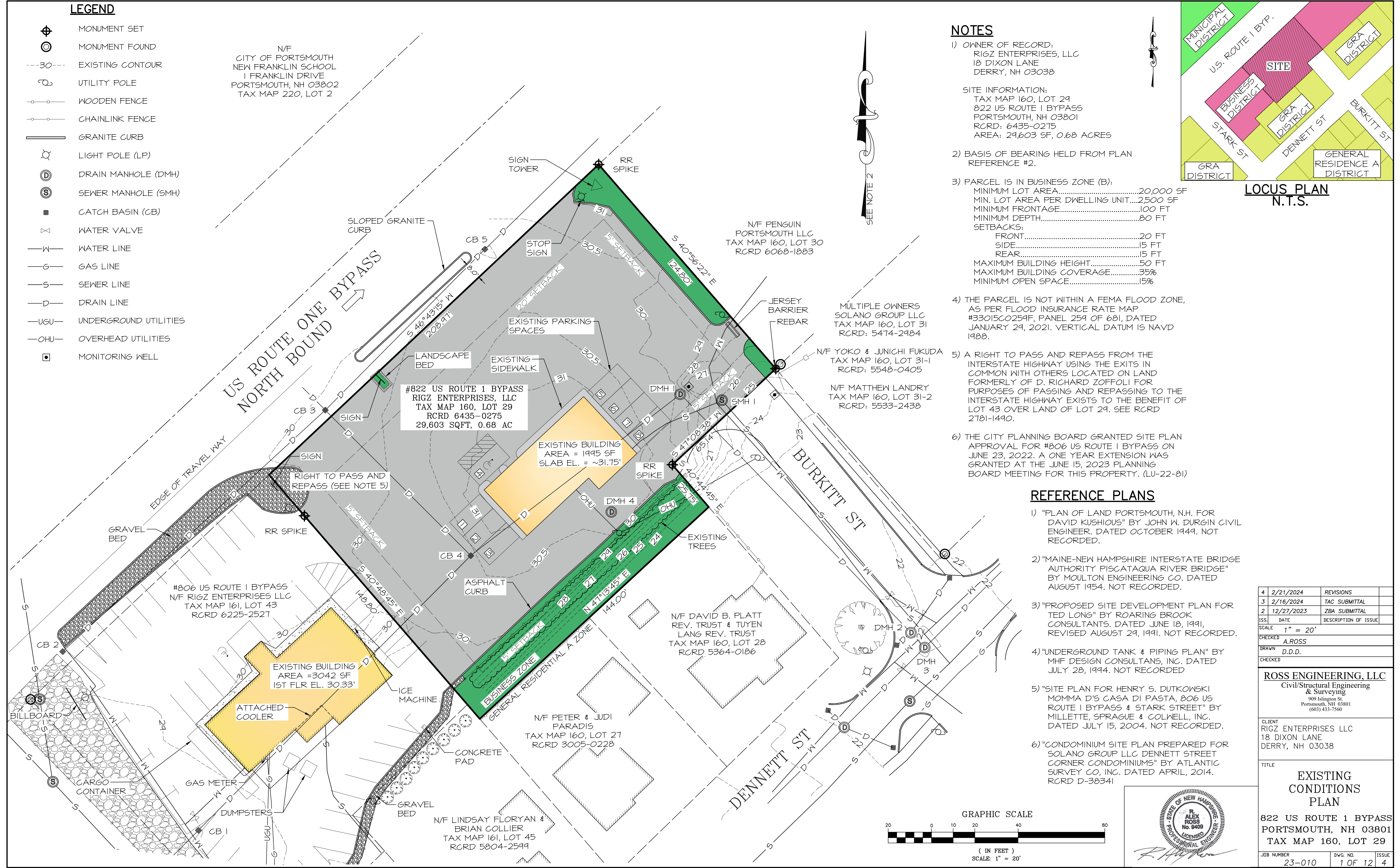
SITE PLAN SET

- 1 - Existing Conditions Plan
- 2 - Site Plan
- 3 - Landscape Plan
- 4 - Utility Plan
- 5 - Grading & Drainage Plan
- 6 - Existing Drain Profile
- 7 - Proposed Drain Profile
- 8 - Sewer Profile
- 9 - Sewer Details
- 10 - Details
- 11 - Sidewalk Details
- 12 - Erosion Control Plan
- Keystone Technologies Lighting Layout

LEGEND

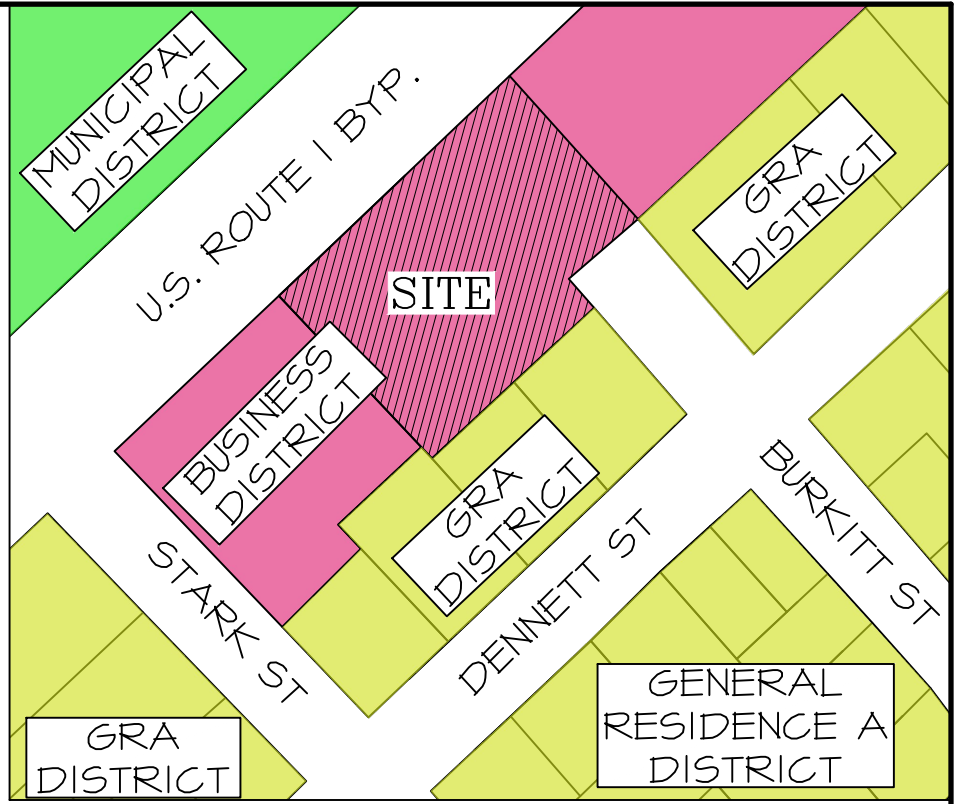
- ⊕ MONUMENT SET
- ⊙ MONUMENT FOUND
- - - 30 - - - EXISTING CONTOUR
- ⊕ UTILITY POLE
- W — WOODEN FENCE
- G — CHAINLINK FENCE
- S — GRANITE CURB
- ⊕ LIGHT POLE (LP)
- ⊙ DRAIN MANHOLE (DMH)
- ⊙ SEWER MANHOLE (SMH)
- CATCH BASIN (CB)
- ⊕ WATER VALVE
- W — WATER LINE
- G — GAS LINE
- S — SEWER LINE
- D — DRAIN LINE
- UGU — UNDERGROUND UTILITIES
- OHU — OVERHEAD UTILITIES
- ⊕ MONITORING WELL

N/F
CITY OF PORTSMOUTH
NEW FRANKLIN SCHOOL
1 FRANKLIN DRIVE
PORTSMOUTH, NH 03802
TAX MAP 220, LOT 2



NOTES

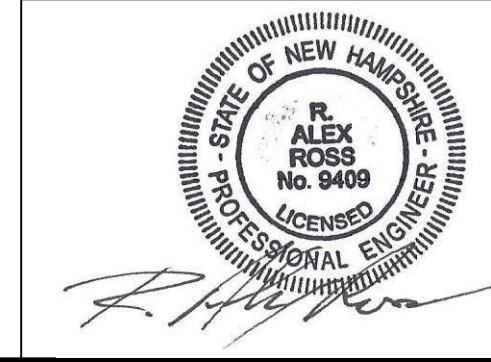
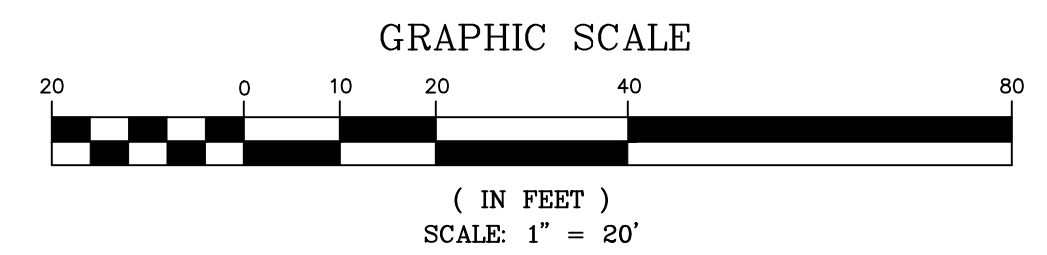
- 1) OWNER OF RECORD:
RIGZ ENTERPRISES, LLC
18 DIXON LANE
DERRY, NH 03038
- SITE INFORMATION:
TAX MAP 160, LOT 29
822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
RCRD: 6435-0275
AREA: 29,603 SF, 0.68 ACRES
- 2) BASIS OF BEARING HELD FROM PLAN REFERENCE #2.
- 3) PARCEL IS IN BUSINESS ZONE (B):
MINIMUM LOT AREA.....20,000 SF
MIN. LOT AREA PER DWELLING UNIT.....2,500 SF
MINIMUM FRONTAGE.....100 FT
MINIMUM DEPTH.....80 FT
SETBACKS:
FRONT.....20 FT
SIDE.....15 FT
REAR.....15 FT
MAXIMUM BUILDING HEIGHT.....50 FT
MAXIMUM BUILDING COVERAGE.....35%
MINIMUM OPEN SPACE.....15%
- 4) THE PARCEL IS NOT WITHIN A FEMA FLOOD ZONE, AS PER FLOOD INSURANCE RATE MAP #33015C0259F, PANEL 259 OF 681, DATED JANUARY 29, 2021. VERTICAL DATUM IS NAVD 1988.
- 5) A RIGHT TO PASS AND REPASS FROM THE INTERSTATE HIGHWAY USING THE EXITS IN COMMON WITH OTHERS LOCATED ON LAND FORMERLY OF D. RICHARD ZOFFOLI FOR PURPOSES OF PASSING AND REPASSING TO THE INTERSTATE HIGHWAY EXISTS TO THE BENEFIT OF LOT 43 OVER LAND OF LOT 29. SEE RCRD 2781-1490.
- 6) THE CITY PLANNING BOARD GRANTED SITE PLAN APPROVAL FOR #806 US ROUTE 1 BYPASS ON JUNE 23, 2022. A ONE YEAR EXTENSION WAS GRANTED AT THE JUNE 15, 2023 PLANNING BOARD MEETING FOR THIS PROPERTY. (LU-22-81)



**LOCUS PLAN
N.T.S.**

REFERENCE PLANS

- 1) "PLAN OF LAND PORTSMOUTH, N.H. FOR DAVID KUSHIOUS" BY JOHN W. DURGIN CIVIL ENGINEER. DATED OCTOBER 1949. NOT RECORDED.
- 2) "MAINE-NEW HAMPSHIRE INTERSTATE BRIDGE AUTHORITY PISCATAQUA RIVER BRIDGE" BY MOULTON ENGINEERING CO. DATED AUGUST 1954. NOT RECORDED.
- 3) "PROPOSED SITE DEVELOPMENT PLAN FOR TED LONG" BY ROARING BROOK CONSULTANTS. DATED JUNE 18, 1991, REVISED AUGUST 29, 1991. NOT RECORDED.
- 4) "UNDERGROUND TANK & PIPING PLAN" BY MHF DESIGN CONSULTANTS, INC. DATED JULY 28, 1994. NOT RECORDED.
- 5) "SITE PLAN FOR HENRY S. DUTKOWSKI MONMA D'S CASA DI PASTA, 806 US ROUTE 1 BYPASS & STARK STREET" BY MILLETTE, SPRAGUE & COLWELL, INC. DATED JULY 15, 2004. NOT RECORDED.
- 6) "CONDOMINIUM SITE PLAN PREPARED FOR SOLANO GROUP LLC DENNETT STREET CORNER CONDOMINIUMS" BY ATLANTIC SURVEY CO, INC. DATED APRIL, 2014. RCRD D-38341



DATE	REVISIONS
2/21/2024	
3/16/2024	TAC SUBMITTAL
2/12/2023	ZBA SUBMITTAL
ISS. DATE	DESCRIPTION OF ISSUE

SCALE 1" = 20'
CHECKED: A.ROSS
DRAWN: D.D.D.
CHECKED:

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

CLIENT
RIGZ ENTERPRISES LLC
18 DIXON LANE
DERRY, NH 03038

TITLE EXISTING CONDITIONS PLAN		
822 US ROUTE 1 BYPASS PORTSMOUTH, NH 03801 TAX MAP 160, LOT 29		
JOB NUMBER 23-010	DWG. NO. 1 OF 12	ISSUE 4

LEGEND

- ⊕ MONUMENT SET
- ⊙ MONUMENT FOUND
- ⊕ UTILITY POLE
- WOODEN FENCE
- CHAIN LINK FENCE
- CURB
- ⊕ LIGHT POLE (LP)
- ⊕ DRAIN MANHOLE (DMH)
- ⊕ SEWER MANHOLE (SMH)
- CATCH BASIN (CB)
- ⊕ WATER VALVE
- W WATER LINE
- G GAS LINE
- S SEWER LINE
- D DRAIN LINE
- UGU UNDERGROUND UTILITIES
- OHU OVERHEAD UTILITIES
- MONITORING WELL

ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS

ZBA APPROVALS

- 1) THE PORTSMOUTH ZONING BOARD OF ADJUSTMENT GRANTED THE FOLLOWING VARIANCES ON 1-23-2024.
 - A) 10.1113.20 TO ALLOW PARKING SPACES BETWEEN THE PRINCIPAL BUILDING AND A STREET.
 - B) 10.1113.41 TO ALLOW PARKING LOCATED 0 FEET FROM THE LOT LINE WHERE 20 FEET IS REQUIRED.

NOTES

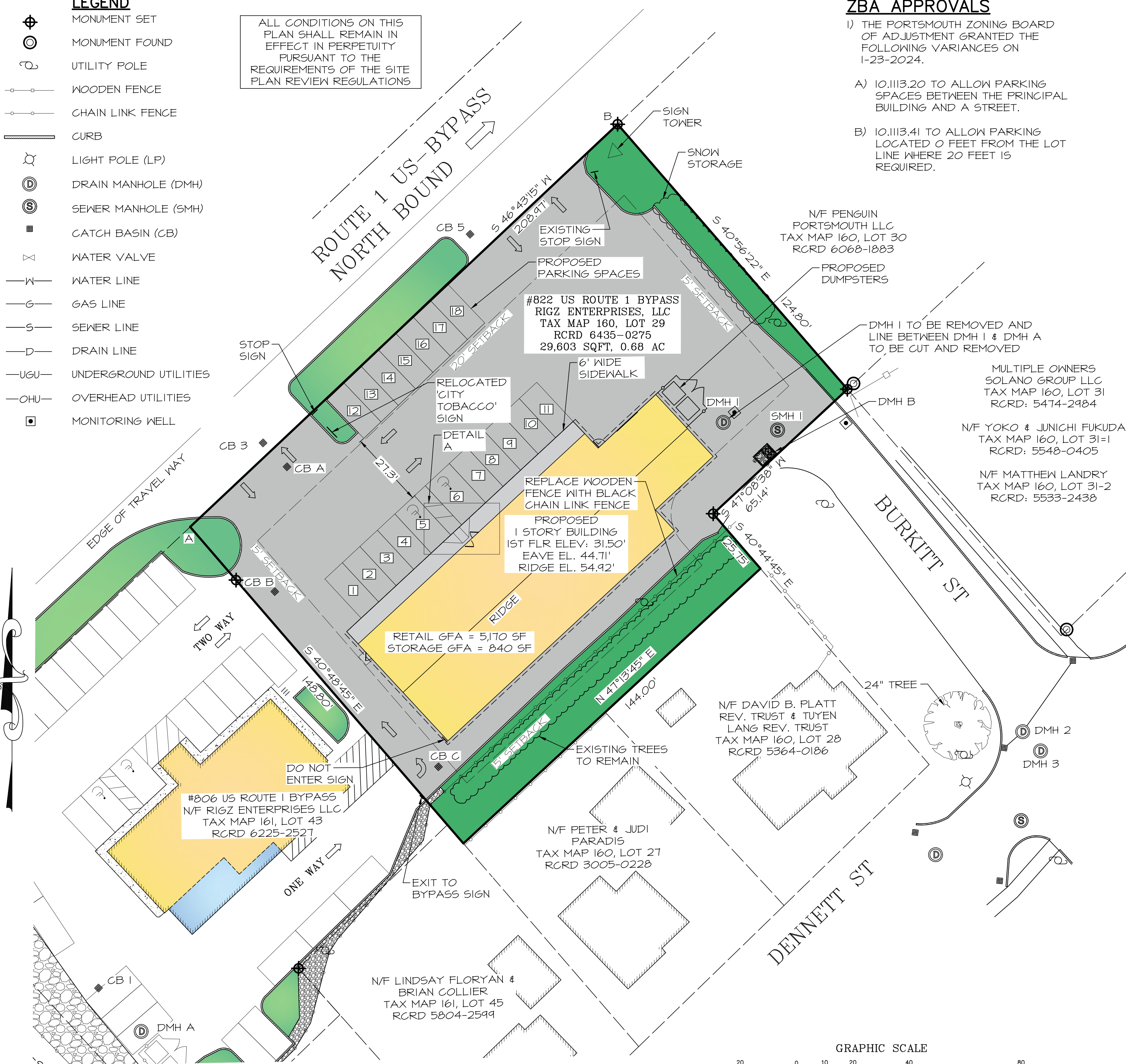
- 1) OWNER OF RECORD: RIGZ ENTERPRISES, LLC
18 DIXON LANE
DERRY, NH 03038

SITE INFORMATION:
TAX MAP 160, LOT 29
822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
RCRD: 6435-0275
AREA: 29,603 SF, 0.68 ACRES
- 2) COVERAGES:

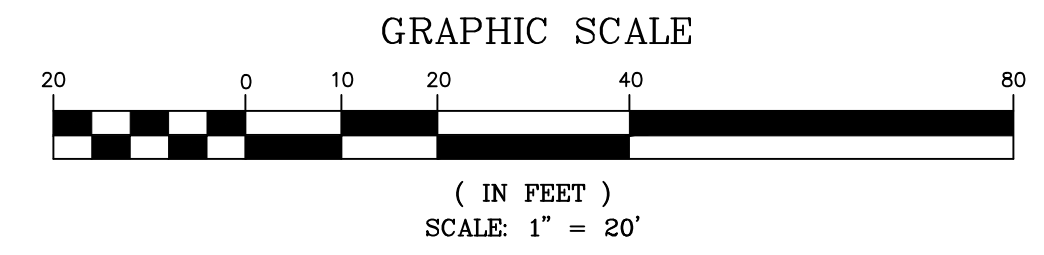
BUILDING COVERAGE	
EXISTING BUILDING COVERAGE	1995 SF
BUILDING	1995 SF
EXISTING STRUCTURE	1995 SF
BUILDING COVERAGE 1,995 / 29,603 =	6.7%
PROPOSED BUILDING COVERAGE	
BUILDING	6010 SF
PROPOSED STRUCTURE	6010 SF
BUILDING COVERAGE 6010 / 29603 =	20.3%
OPEN SPACE	
EXISTING OPEN SPACE	1,995 SF
BUILDING COVERAGE	1,995 SF
ASPHALT	22,871 SF
SIDEWALK	336 SF
RETAINING WALL	21 SF
CURB	132 SF
TOTAL LOT COVERAGE	25,355 SF
EXISTING OPEN SPACE = 29603-25355 =	4248 SF
EXISTING OPEN SPACE = 4248 / 29603 =	14.3%
PROPOSED OPEN SPACE	
BUILDING COVERAGE	6,010 SF
ASPHALT DRIVEWAY	18,142 SF
SIDEWALK	660 SF
CURB	183 SF
TOTAL LOT COVERAGE	24,995 SF
PROPOSED OPEN SPACE = 29603-24995 =	4608 SF
PROPOSED OPEN SPACE = 4608 / 29603 =	15.6%
- 3) PARKING REQUIREMENTS
PARKING SPACES
AS PER PORTSMOUTH ZONING ORDINANCE 10.1112.321,
PARKING SPACES FOR RETAIL USE SHALL BE 1 SPACE PER 300 SF OF GROSS FLOOR AREA.

5,170 SF GFA x 1 SPACE/300 GFA = 17.2 = 18 SPACES
18 SPACES REQUIRED
18 SPACES PROVIDED
- 4) GIS COORDINATES OF TWO LOT CORNERS

	NORTHING	EASTING
A - NW CORNER	211426.738	1222436.796
B - NE CORNER	211571.344	1222587.647
- 5) BUILDING HEIGHT:
 - AS PER THE PORTSMOUTH ZONING ORDINANCE THE GRADE PLANE SHALL BE THE FINISHED GROUND LEVEL ADJOINING THE BUILDING AT ALL EXTERIOR WALLS. WHEN THE FINISHED GROUND LEVEL SLOPES AWAY FROM EXTERIOR WALLS, THE REFERENCE PLANE SHALL BE ESTABLISHED BY THE LOWEST POINTS WITHIN THE AREA BETWEEN THE BUILDING AND THE LOT LINE, OR WHEN THE LOT LINE IS MORE THAN 6 FEET FROM THE BUILDING, BETWEEN THE BUILDING AND A POINT 6 FEET FROM THE BUILDING. THE GRADE PLANE WAS FOUND TO BE 29.90'
 - BUILDING HEIGHT FOR A PITCHED, HIP, OR GAMBREL ROOF IS CALCULATED AS THE VERTICAL MEASUREMENT FROM THE GRADE PLANE TO THE MIDWAY POINT BETWEEN THE LEVEL OF THE EAVES AND THE HIGHEST POINT ON THE ROOF RIDGE AS PER PORTSMOUTH ZONING ORDINANCE. THE LEVEL OF THE PROPOSED EAVES IS 44.71'. THE HIGHEST PROPOSED RIDGE IS 54.92'. THE PROPOSED MIDPOINT IS 49.82'.
 - THE BUILDING HEIGHT WAS DETERMINED TO BE 19.92' USING A MIDPOINT HEIGHT OF 49.82' AND A GRADE PLANE OF 29.90'.
- 6) SIGNAGE:
 - THE CITY TOBACCO SIGN LOCATED AT THE NORTH EAST CORNER OF #806 ROUTE 1 BYPASS (TAX MAP 161, LOT 43), WHICH WAS RECENTLY SUBMITTED AND APPROVED BY THE PORTSMOUTH PLANNING BOARD WILL BE RELOCATED TO #822 US ROUTE 1 BYPASS AS SHOWN ON THE PLAN.
- 7) THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
- 8) ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.



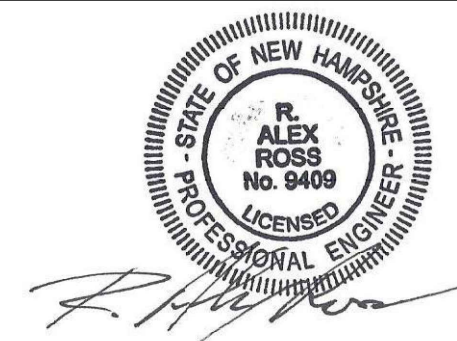
I ALEX ROSS, HEREBY CERTIFY:
 A) THAT THIS SURVEY PLAT WAS PREPARED BY ME OR THOSE UNDER MY DIRECT SUPERVISION.
 B) THIS PLAN IS A RESULT OF FIELD SURVEY PERFORMED BY DDD, & SRO DURING MAY OF 2023. THE ERROR OF CLOSURE IS BETTER THAN 1/15,000. SURVEY PER NHLSA STANDARDS; CATEGORY 1, CONDITION 1.
 C) I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUB-DIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN."



CITY OF PORTSMOUTH PLANNING BOARD

 CHAIRPERSON

 DATE



NO.	DATE	REVISIONS
4	2/21/2024	REVISIONS
3	2/16/2024	TAC SUBMITTAL
2	12/27/2023	ZBA SUBMITTAL
1	12/27/2023	ISSUE

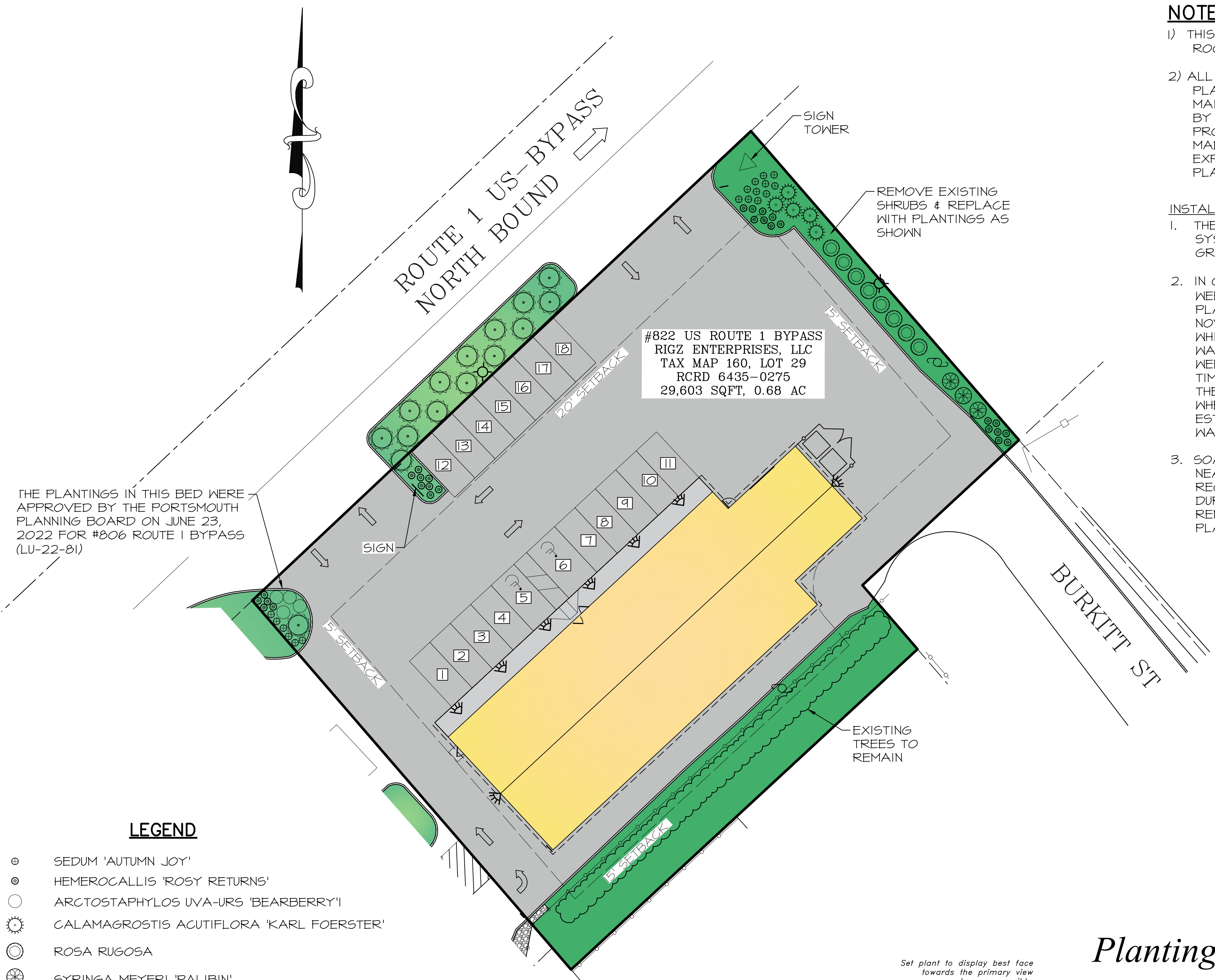
ISS: DATE DESCRIPTION OF ISSUE
 SCALE: 1" = 20'
 CHECKED: A.ROSS
 DRAWN: D.D.D.
 CHECKED:

ROSS ENGINEERING, LLC
 Civil/Structural Engineering & Surveying
 909 Islington St.
 Portsmouth, NH 03801
 (603) 433-7560

CLIENT
 RIGZ ENTERPRISES LLC
 18 DIXON LANE
 DERRY, NH 03038

TITLE
SITE PLAN
 822 US ROUTE 1 BYPASS
 PORTSMOUTH, NH 03801
 TAX MAP 160, LOT 29

JOB NUMBER	DWG. NO.	ISSUE
23-010	2 OF 12	4



NOTES

- THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.
 - ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
- INSTALLATION REQUIREMENTS:**
- THE INSTALLATION OF A DRIP IRRIGATION SYSTEM IS RECOMMENDED TO ASSURE WELL GROWN PLANTS.
 - IN CASE OF DROUGHT (DEFINED AS TWO WEEK PERIOD WITHOUT RAIN) ALL NEW PLANTS SHALL BE WATERED THROUGH NOVEMBER 1ST DURING THE FIRST SEASON IN WHICH THE ARE INSTALLED. THEY SHALL BE WATERED ONE TIME PER DAY FOR THE FIRST WEEK AFTER INSTALLATION AND THREE TIMES PER WEEK FOR THE REMAINDER OF THE SEASON. AFTER THE FIRST SEASON WHEN THE ROOTS OF THE PLANTS ARE ESTABLISHED THEY WILL NOT REQUIRE WATERING.
 - SOAKER HOSES WOUND THROUGH THE BED NEAR THE BASE OF EACH PLANT ARE THE RECOMMENDED METHOD OF WATERING DURING THE FIRST SEASON. THESE CAN BE REMOVED AFTER NOVEMBER 30TH WHEN THE PLANTS ARE ESTABLISHED.

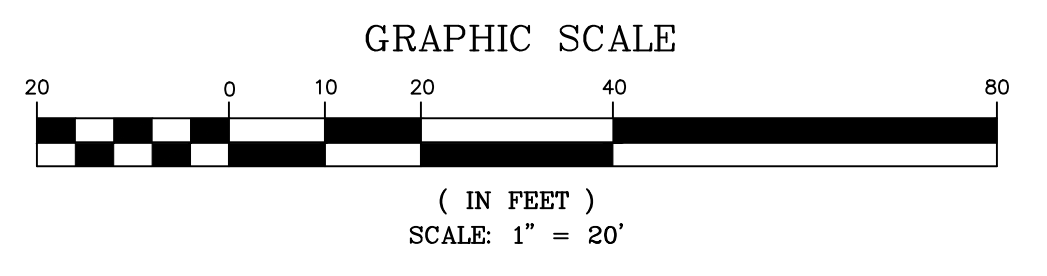
PLANTING NOTES

- ALL PLANT MATERIALS SHALL BE FIRST QUALITY NURSERY GROWN STOCK.
- ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH NEW HAMPSHIRE LANDSCAPE ASSOCIATION STANDARDS AND GUARANTEED FOR ONE YEAR BY THE LANDSCAPE CONTRACTOR.
- AFTER PLANTING, ALL PLANTS SHALL BE FLOODED AT THE BASE WITH WATER FROM A SLOW-RUNNING HOSE FOR 5 MINUTES EACH.
- ALL PLANTS SHALL BE INSTALLED BEFORE ANY GRASS IS SEEDED.
- ALL SHRUBS AND PLANTING BEDS SHALL BE MULCHED WITH 3" OF DARK BROWN AGED BARK MULCH AS A FINAL STEP. MULCH MUST BE KEPT 2" AWAY FROM BASE OF EACH PLANT.
- THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR, AND REPLACEMENT OF ALL REQUIRED SCREENING AND LANDSCAPE MATERIALS.
- ALL REQUIRED PLANT MATERIALS SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACED WHEN NECESSARY, AND KEPT FREE OF REFUSE AND DEBRIS. ALL REQUIRED FENCES AND WALLS SHALL BE MAINTAINED IN GOOD REPAIR.
- THE PROPERTY OWNER SHALL BE RESPONSIBLE TO REMOVE AND REPLACE DEAD OR DISEASED PLANT MATERIALS IMMEDIATELY WITH THE SAME TYPE, SIZE, AND QUANTITY OF PLANT MATERIALS AS ORIGINALLY INSTALLED, UNLESS ALTERNATIVE PLANTINGS ARE REQUESTED, JUSTIFIED, AND APPROVED BY THE PLANNING BOARD OR PLANNING DIRECTOR.
- MULCH USED WILL BE NON-COMBUSTIBLE OR APPROVED BY THE PORTSMOUTH FIRE DEPARTMENT.

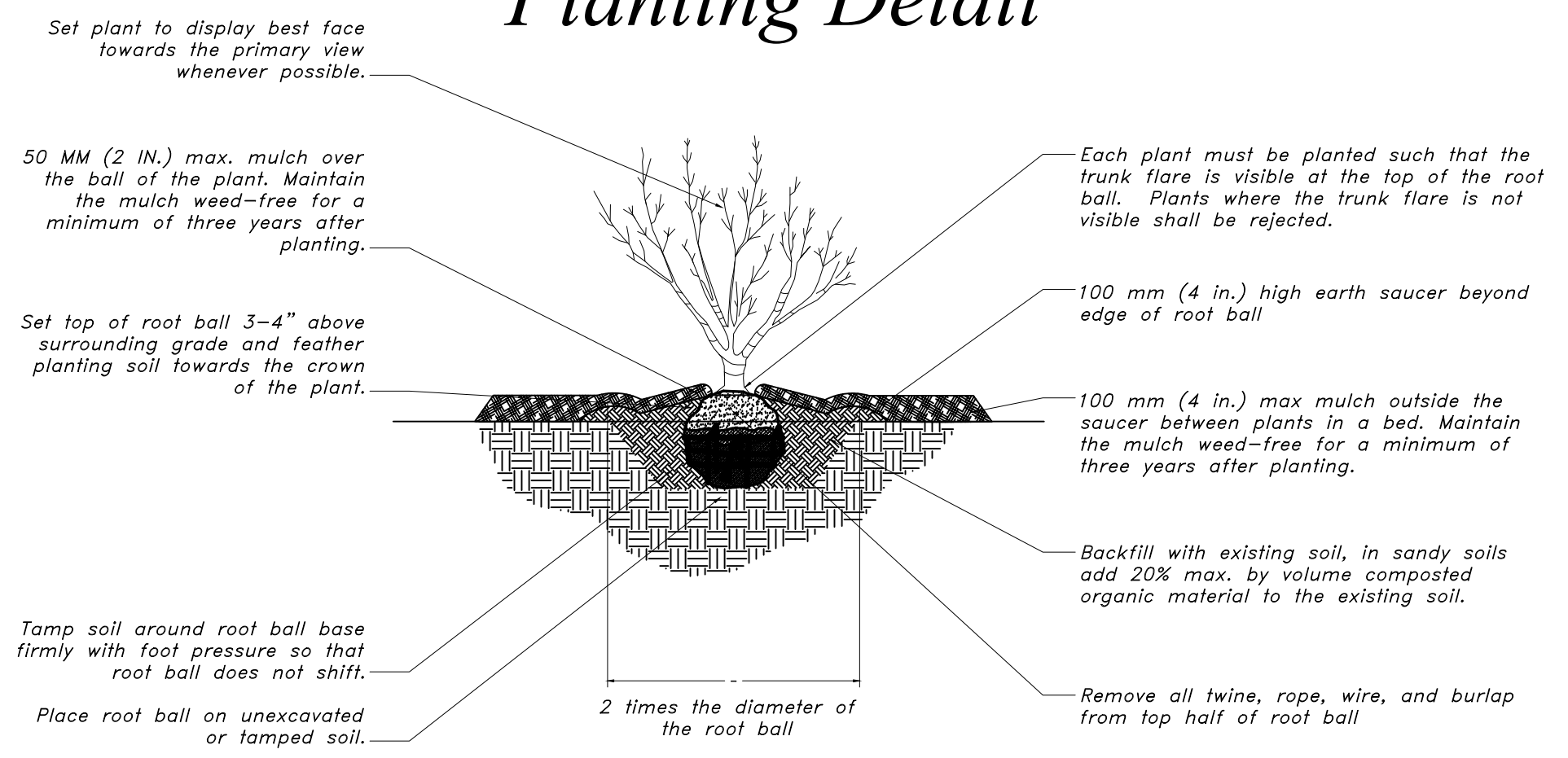
LEGEND

- ⊙ SEDUM 'AUTUMN JOY'
- ⊙ HEMEROCALLIS 'ROSY RETURNS'
- ARCTOSTAPHYLOS UVA-URS 'BEARBERRY'
- ☼ CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'
- ⊙ ROSA RUGOSA
- ⊙ SYRINGA MEYERI 'PALIBIN'
- ⊙ JUNIPERUS HORIZONTALIS 'BAR HARBOR'

BOTANICAL NAME	COMMON NAME	SIZE	QTY:
SEDUM 'AUTUMN JOY'	STONECROP	1 QT	17
HEMEROCALLIS 'ROSY RETURNS'	REBLOOMING DAYLILY	1 QT	28
ARCTOSTAPHYLOS UVA-URS 'BEARBERRY'	BEAR BERRY	1 GAL	4
CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL	5
ROSA RUGOSA	SALT SPRAY ROSE	1 GAL	8
SYRINGA MEYERI 'PALIBIN'	DWARF KOREAN LILAC	2 GAL	3
JUNIPERUS HORIZONTALIS 'BAR HARBOR'	'BAR HARBOR' GROUND-COVER JUNIPER	1 GAL	15



Planting Detail



ISS.	DATE	DESCRIPTION OF ISSUE
4	2/21/2024	REVISIONS
3	2/16/2024	TAC SUBMITTAL
2	12/27/2023	ZBA SUBMITTAL

CHECKED: A.ROSS
DRAWN: D.D.D.
CHECKED:

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
909 Islington St
Portsmouth, NH 03801
(603) 433-7560

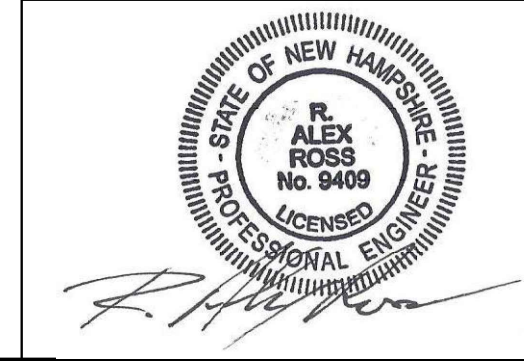
CLIENT
RIGZ ENTERPRISES LLC
18 DIXON LANE
DERRY, NH 03038

TITLE

LANDSCAPE PLAN

822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
TAX MAP 160, LOT 29

JOB NUMBER	DWG. NO.	ISSUE
23-010	3 OF 12	4



EXISTING STRUCTURES

CATCH BASIN

CB 1
RIM EL. 27.93
INV. IN 21.86 (±20" PIPE) SW
INV. OUT 20.91 (±20" PIPE) NE

CB 2
RIM EL. 29.46
INV. OUT 25.81 (12" CMP) SE

CB 3
INV. RIM EL. 29.19
INV. IN 23.83 (12" CMP) SW
INV. IN 22.72 (12" CMP) NE
INV. IN 22.68 (24" RCP) NW
INV. OUT 22.62 (24" RCP) SE

CB 4
RIM EL. 30.48
INV. IN 18.20 (±20") SW
INV. IN 18.20 (24" RCP) NW
INV. OUT 18.15 (24") NE

CB 5
RIM EL. 29.94
INV. IN 26.15 (12" CMP) NE
INV. OUT 26.10 (12" CMP) SW

DRAIN MANHOLE

DMH 1
RIM EL. 23.77
INV. IN 17.60 (24" PIPE) SW
INV. OUT 17.27 (24" PIPE) SE

DMH 2
RIM EL. 21.92

DMH 3
RIM EL. 22.05

DMH 4
RIM EL. 30.55

SEWER MANHOLE

SMH 1
RIM EL. 25.74
INV. IN 19.49 (6" AC)
INV. OUT 19.44 (6" AC)

PROPOSED STRUCTURES

CATCH BASIN

CB 1
RIM EL. 27.93
INV. IN 21.86 (±20" PIPE) SW
INV. OUT 21.75 (24" PE) SE - PROPOSED LINE

CB A
RIM EL. 29.50
INV. IN 22.50 (24" RCP) NW
INV. OUT 22.42 (24" PE) SE
STRUCTURE: 5' Ø CONCRETE BASIN

CB B
RIM EL. 29.75
INV. IN 21.97 (24" PE) NW
INV. OUT 21.90 (24" PE) SE
STRUCTURE: 5' Ø CONCRETE BASIN

CB C
RIM EL. 29.75
INV. IN 20.85 (24" PE) SW
INV. IN 21.00 (24" PE) NW
INV. OUT 20.81 (24" PE) NE
STRUCTURE: 5' Ø CONCRETE BASIN

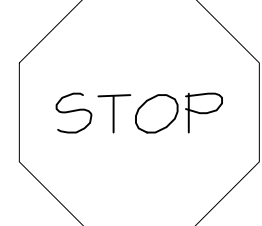
DRAIN MANHOLE

DMH A
RIM EL. 28.50
INV. IN 21.65 (24" PE) NW
INV. OUT 21.58 (24" PE) NE
STRUCTURE: 5' Ø CONCRETE BASIN

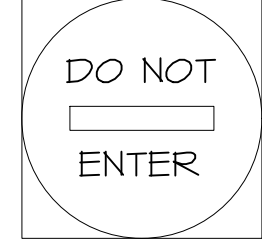
DMH B
RIM EL. 27.00
INV. IN 20.00 (24" PE) SW
INV. OUT 17.10 (24" PIPE) SE
STRUCTURE: JELLYFISH FILTER JFPD0406

SEWER MANHOLE

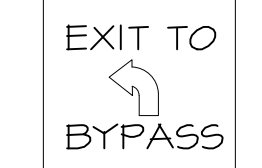
SMH 1
RIM EL. 25.74
INV. IN 22.50 (6" PVC) - PROPOSED LINE
INV. OUT 19.74



RI-1
30"x30"
RED & WHITE



R5-1
30"x30"
RED & WHITE



CUSTOM
20"x20"
BLACK & WHITE

SIGN DETAILS
SCALE: NTS

PROPOSED LIGHTING

DESCRIPTION	CATALOG NUMBER	QUANTITY
LIGHT POLE (LP1)	KT-ALED210-L2-05A-NM-850-VDIM_1	1
LIGHT POLE (LP2)	KT-ALED210-L2-05A-NM-850-VDIM	1
WALL PACK (LP3)	KT-WPLED55P5-M4-8C6B-VDIM	2
DOWNLIGHT (LP4)	KT-RDLED18P5-6A-9CSE-VDIM (1)	6

UTILITIES:

CONTACT LIST:
GAS: UNILIT: SUSAN L. DUPLISEA.....603-294-5147
WATER: PORTSMOUTH DPW:603-427-1530
SEWER: PORTSMOUTH DPW:603-427-1530
STORMWATER: PORTSMOUTH DPW:603-427-1530
ELECTRIC: EVERSOURCE: CASEY MCDONALD.....603-436-7108 EXT 5641

PROPOSED UTILITIES:

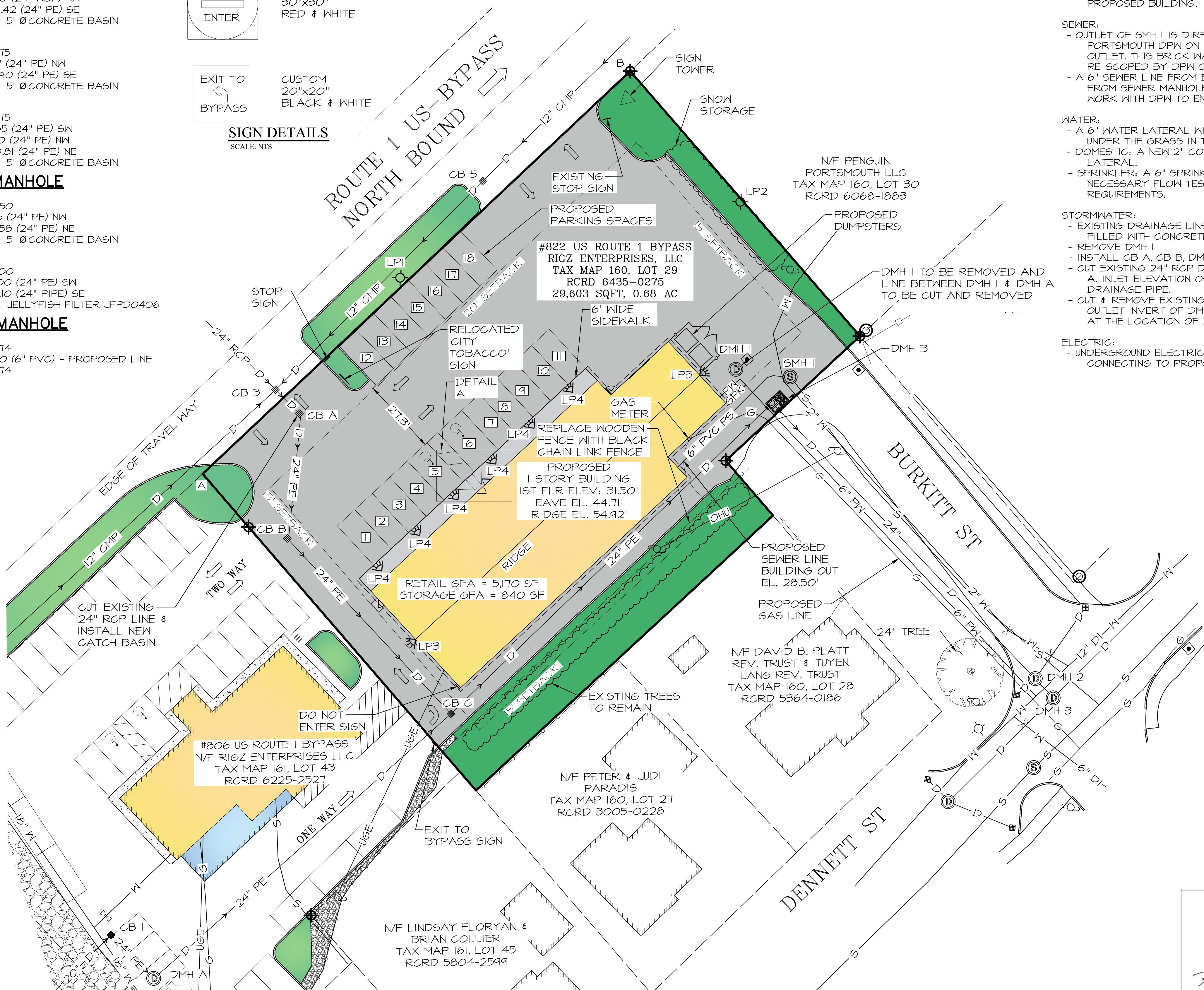
- GAS:**
- PROPOSED GAS LINE TO BE INSTALLED FROM GAS MAIN IN DENNETT ST TO SERVICE PROPOSED BUILDING.
- SEWER:**
- OUTLET OF SMH 1 IS DIRECTED TOWARDS DENNETT ST. SEWER LINE WAS SCOPED BY PORTSMOUTH DPW ON FEBRUARY 7, 2024. A BRICK WAS FOUND BLOCKING THE OUTLET. THIS BRICK WAS REMOVED BY CONTRACTOR, AND THE LINE WAS RE-SCOPED BY DPW ON FEBRUARY 16, 2024. THE LINE IS IN GOOD CONDITION.
- A 6" SEWER LINE FROM BUILDING TO SEWER MANHOLE #1 WILL BE INSTALLED. OUTLET FROM SEWER MANHOLE #1 IS NOT PROPOSED TO BE ALTERED. CONTRACTOR TO WORK WITH DPW TO ENSURE PROPER FUNCTION OF SEWER OUTLET.
- WATER:**
- A 6" WATER LATERAL WILL BE INSTALLED FROM THE WATER MAIN ON DENNETT ST UNDER THE GRASS IN THE BURKITT ST ROW.
- DOMESTIC: A NEW 2" COPPER LINE WILL BE INSTALLED TO THE BUILDING FROM THE 6" LATERAL.
- SPRINKLER: A 6" SPRINKLER LINE WILL BE INSTALLED FROM THE 6" LATERAL. NECESSARY FLOW TEST CONNECTIONS AND SPECIFICATIONS AS PER CITY REQUIREMENTS.
- STORMWATER:**
- EXISTING DRAINAGE LINE UNDER THE BUILDING TO BE TAKEN OUT OF SERVICE AND FILLED WITH CONCRETE.
- REMOVE DMH 1
- INSTALL CB A, CB B, DMH A & DMH B
- CUT EXISTING 24" RCP DRAINAGE LINE BETWEEN CB 3 & CB 4 AT LOCATION OF CB A. INLET ELEVATION OF CB A TO MATCH EXISTING ELEVATION OF 24" RCP DRAINAGE PIPE.
- CUT & REMOVE EXISTING DRAIN LINE BETWEEN DMH 1 & DMH B. ELEVATION OF OUTLET INVERT OF DMH B TO MATCH THE EXISTING DRAIN LINE INVERT ELEVATION AT THE LOCATION OF DMH B.
- ELECTRIC:**
- UNDERGROUND ELECTRICAL FROM EXISTING UTILITY POLE TO BE INSTALLED CONNECTING TO PROPOSED BUILDING.

GENERAL NOTES

- CONTRACTOR TO REVIEW ALL SURFACING TYPES, AND MATERIAL SPECIFICATIONS WITH COMMISSIONER OF PUBLIC WORKS.
- ALL NECESSARY NHDOT, NHDES & TOWN PERMITS MUST BE OBTAINED.
- ALL CONSTRUCTION SHALL BE PER NH-DOT, STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION. LATEST REVISION.
- CONTRACTOR SHALL MEET STATE AND TOWN REQUIREMENTS. TO ASSURE TYPE, SEPARATION, COVER, ETC. ALWAYS CALL DIGSAFE PRIOR TO DIGGING. UTILITIES SHOWN ARE APPROXIMATE AND MUST BE VERIFIED.
- ALL PIPE MATERIALS, SIZES, AND ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY IN FIELD AND WITH PORTSMOUTH DPW PRIOR TO STARTING CONSTRUCTION TO ENSURE PROPER INSTALLATION OF ALL UTILITIES.

LEGEND

- ⊕ MONUMENT SET
- ⊙ MONUMENT FOUND
- ⊕ UTILITY POLE
- FENCE
- CURB
- ⊕ LIGHT POLE (LP)
- ⊕ DRAIN MANHOLE (DMH)
- ⊕ SEWER MANHOLE (SMH)
- CATCH BASIN (CB)
- ⊕ WATER VALVE
- W— WATER LINE
- G— GAS LINE
- S— SEWER LINE
- D— DRAIN LINE
- PW— PROPOSED WATER LINE
- SPK— SPRINKLER LINE
- PS— PROPOSED SEWER LINE
- UGE— UNDERGROUND ELECTRIC
- CMP CORRUGATED METAL PIPE
- PE POLYETHYLENE PIPE
- DI DUCTILE IRON PIPE
- RCP REINFORCED CONCRETE PIPE



DATE	REVISIONS
2/21/2024	
2/16/2024	TAC SUBMITTAL
12/27/2023	ZBA SUBMITTAL

ISS: DATE DESCRIPTION OF ISSUE
SCALE 1" = 20'
CHECKED A.ROSS
DRAWN D.D.D.
CHECKED

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

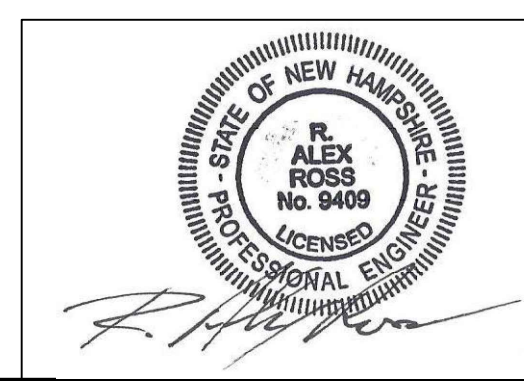
CLIENT
RIGZ ENTERPRISES LLC
18 DIXON LANE
DERRY, NH 03038

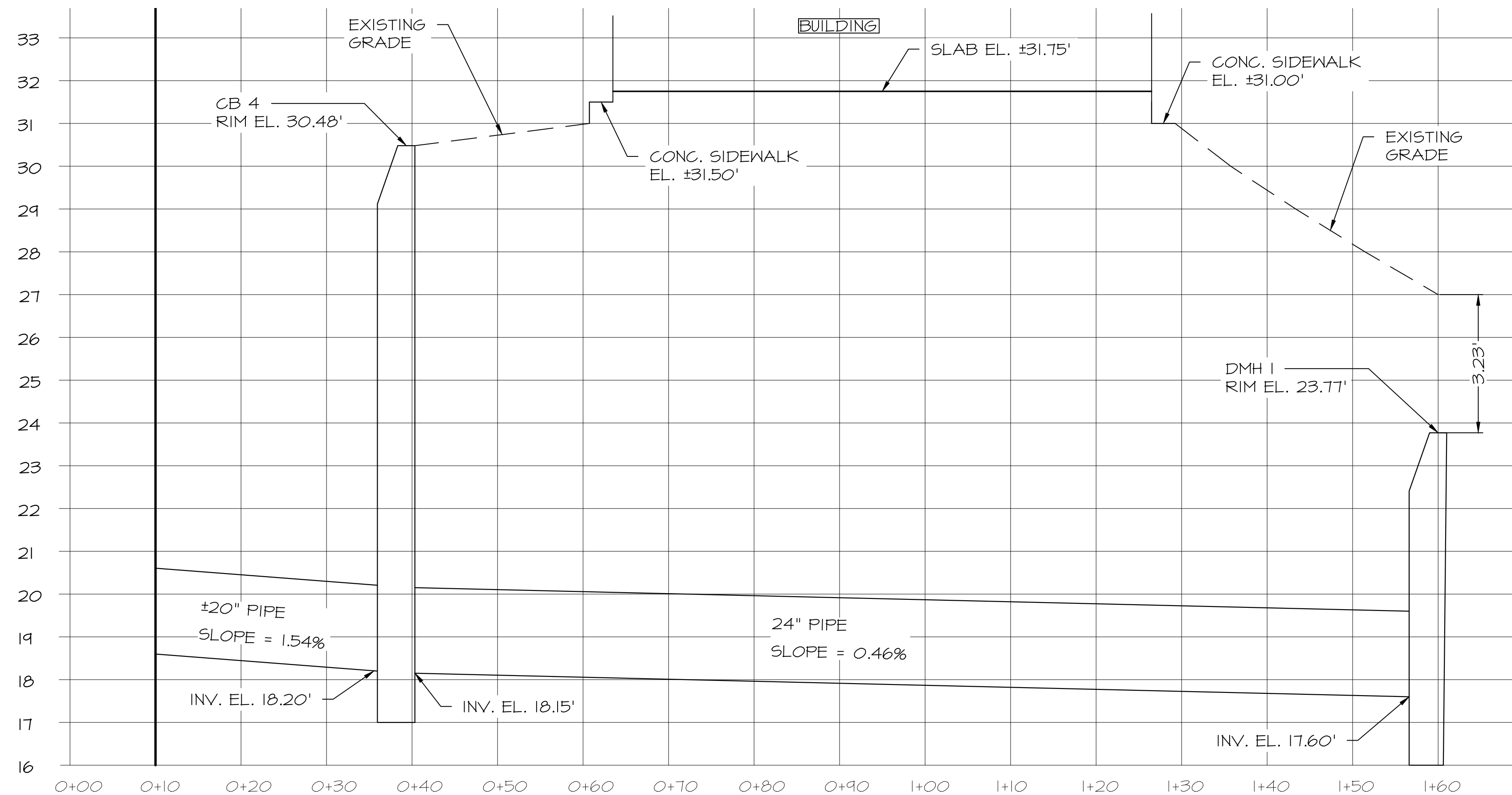
TITLE

UTILITY PLAN

822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
TAX MAP 160, LOT 29

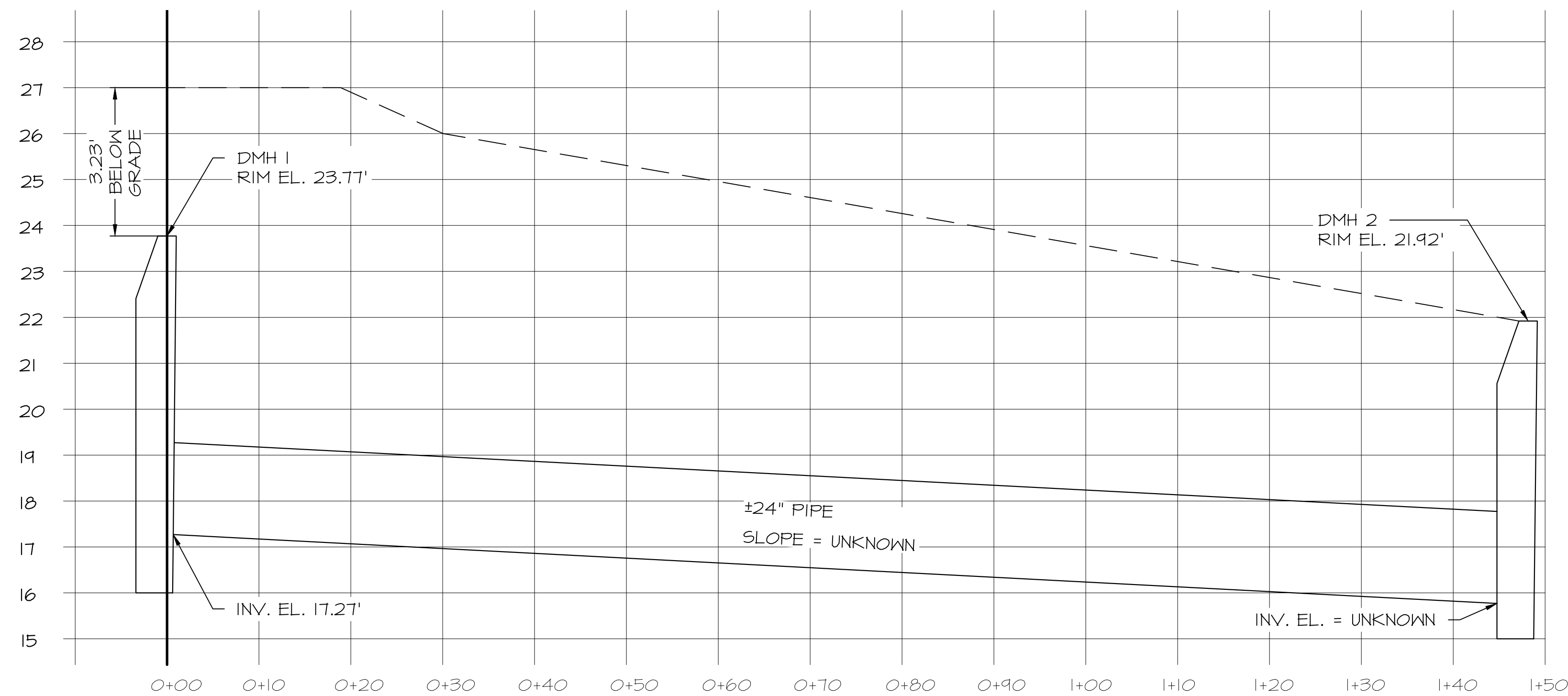
JOB NUMBER	DWG. NO.	ISSUE
23-010	4 OF 12	4





EXISTING DRAIN LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'



EXISTING DRAIN LINE PROFILE (BURKITT ST)

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'

ISS.	DATE	DESCRIPTION OF ISSUE
4	2/21/2024	REVISIONS
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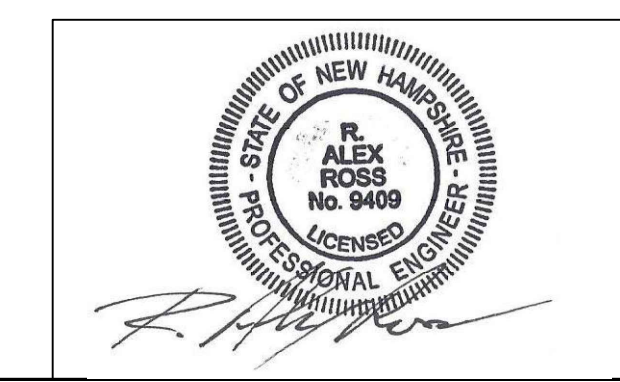
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 DRAWN D.D.D.
 CHECKED

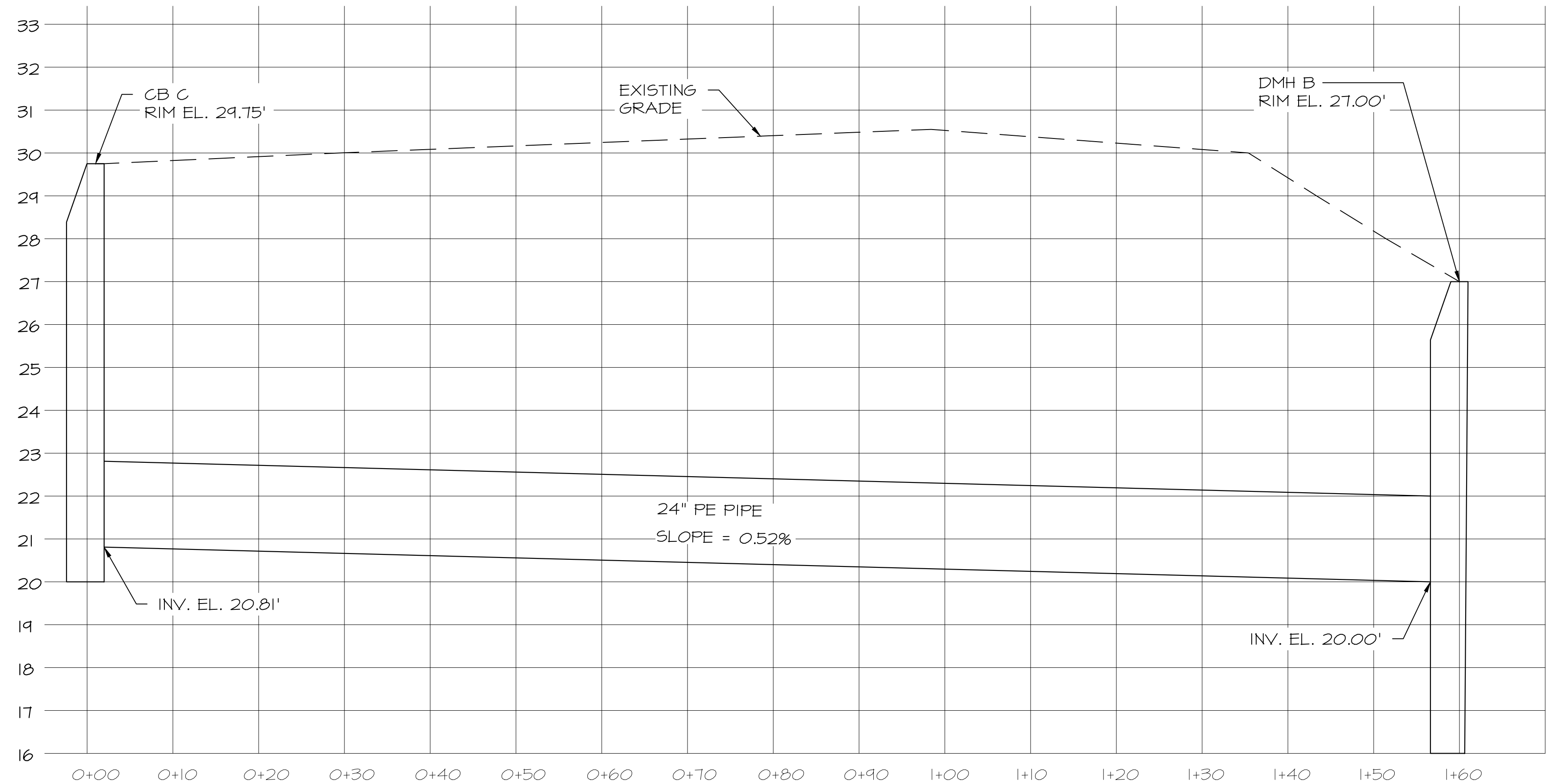
ROSS ENGINEERING, LLC
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 909 Islington St.
 Portsmouth, NH 03801
 (603) 433-7560

CLIENT
RIGZ ENTERPRISES LLC
 18 DIXON LANE
 DERRY, NH 03038

TITLE
EXISTING DRAIN PROFILE
 822 US ROUTE 1 BYPASS
 PORTSMOUTH, NH 03801
 TAX MAP 160, LOT 29

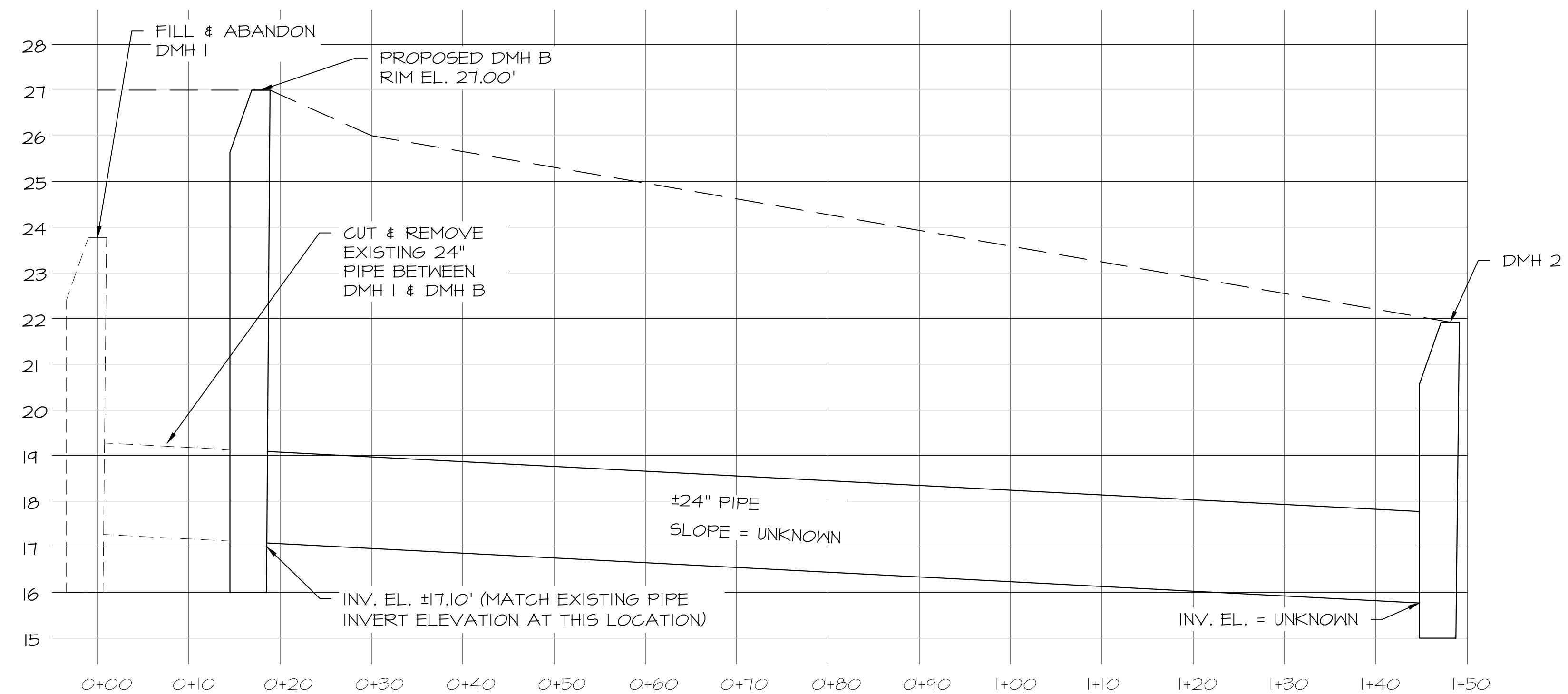
JOB NUMBER	DWG. NO.	ISSUE
23-010	6 OF 12	4





PROPOSED DRAIN LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'



PROPOSED DRAIN LINE PROFILE (BURKITT ST)

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'

ISS.	DATE	DESCRIPTION OF ISSUE
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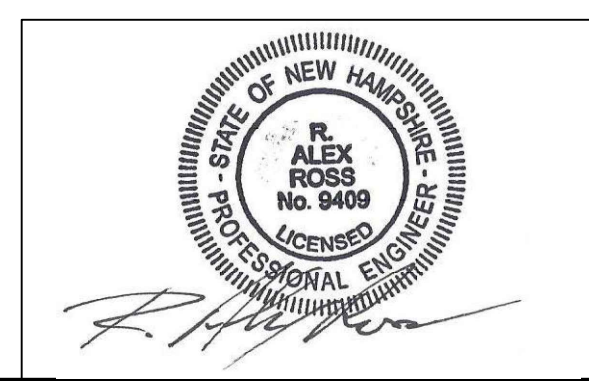
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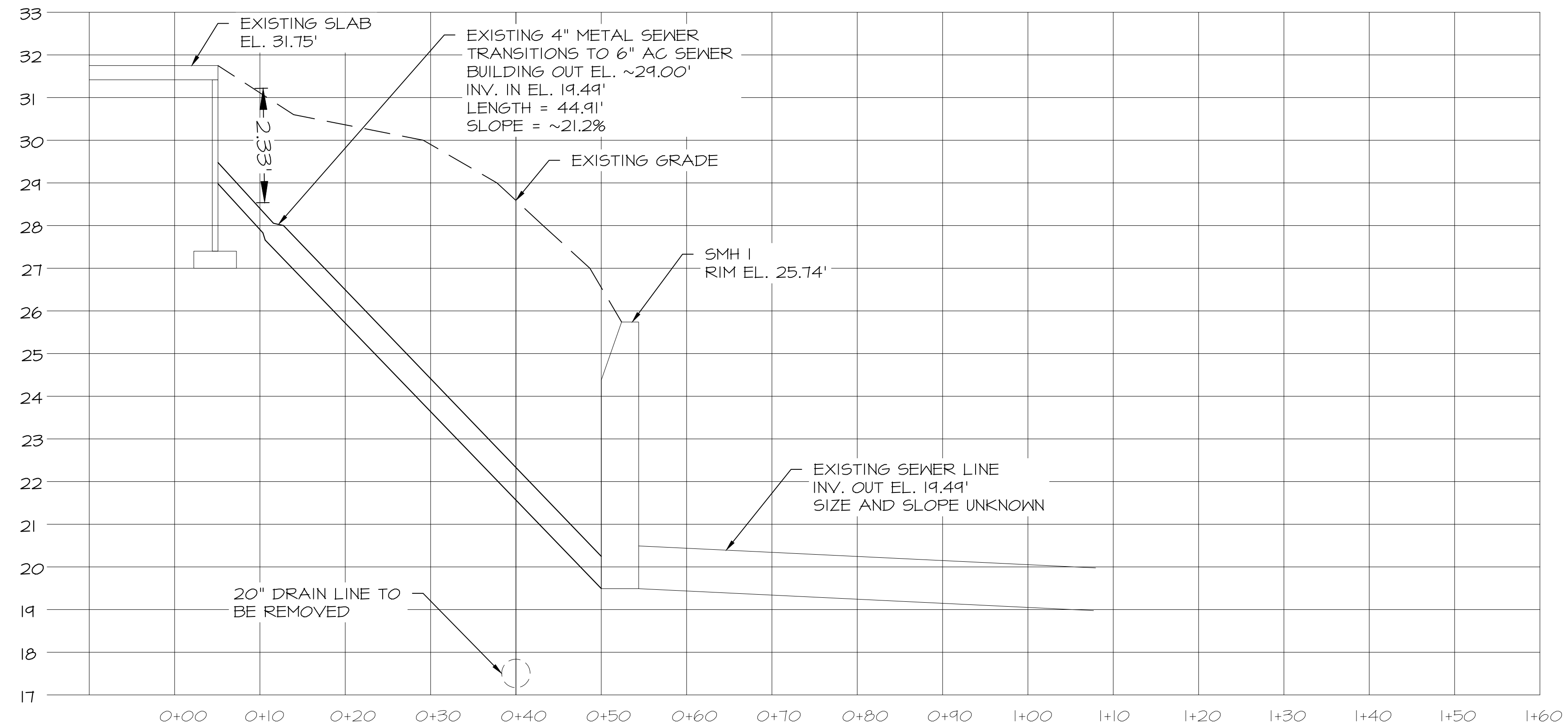
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 & Surveying
 909 Islington St.
 Portsmouth, NH 03801
 (603) 433-7560

CLIENT
 RIGZ ENTERPRISES LLC
 18 DIXON LANE
 DERRY, NH 03038

TITLE
PROPOSED DRAIN PROFILE
 822 US ROUTE 1 BYPASS
 PORTSMOUTH, NH 03801
 TAX MAP 160, LOT 29

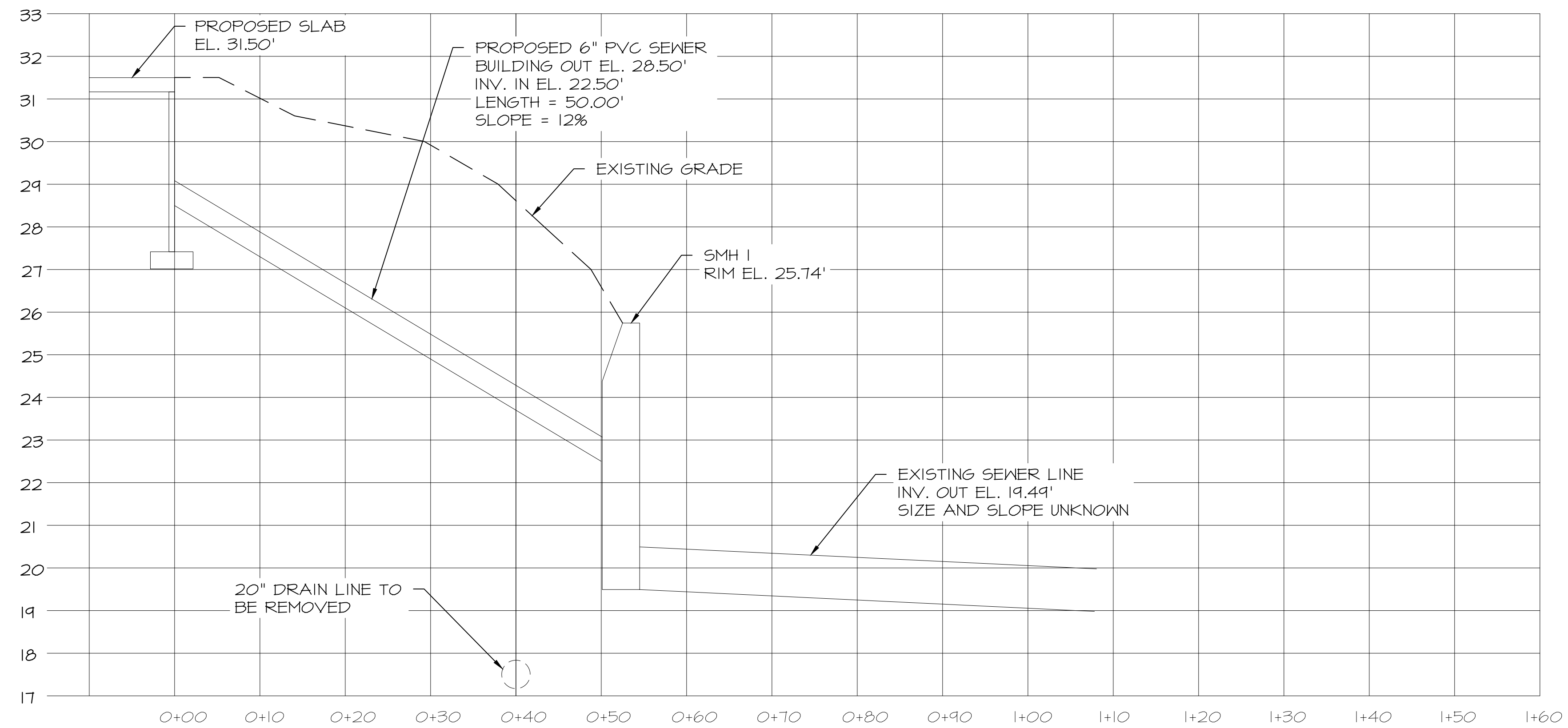
JOB NUMBER	DWG. NO.	ISSUE
23-010	7 OF 12	4





EXISTING SEWER LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'



PROPOSED SEWER LINE PROFILE

SCALE: HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 2'

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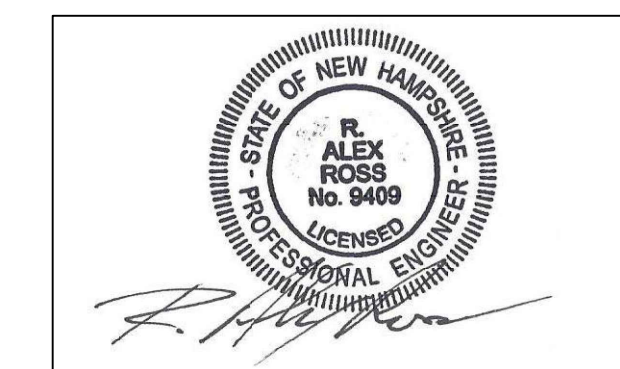
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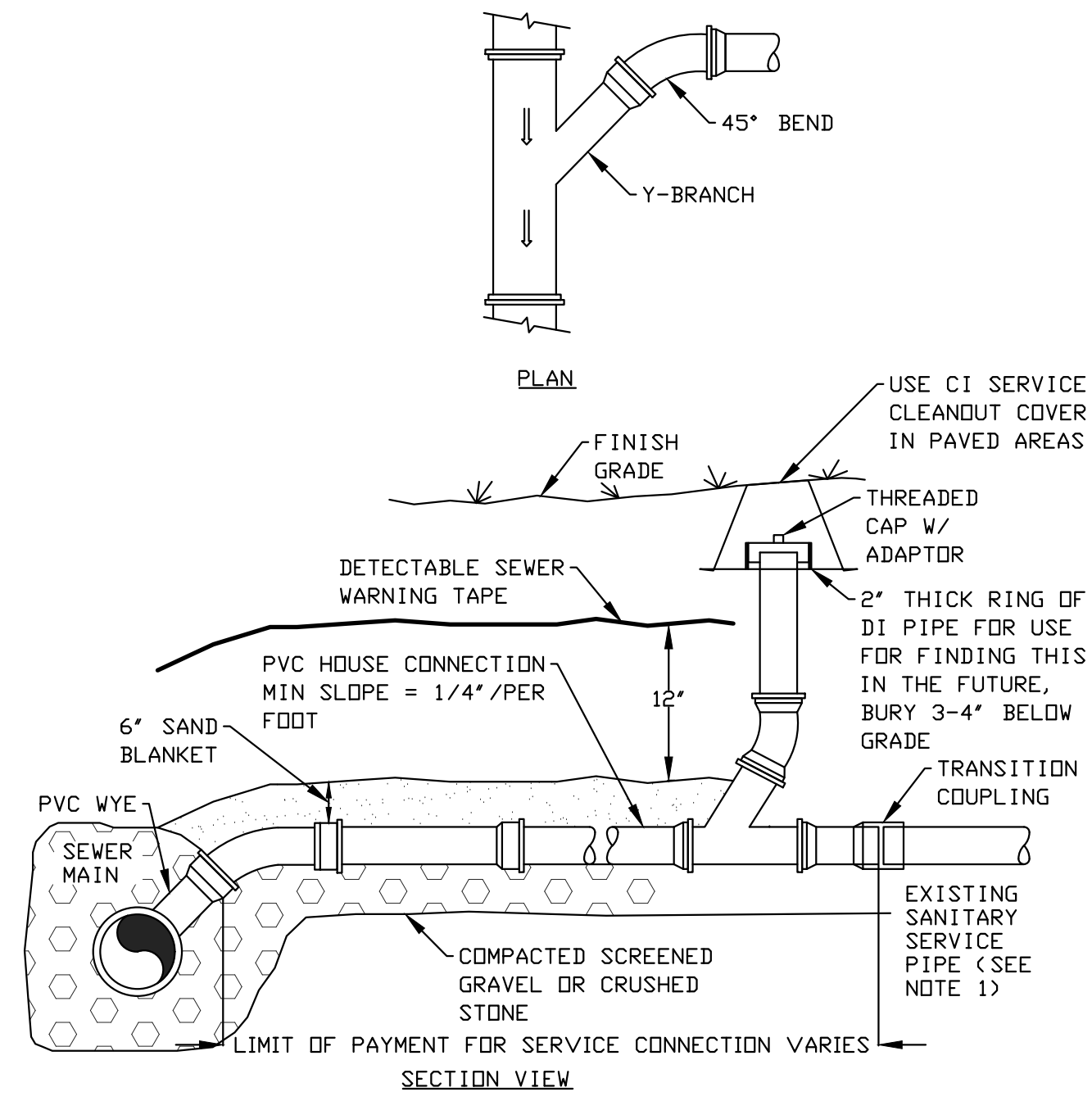
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 (603) 433-7560

CLIENT
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 18 DIXON LANE
 DERRY, NH 03038

TITLE
SEWER PROFILE
 822 US ROUTE 1 BYPASS
 PORTSMOUTH, NH 03801
 TAX MAP 160, LOT 29

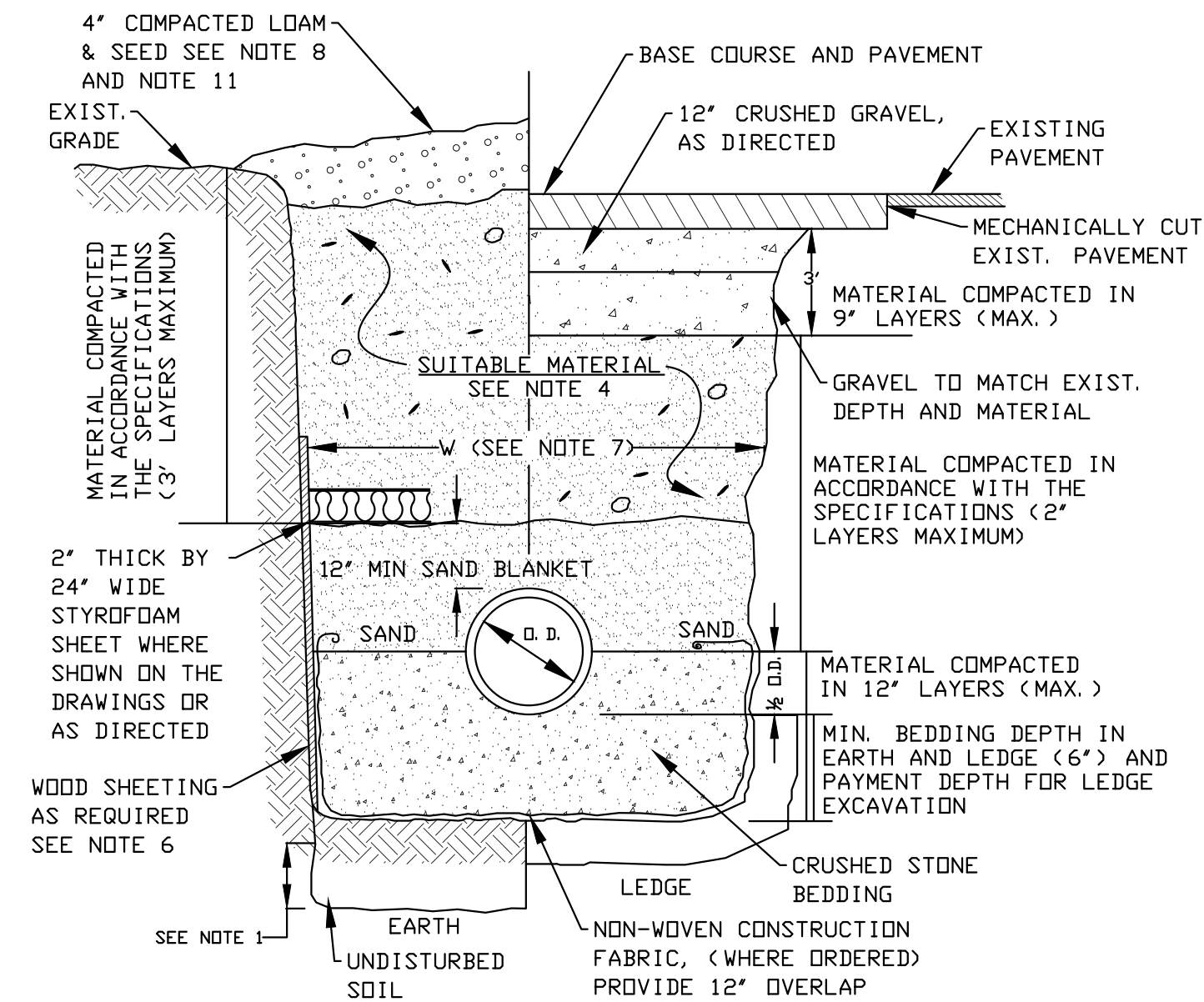
JOB NUMBER	DWG. NO.	ISSUE
23-010	8 OF 12	4





TYPICAL SERVICE CONNECTION

Scale: N.T.S.



TRENCH DETAIL- GRAVITY SEWER

Scale: N.T.S.

GRAVITY SEWER TRENCH NOTES:

- 1) **ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE:** BACKFILL AS STATED IN THE TECHNICAL SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
- 2) **BEDDING:** SCREENED GRAVEL AND/OR CRUSHED STONE FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33. STONE SIZE NO. 67. 100% PASSING 1 INCH SCREEN
0-10% PASSING #4 SIEVE
90-100% PASSING 3/4 INCH SCREEN
0-5% PASSING #8 SIEVE
20-55% PASSING 3/8 INCH SCREEN
WHERE ORDERED BY THE ENGINEER TO STABILIZE THE BASE, SCREENED GRAVEL OR CRUSHED STONE 1-1/2 INCH TO 1/2 INCH SHALL BE USED.
- 3) **SAND BLANKET:** CLEAN SAND FREE FROM ORGANIC MATTER, SO GRADED THAT 90-100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. NO STONE LARGER THAN 2" SHOULD BE IN CONTACT WITH THE PIPE.
- 4) **SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ALL ROCKS OVER 6 INCHES IN LARGEST DIMENSION; AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION. IN CROSS-COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK, OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EASY ACCESS TO THE SEWER FOR MAINTENANCE AND POSSIBLY RECONSTRUCTION, WILL BE PRESERVED.
- 5) **BASE COURSE AND PAVEMENT** SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY AND LOCAL REGULATION.
- 6) **WOOD SHEATHING, IF REQUIRED:** WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID-DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION 1 FOOT ABOVE THE TOP OF PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.
- 7) **W = MAXIMUM ALLOWABLE TRENCH PAYMENT WIDTH** FOR LEDGE EXCAVATION AND FOR ORDERED EXCAVATION BELOW GRADE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 12 INCHES IN NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE OUTSIDE DIAMETER (O.D.) ALSO, W SHALL BE THE PAYMENT WIDTH.
- 8) **FOR CROSS COUNTRY CONSTRUCTION,** BACKFILL OR FILL SHALL BE MOUND TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
- 9) **CONCRETE FOR ENCASEMENT** SHALL CONFORM TO THE REQUIREMENTS OF SECTION 520, (NHDT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION).
- 10) **CONCRETE FULL ENCASEMENT:** IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I. D. (4" MINIMUM). BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.
- 11) **GRAVEL DRIVEWAY AND SHOULDER RESTORATION:** CRUSHED GRAVEL IN DRIVEWAYS AND ROAD SHOULDERS SHALL MATCH EXISTING WITH A MINIMUM OF 12". GRAVEL REPLACEMENT SHALL BE SUBSIDIARY TO SEWER CONSTRUCTION AND WILL NOT BE MEASURED FOR PAYMENT.

ISS.	DATE	DESCRIPTION OF ISSUE
4	2/21/2024	REVISIONS
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SCALE 1" = 20'
 CHECKED A.ROSS
 DRAWN D.D.D.
 CHECKED

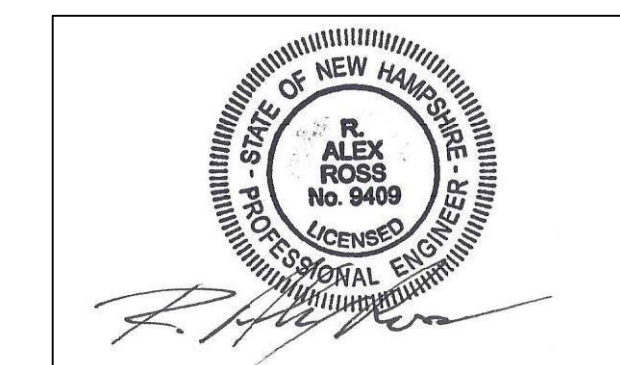
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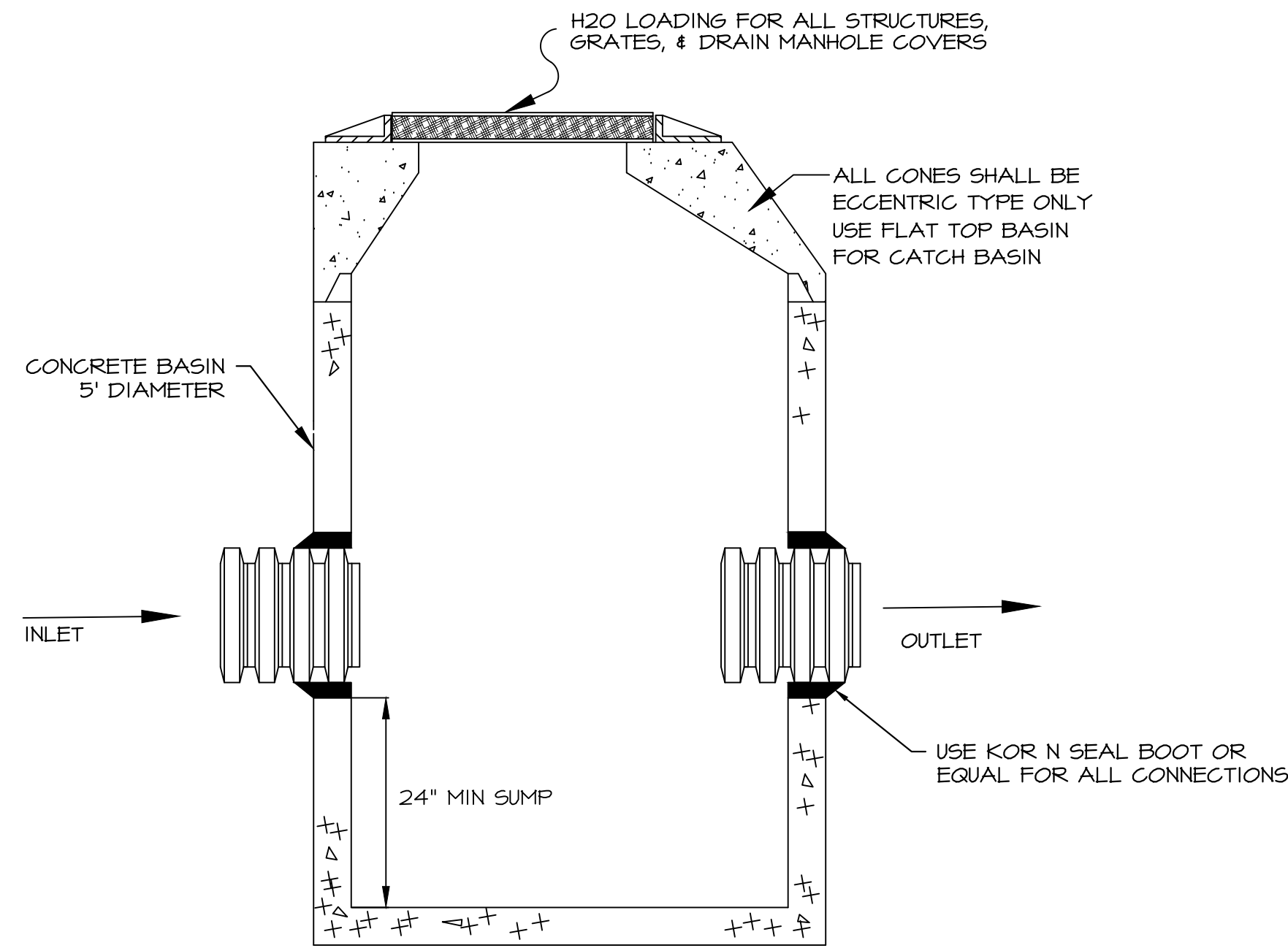
CLIENT
 RIGZ ENTERPRISES LLC
 18 DIXON LANE
 DERRY, NH 03038

TITLE

**SEWER
 DETAILS**
 822 US ROUTE 1 BYPASS
 PORTSMOUTH, NH 03801
 TAX MAP 160, LOT 29

JOB NUMBER	DWG. NO.	ISSUE
23-010	9 OF 12	4



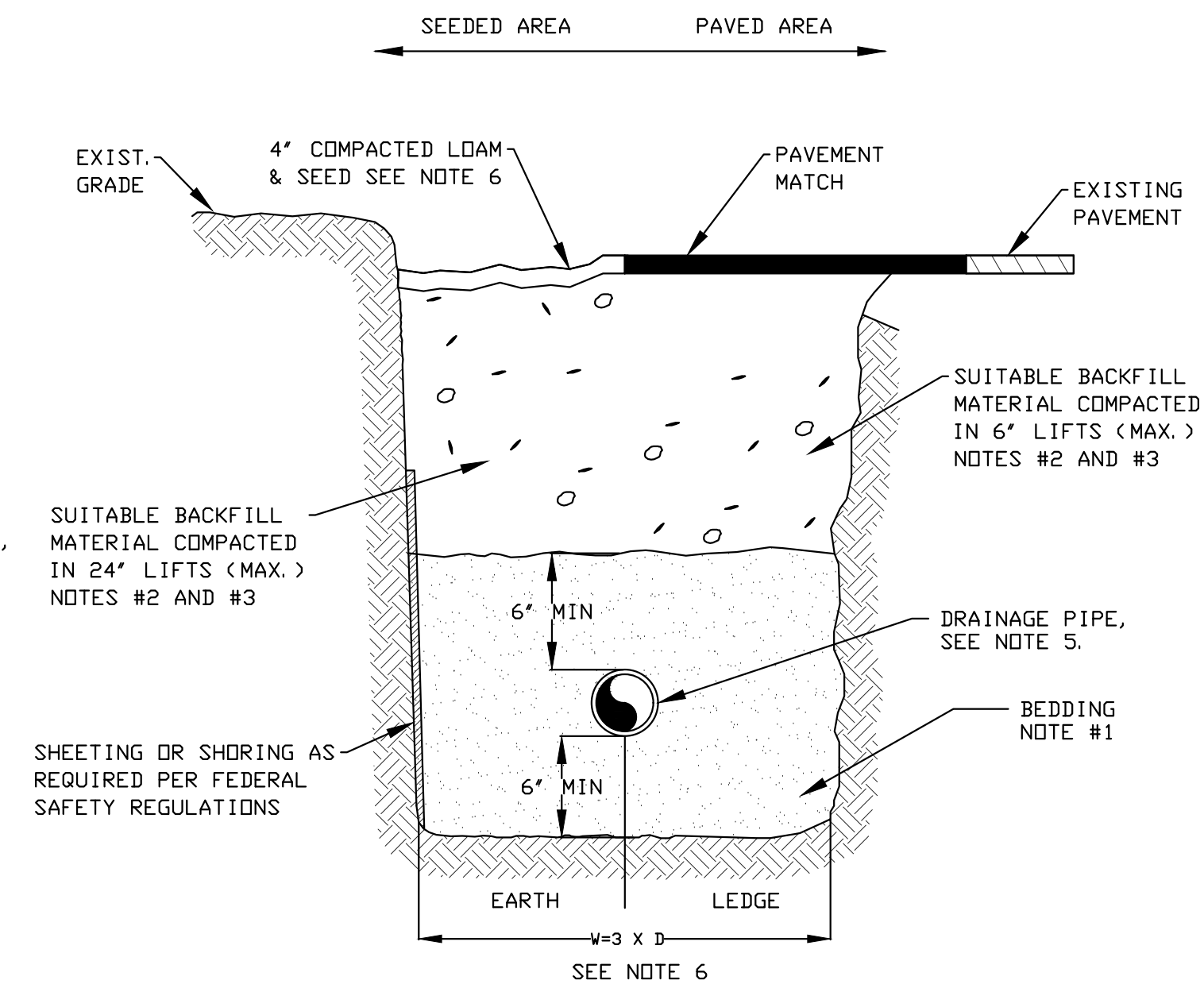


PROPOSED DRAIN MANHOLE/CATCH BASIN (TYP.)
N.T.S.

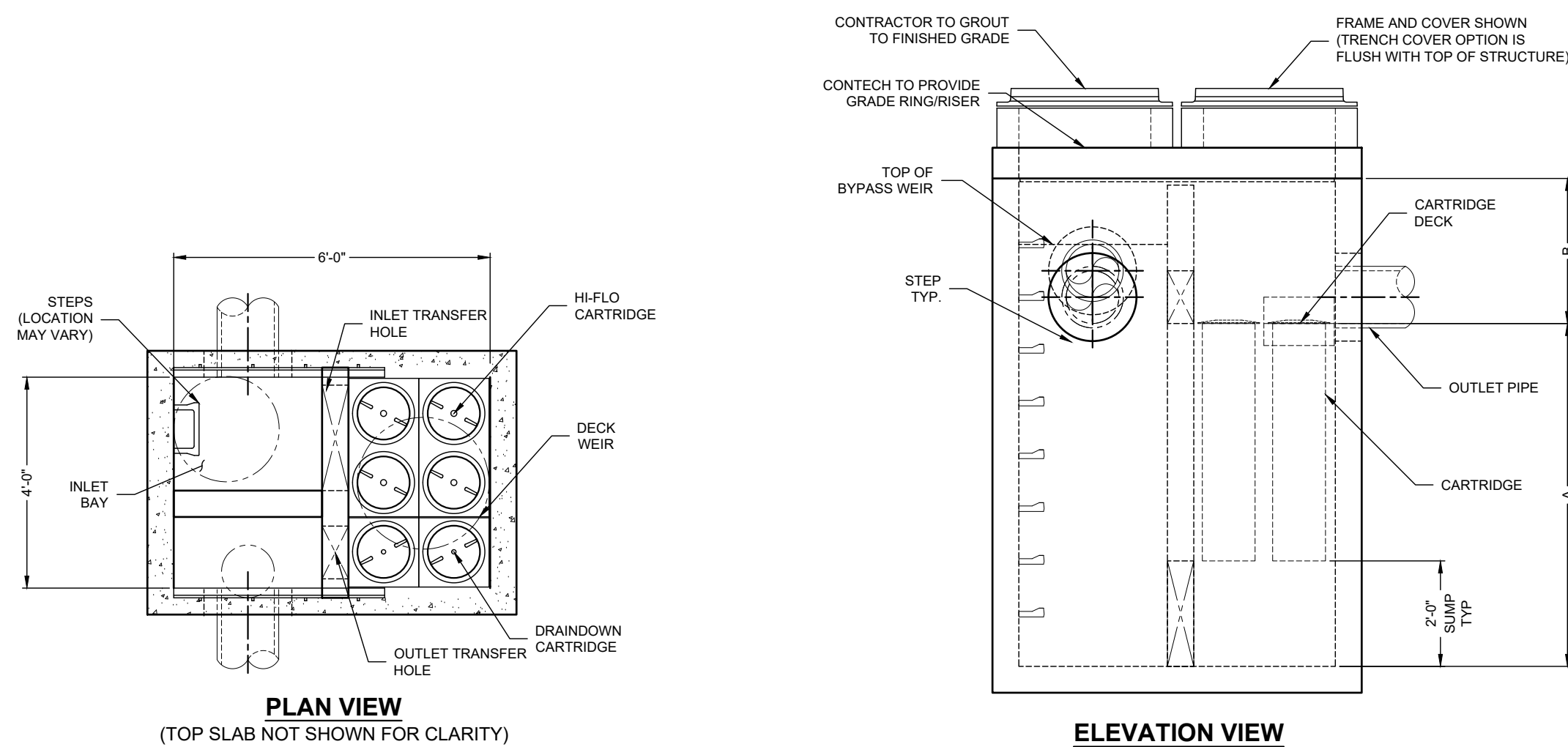
TRENCH NOTES - STORM DRAIN:

- 1) BEDDING:** BEDDING FOR PIPES SHALL CONSIST OF PREPARING THE BOTTOM OF THE TRENCH TO SUPPORT THE ENTIRE LENGTH OF THE PIPE AT A UNIFORM SLOPE AND ALIGNMENT. CRUSHED STONE SHALL BE USED TO BED THE PIPE TO THE ELEVATION SHOWN ON THE DRAWINGS. NORMAL PIPE BEDDING IS CRUSHED STONE TO THE HAUNCH OF THE PIPE AND SAND BEDDING 6' ABOVE THE CROWN. IF THE TOP OF THE PIPE IS LESS THAN 30" FROM FINISH GRADE, BED PIPE COMPLETELY IN STONE UP TO 6' ABOVE PIPE CROWN. UNDERDRAIN TO HAVE 4' MIN' OF STONE OVER PIPE OR AS NECESSARY TO BE IN CONTACT WITH GRAVEL LAYER OF SELECTS ABOVE. FILTER FABRIC TO BE PLACED IN BETWEEN ALL STONE BEDDING MATERIAL AND SUBSEQUENT LAYERS OF FILL MATERIAL.
- 2) COMPACTION:** ALL BACKFILL SHALL BE COMPACTED AT OR NEAR OPTIMUM MOISTURE CONTENT BY PNEUMATIC TAMPERS, VIBRATORY COMPACTORS OR OTHER APPROVED MEANS. BACKFILL BENEATH PAVED SURFACES SHALL BE COMPACTED TO NOT LESS THAN 95 PERCENT OF AASHTO T99, METHOD C.
- 3) SUITABLE MATERIAL:** IN ROADS, ROAD SHOULDERS, WALKWAYS AND TRAVELED WAYS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS; PIECES OF PAVEMENT; ORGANIC MATTER; TOP SOIL; ALL WET OR SOFT MUCK, PEAT, OR CLAY; ALL EXCAVATED LEDGE MATERIAL; ROCKS OVER 6 INCHES IN LARGEST DIMENSION; FROZEN EARTH AND ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.

IN SEEDED AREAS, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, ROCKS UNDER 12", FROZEN EARTH OR CLAY, IF HE/SHE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE AND PROVIDED THAT EAST ACCESS TO THE PIPE WILL BE PRESERVED.
- 4) BASE COURSE AND PAVEMENT:** SHALL MEET THE REQUIREMENTS OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION'S LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES - DIVISIONS 300 AND 400 RESPECTIVELY.
- 5) DRAINAGE PIPE:** PIPE MATERIALS SHALL BE POLYETHYLENE (SEE SPECIFICATIONS).
- 6) W=MAXIMUM ALLOWABLE TRENCH WIDTH:** W SHALL BE THE MAXIMUM PAYMENT WIDTH FOR ROCK EXCAVATION (TRENCH) AND FOR ORDERED EXCAVATION BELOW GRADE.



TRENCH DETAIL-STORM DRAIN
Scale: N.T.S.



JELLYFISH FILTER JFPD0406 (DMH B) DETAIL
N.T.S.

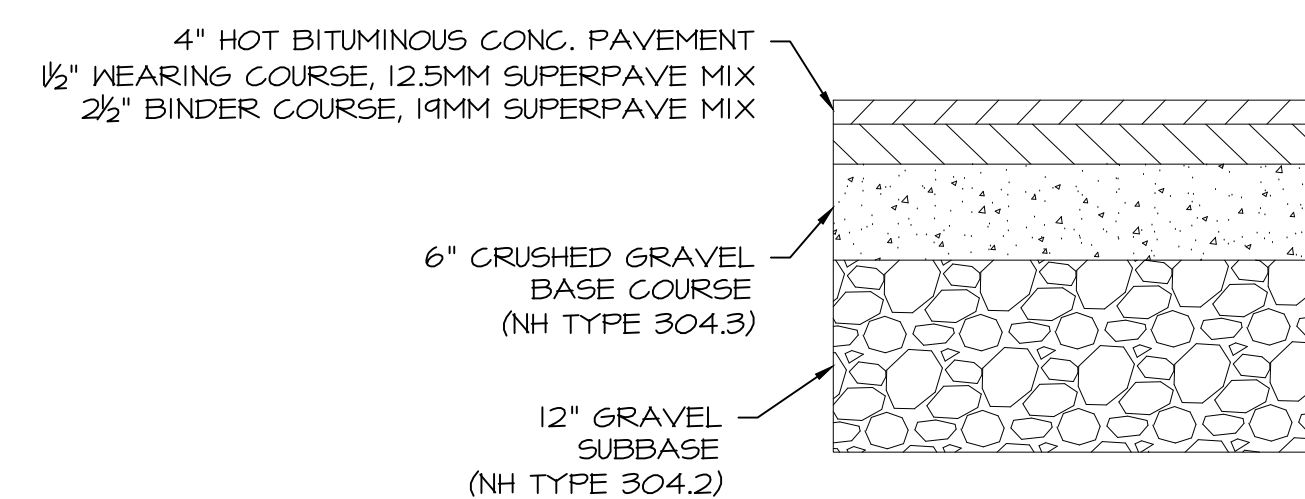
JELLYFISH FILTER GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
- OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
- THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE (WHERE APPLICABLE) AT EQUAL OR GREATER SLOPE.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

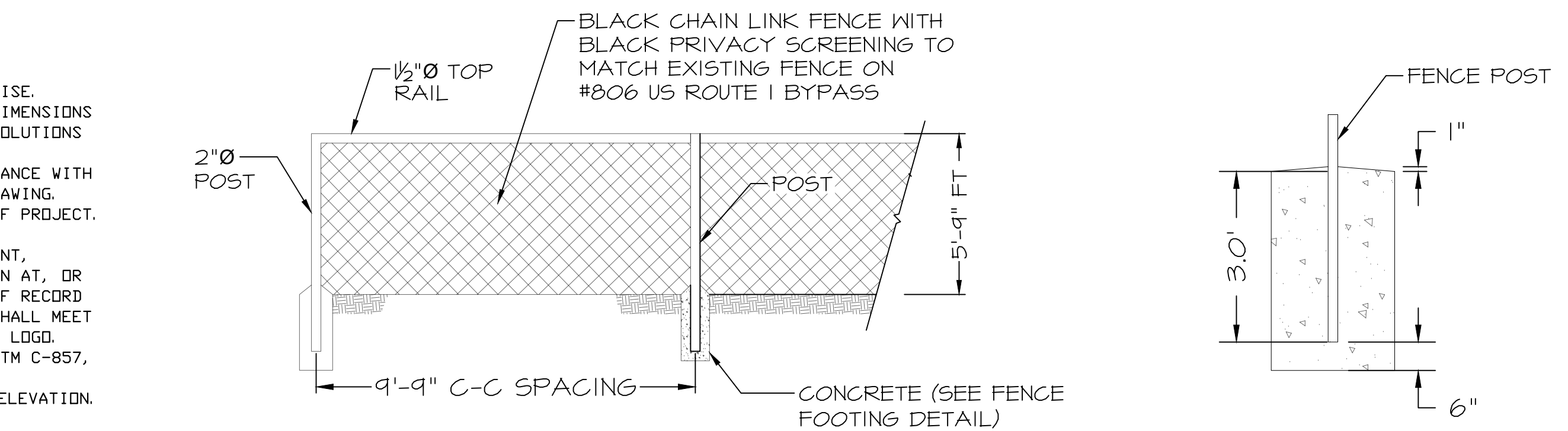
INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

JELLYFISH DESIGN NOTES				
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD SURFACE INLET STYLE WITH TRENCH GRATE AND COVER IS SHOWN. ALTERNATE CURB INLET OR PIPE INLET OPTIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD.				
CARTRIDGE SELECTION				
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	0.89	0.67	0.45	0.25
OUTLET INVERT TO RIM (MIN) (B)	5'-0"	4'-0"	4'-0"	4'-0"

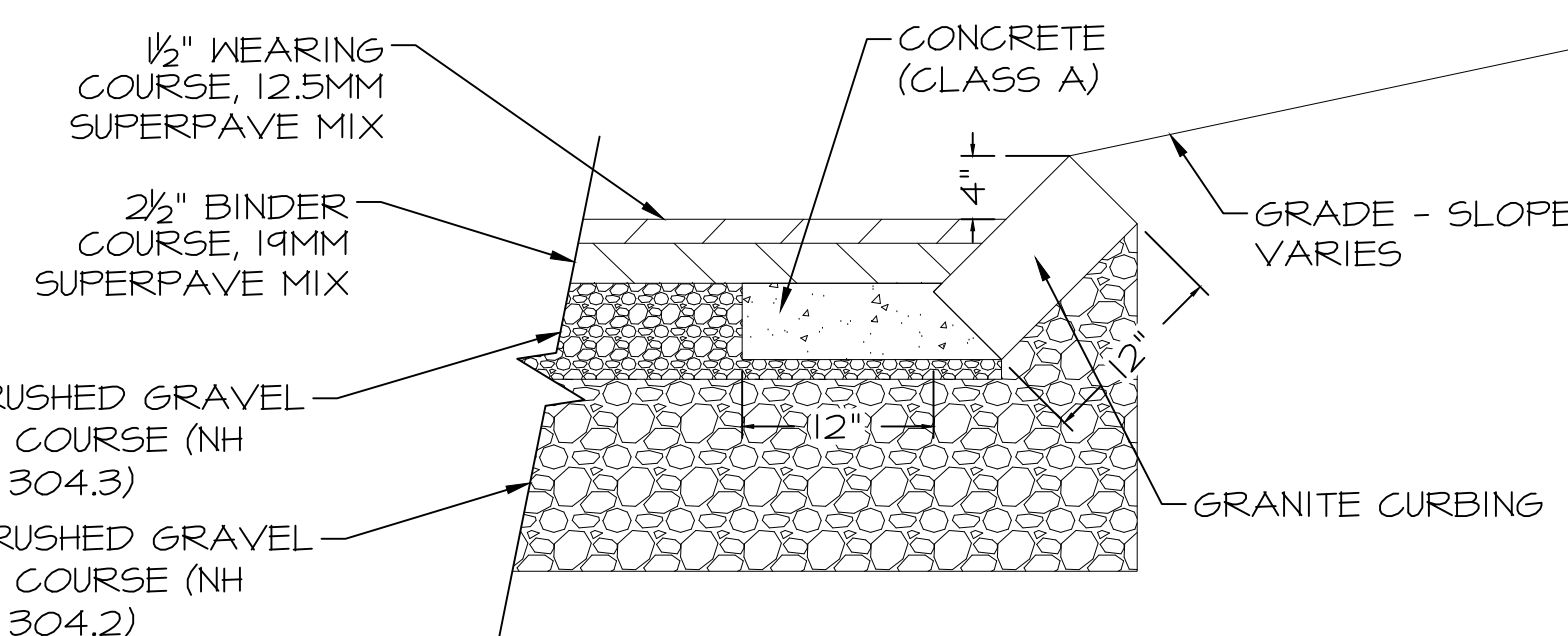


ASPHALT PAVEMENT DETAIL
Scale: N.T.S.



CHAIN LINK FENCE DETAIL
SCALE: NTS

FENCE FOOTING DETAIL
SCALE: NTS



SLOPED CURB DETAIL
Scale: NTS

NO.	DATE	REVISIONS
4	2/21/2024	REVISIONS
3	2/16/2024	TAC SUBMITTAL
2	12/27/2023	ZBA SUBMITTAL
ISS.	DATE	DESCRIPTION OF ISSUE
CHECKED	A. ROSS	
DRAWN	D.D.D.	
CHECKED		

ROSS ENGINEERING, LLC
Civil/Structural Engineering & Surveying
909 Islington St.
Portsmouth, NH 03801
(603) 433-7560

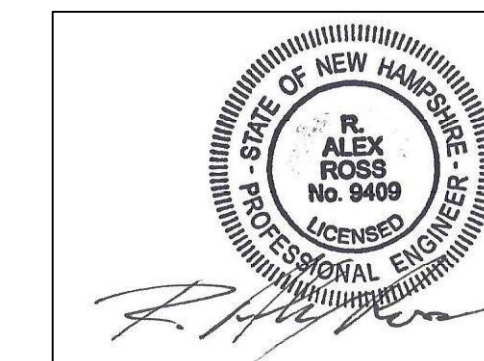
CLIENT
RIGZ ENTERPRISES LLC
18 DIXON LANE
DERRY, NH 03038

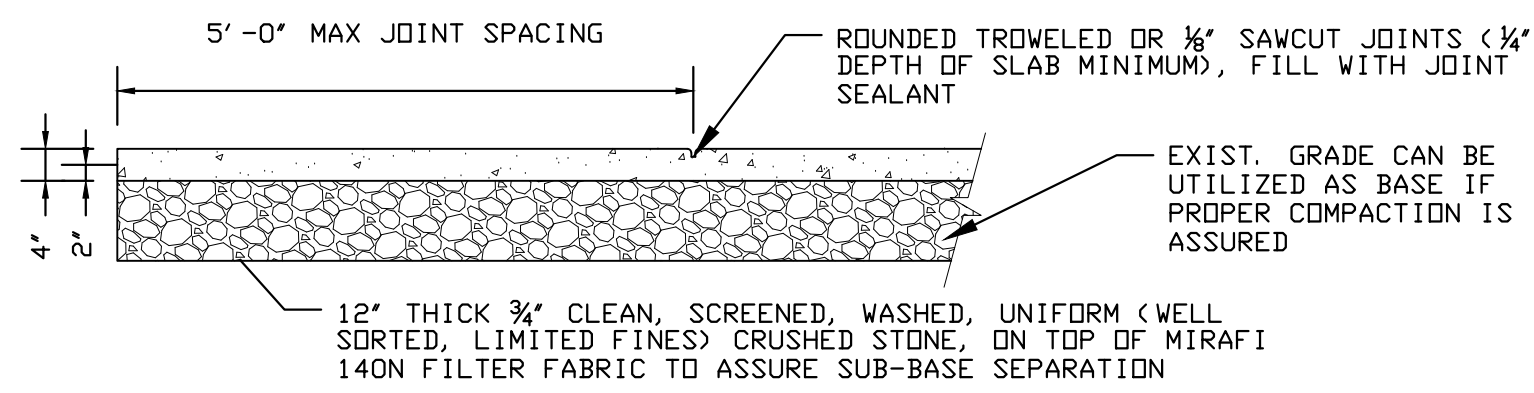
TITLE

DETAILS

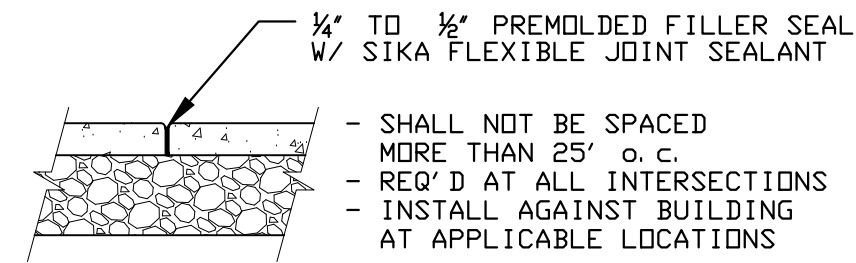
822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
TAX MAP 160, LOT 29

JOB NUMBER	DWG. NO.	ISSUE
23-010	10 OF 12	4

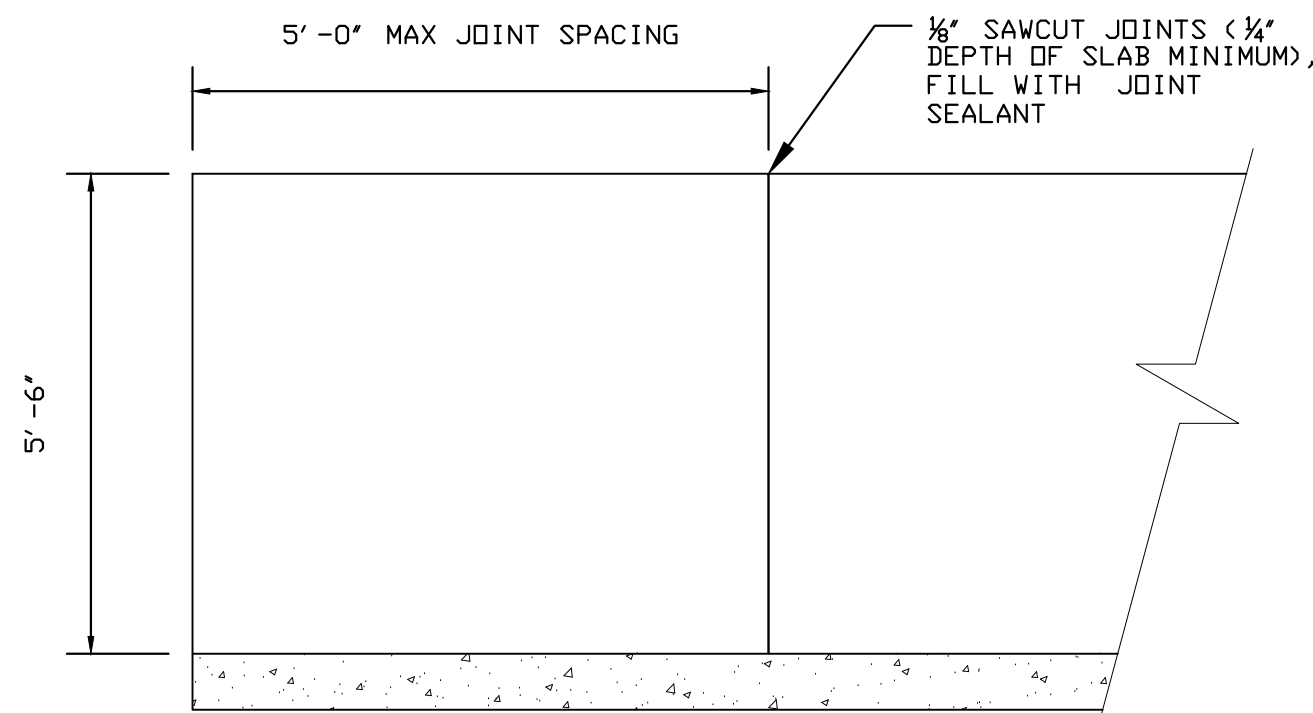




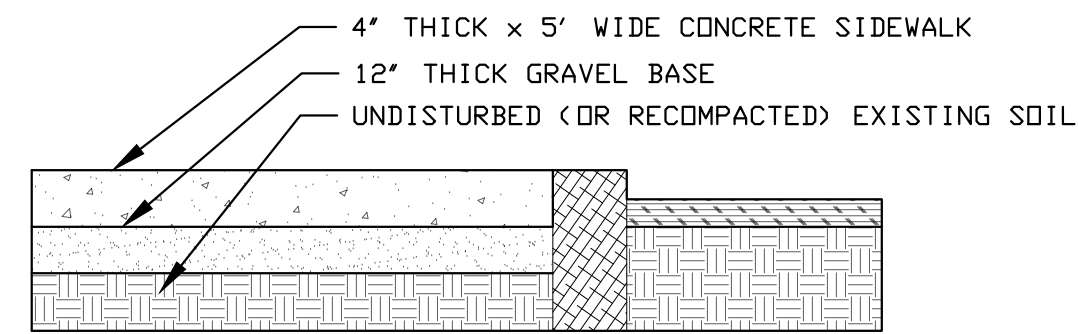
TYPICAL CONCRETE SIDEWALK SECTION
N.T.S.



TYPICAL EXPANSION JOINT
N.T.S.



TYPICAL CONCRETE SIDEWALK PLAN
N.T.S.



TYPICAL CONC. SIDEWALK CROSS SECTION
N.T.S.

ALL CONCRETE MUST BE 4000 PSI, 5-7% AIR ENTRAINED, FIBER REINFORCED WITH CONTROL JOINTS EVERY 5' AND EXPANSION JOINTS EVERY 25'. ALL CONTROL JOINTS WILL BE MADE WITH JOINTING TOOL TO A DEPTH OF 1/4 OF THE SIDEWALK DEPTH. EXPANSION MATERIAL WILL ALSO BE USED AROUND MANHOLE COVERS, UTILITY POLES, ETC.

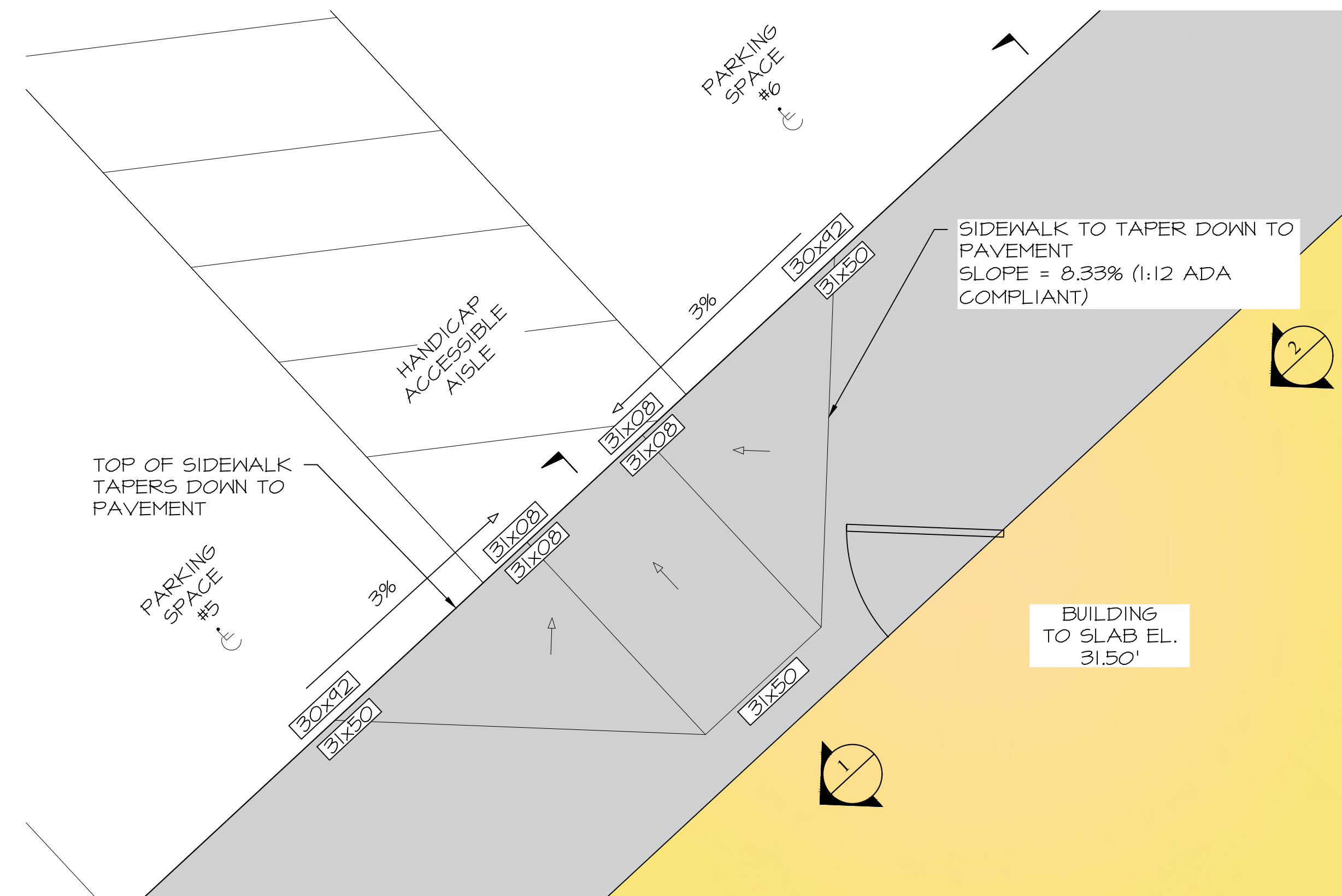
A PROTECTIVE COATING OF SILANE-SILOXANE SHALL BE APPLIED TO ALL EXPOSED SURFACES. THREE DAYS AFTER APPLICATION, THE ENGINEER WILL TEST THE PRODUCT. IF THE TEST COMES OUT NEGATIVE, THE CONTRACTOR WILL INSTALL A SECOND COAT OF THE PRODUCT.

CURING COMPOUNDS WILL NOT BE PERMITTED UNLESS DIRECTED BY THE ENGINEER.

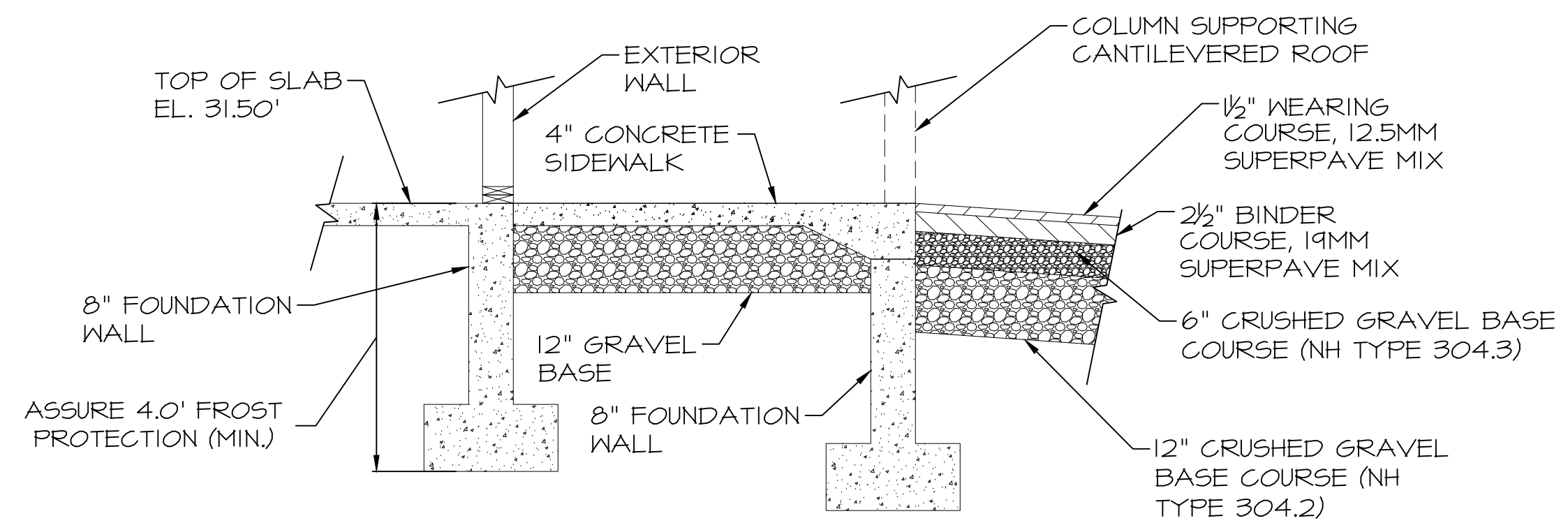
ALL SIDEWALKS WILL HAVE A LIGHT BROOM FINISH TRANSVERSE TO THE WALKING PATH.

AFTER STRIPPING FORMS, THE SUBGRADE ON THE SIDES OF THE CONCRETE WILL BE BROUGHT UP EVEN WITH THE BOTTOM OF THE SIDEWALK OR 5' FROM THE TOP WHICHEVER IS LESS. DISTURBANCE OF LOAM MORE THAN 12' WIDE ON EITHER SIDE OF THE FINISHED SIDEWALK WILL NOT BE PAID FOR UNLESS DIRECTED BY THE ENGINEER. A TRUE 4' OF LOAM WILL BE PLACED ON ALL DISTURBED AREAS.

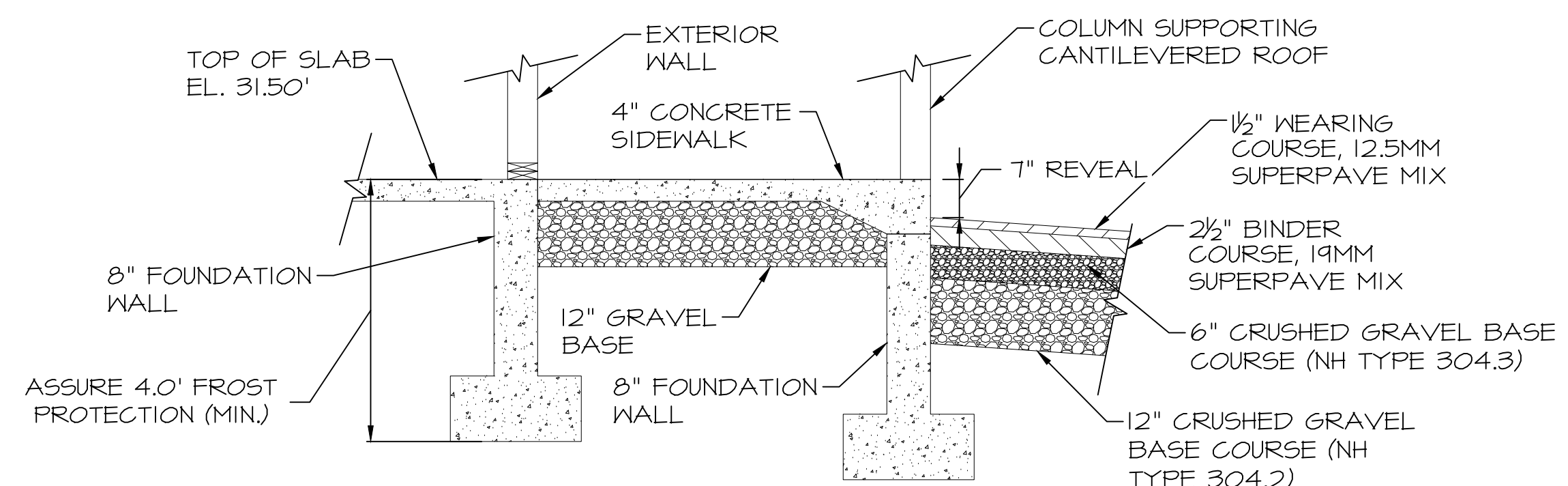
HANDICAPPED RAMPS AT STREET CORNERS SHALL BE 6' DEEP.



DETAIL A
1" = 2'



SECTION 1
Scale: 1"=2'



SECTION 2
Scale: 1"=2'

ISS.	DATE	DESCRIPTION OF ISSUE
4	2/21/2024	REVISIONS
3	2/16/2024	TAC SUBMITTAL
2	12/27/2023	ZBA SUBMITTAL

CHECKED: A. ROSS
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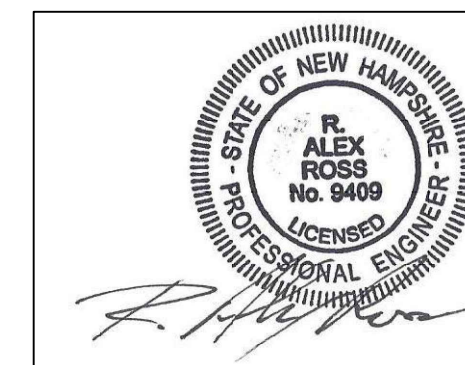
ROSS ENGINEERING, LLC
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909 Islington St.
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(603) 433-7560

CLIENT
RIGZ ENTERPRISES LLC
18 DIXON LANE
DERRY, NH 03038

TITLE
SIDEWALK DETAILS

822 US ROUTE 1 BYPASS
PORTSMOUTH, NH 03801
TAX MAP 160, LOT 29

JOB NUMBER	DWG. NO.	ISSUE
23-010	11 OF 12	4



EROSION AND SEDIMENTATION CONTROL CONSTRUCTION PHASING AND SEQUENCING

- SEE "EROSION AND SEDIMENTATION CONTROL GENERAL NOTES" WHICH ARE TO BE AN INTEGRAL PART OF THIS PROCESS.
- INSTALL SILT/SOXX FENCING AS PER DETAILS AND AT SEDIMENT MIGRATION.
- CONSTRUCT TREATMENT SWALES, LEVEL SPREADERS AND DETENTION STRUCTURES AS DEPICTED ON DRAWINGS.
- STRIP AND STOCKPILE TOPSOIL. STABILIZE PILES OF SOIL CONSTRUCTION MATERIAL & COVER WHERE PRACTICABLE.
- MINIMIZE DUST THROUGH APPROPRIATE APPLICATION OF WATER OR OTHER DUST SUPPRESSION TECHNIQUES ON SITE.
- ROUGH GRADE SITE. INSTALL CULVERTS AND ROAD DITCHES.
- FINISH GRADE AND COMPACT SITE.
- RE-SPREAD AND ADD TOPSOIL TO ALL ROADSIDE SLOPES. TOTAL TOPSOIL THICKNESS TO BE A MINIMUM OF FOUR TO SIX INCHES.
- STABILIZE ALL AREAS OF BARE SOIL WITH MULCH AND SEEDING.
- RE-SEED PER EROSION AND SEDIMENTATION CONTROL GENERAL NOTES.
- SILT SOXX FENCING TO REMAIN AND BE MAINTAINED FOR TWENTY FOUR MONTHS AFTER CONSTRUCTION TO ENSURE ESTABLISHMENT OF ADEQUATE SOIL STABILIZATION AND VEGETATIVE COVER. ALL SILT SOXX FENCING ARE THEN TO BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF.
- PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
- ALL TEMPORARY WATER DIVERSION (SWALES, BASINS, ETC. MUST BE USED AS NECESSARY UNTIL AREAS ARE STABILIZED.
- PONDS AND SWALES SHALL BE INSTALLED EARLY ON IN THE CONSTRUCTION SEQUENCE - BEFORE ROUGH GRADING THE SITE.
- ALL DITCHES AND SWALES SHALL BE STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.
- ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
- ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISH GRADE.
- ALL EROSION CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY HALF-INCH OF RAINFALL.
- THE SMALLEST PRACTICAL AREA SHALL BE DISTURBED DURING CONSTRUCTION, BUT IN NO CASE SHALL EXCEED 5 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- LOT DISTURBANCE, OTHER THAN THAT SHOWN ON THE APPROVED PLANS, SHALL NOT COMMENCE UNTIL AFTER THE ROADWAY HAS THE BASE COURSE TO DESIGN ELEVATION AND THE ASSOCIATED DRAINAGE IS COMPLETE AND STABLE.

PLANTING NOTES:

- ALL PLANT MATERIALS SHALL BE FIRST QUALITY NURSERY GROWN STOCK.
- ALL PLANTS SHALL BE PLANTED IN ACCORDANCE WITH NEW HAMPSHIRE LANDSCAPE ASSOCIATION STANDARDS AND GUARANTEED FOR ONE YEAR BY THE LANDSCAPE CONTRACTOR.
- ALL TREES AND SHRUBS SHALL HAVE WATER SAUCERS BUILT AROUND THEIR BASES AND THESE SHALL BE MULCHED WITH 4" OF DARK BROWN AGED BARK MULCH. MULCH MUST BE KEPT 2" AWAY FROM THEIR TRUNKS.
- ALL TREES AND SHRUBS SHALL BE PLANTED AND MULCHED BEFORE LAWN IS SEEDED.

MAINTENANCE REQUIREMENTS:

- ALL TREES, SHRUBS, AND PERENNIALS WILL NEED TO BE WATERED THROUGH THANKSGIVING DURING THE FIRST SEASON IN WHICH THEY ARE INSTALLED.
- AN UNDERGROUND DRIP IRRIGATION SYSTEM IS RECOMMENDED. IF AN UNDERGROUND DRIP IRRIGATION SYSTEM IS NOT INSTALLED, SOAKER HOSES AROUND THROUGHOUT PLANTING BEDS ARE ACCEPTABLE. ALTHOUGH OVERHEAD SPRINKLERS ARE RECOMMENDED FOR LAWN AREAS, THEY ARE NOT ACCEPTABLE FOR IRRIGATING TREES AND SHRUBS.

SEEDING AND STABILIZATION FOR LOAMED SITE:

FOR TEMPORARY & LONG TERM SEEDINGS USE AGWAY'S SOIL CONSERVATION GRASS SEED OR EQUAL
 COMPONENTS: ANNUAL RYE GRASS, PERENNIAL RYE GRASS, WHITE CLOVER, 2 FESCUES, SEED AT A RATE OF 100 POUNDS PER ACRE,
 FERTILIZER & LIME:
 NITROGEN (N) 50 LBS/ACRE, PHOSPHATE (P2O5) 100 LBS/ACRE, POTASH (K2O) 100 LBS/ACRE, LIME 2000 LBS/ACRE
 MULCH:
 HAY OR STRAW 1.5-2 TONS/ACRE

A) GRADING AND SHAPING

- SLOPES SHALL NOT BE STEEPER THAN 2:1; 3:1 SLOPES OR FLATTER ARE PREFERRED. WHERE MOVING WILL BE DONE, 3:1 SLOPES OR FLATTER ARE RECOMMENDED.

B) SEED BED PREPARATION

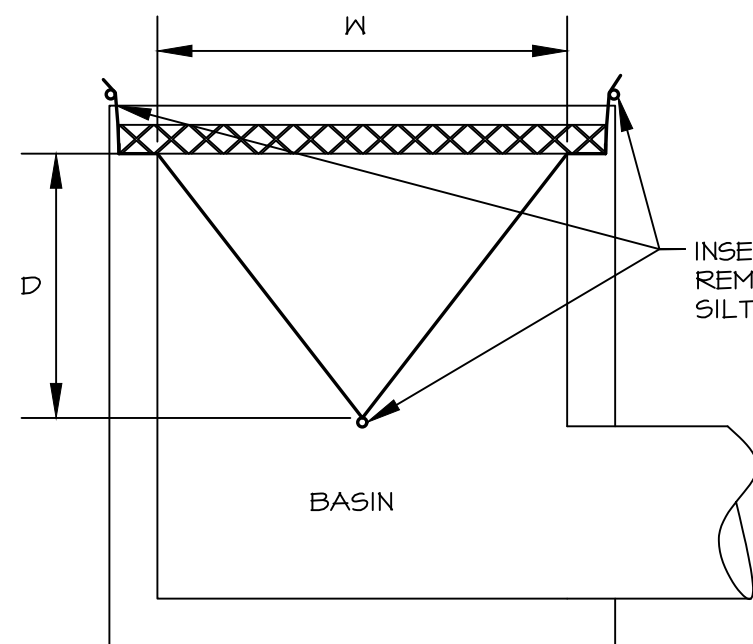
- SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
- STONES LARGER THAN 4 INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF ABOUT 4 INCHES TO PREPARE A SEEDBED AND MIX FERTILIZER AND LIME INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

- CONDUCT ALL CONSTRUCTION IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE PHYSICAL ENVIRONMENT, BUT IN NO CASE SHALL EXCEED 2 ACRES AT ANY ONE TIME BEFORE DISTURBED AREAS ARE STABILIZED.
- ALL AREAS SHALL BE STABILIZED WITHIN 45 DAYS OF INITIAL DISTURBANCE.
- ALL DITCHES, SWALES AND PONDS MUST BE STABILIZED PRIOR TO DIRECTING FLOW TO THEM.
- ALL GROUND AREAS OPENED UP FOR CONSTRUCTION WILL BE STABILIZED WITHIN 24 HOURS OF EARTH-DISTURBING ACTIVITIES BEING CEASED, AND WILL BE FULLY STABILIZED NO LONGER THAN 14 DAYS AFTER INITIATION. (SEE NOTE II FOR DEFINITION OF STABLE). ALL SOILS FINISH GRADED MUST BE STABILIZED WITHIN SEVENTY TWO HOURS OF DISTURBANCE. ALL TEMPORARY OR LONG TERM SEEDING MUST BE APPLIED TO COMPLY WITH "WINTER CONSTRUCTION NOTES" (SEE WINTER CONSTRUCTION NOTES). EMPLOY TEMPORARY EROSION AND SEDIMENTATION CONTROL DEVICES AS DETAILED ON THIS PLAN AS NECESSARY UNTIL ADEQUATE STABILIZATION HAS BEEN ASSURED (SEE NOTE II FOR DEFINITION OF STABLE).
- TEMPORARY & LONG TERM SEEDING: USE SEED MIXTURES, FERTILIZER, LIME AND MULCHING AS RECOMMENDED (SEE SEEDING AND STABILIZATION NOTES).
- SILT/SOXX FENCING TO BE SECURELY EMBEDDED AND STAKED AS DETAILED. WHEREVER POSSIBLE A VEGETATED STRIP OF AT LEAST TWENTY FIVE FEET IS TO BE KEPT BETWEEN SILT/SOXX AND ANY EDGE OF NET AREA.
- SEEDED AREAS WILL BE FERTILIZED AND RE-SEEDED AS NECESSARY TO ENSURE VEGETATIVE ESTABLISHMENT.
- SEDIMENT BASIN(S), IF REQUIRED, TO BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN DESIGN CAPACITY.
- SILT/SOXX FENCING WILL BE CHECKED REGULARLY AND AFTER EACH SIGNIFICANT RAINFALL. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER AS WELL AS CLEANING, REMOVAL AND PROPER DISPOSAL OF TRAPPED SEDIMENT.
- TREATMENT SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATIVE COVER HAS BEEN ESTABLISHED.
- AN AREA SHALL BE CONSIDERED FULLY STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
 - BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED
 - A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
 - A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIP RAP HAS BEEN INSTALLED.
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
- ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN THE PLAN SHALL MEET THE DESIGN BASED ON STANDARDS AND SPECIFICATIONS SET FORTH IN THE STORM WATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE (DECEMBER 2008 OR LATEST) PREPARED BY ROCKINGHAM COUNTY CONSERVATION DISTRICT, N.H. DES AND NRCS.

WINTER CONSTRUCTION NOTES

- ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND FLAGGING TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENT.
- ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
- AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER MHDOT ITEM 304.3.



SILT SACK IS TO BE SECURED BY HEIGHT OF BASIN GRATE TO PREVENT SEDIMENT FROM ENTERING THE DRAIN LINE

INSTALL SILT SACK TO CATCH BASINS 3, 4 & 5 PRIOR TO CONSTRUCTION & TO CATCH BASINS A, B, & C DURING CONSTRUCTION. DO NOT REMOVE SILT SACK UNTIL CONSTRUCTION IS COMPLETE AND DRAINAGE LINE IS FULLY OPERATIONAL (SEE SHEET 4)

Silt sack
N.T.S.

LONG TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C	lb/ACRE	lb/1000SF
TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
RED CLOVER (ALSIKE)	20	0.45
TOTAL	40	1.35

LIME: AT 2 TONS PER ACRE OR 100 LBS PER 1,000 S.F.
 FERTILIZER: 10 20 20 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
 MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:

SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.
 SEEDBED PREPARATION:
 SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
 STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED. SOD SHOULD BE TILLED TO A DEPTH OF FOUR INCHES TO PREPARE SEEDBED. FERTILIZER & LIME SHOULD BE MIXED INTO THE SOIL. THE SEEDBED SHOULD BE LEFT IN A REASONABLY FIRM AND SMOOTH CONDITION. THE LAST TILLAGE OPERATION SHOULD BE PERFORMED ACROSS THE SLOPE WHEREVER PRACTICAL.

* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

SHORT TERM SEEDING

*WELL TO MODERATELY WELL DRAINED SOILS

FOR CUT AND FILL AREA AND FOR WATERWAYS AND CHANNELS

SEEDING MIXTURE C	#/ACRE	#/1000SF
FOR APRIL 1 - AUGUST 15 ANNUAL RYE GRASS	40	1
FOR FALL SEEDING WINTER RYE	112	2.5

LIME: AT 1 TON PER ACRE OR 100 LBS PER 1,000 S.F.
 FERTILIZER: 10 10 10 (NITROGEN, PHOSPHATE, POTASH AT 500# PER ACRE.
 MULCH: HAY OR CLEAN STRAW; 2 TONS/ACRE OR 2 BALES/1000 S.F.

GRADING AND SHAPING:

SLOPES SHALL NOT BE STEEPER THAN 2 TO 1. 3 TO 1 OR FLATTER SLOPES ARE PREFERRED.

SEEDBED PREPARATION:

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* FROM: STORMWATER MANAGEMENT AND EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE, DECEMBER 2008.

WHEN PROPOSED FOR ALTERATION DURING CONSTRUCTION AS BEING INFESTED WITH INVASIVE SPECIES SHALL BE MANAGED APPROPRIATELY USING THE DISPOSAL PRACTICES IDENTIFIED IN "NHDOT - BEST MANAGEMENT PRACTICES FOR ROADSIDE INVASIVE PLANTS - 2008" AND "METHODS FOR DISPOSING NON-NATIVE INVASIVE PLANTS - UNH COOPERATIVE EXTENSION - 2010"

SEED MIXES SHALL NOT CONTAIN ANY SPECIES IDENTIFIED BY THE NEW HAMPSHIRE PROHIBITED INVASIVE PLANT SPECIES LIST.

MAINTENANCE NOTES

A. MAINTENANCE OF COMMON FACILITIES OR PROPERTY

1. FUTURE OWNERS OR ASSIGNS ARE RESPONSIBLE FOR MAINTENANCE OF ALL STORMWATER INFRASTRUCTURE ASSOCIATED WITH THE FACILITY AND THE PROPERTY. THIS INCLUDES THE ROOF DRAINAGE SYSTEM, CISTERN, STORMWATER POND, PERVIOUS PAVERS, STORM TECH CHAMBERS, LANDSCAPED AREAS, PERVIOUS ASPHALT AND CONTECH TREATMENT STRUCTURE.

B. GENERAL INSPECTION AND MAINTENANCE REQUIREMENTS

1. PERMANENT STORMWATER AND SEDIMENT AND EROSION CONTROL FACILITIES TO BE MAINTAINED ON THE SITE INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

- PARKING AREAS
- LANDSCAPED AREAS
- DRAIN LINES
- CONTECH JELLYFISH

2. MAINTENANCE OF PERMANENT MEASURES SHALL FOLLOW THE FOLLOWING SCHEDULE:

a. PARKING AREAS, DRIVEWAY:
 INSPECTION AT THE END OF EVERY WINTER, PRIOR TO THE START OF THE SPRING RAIN SEASON. SWEEPING SHALL BE DONE ONCE IN EARLY FALL AND THEN AFTER SPRING SNOWMELT. SAND/DEBRIS THAT HAS COLLECTED OFF THE DRIVEWAY AND PARKING LOT SHOULD BE REMOVED OFF-SITE AND DISPOSED OF PROPERLY.

b. LANDSCAPED AREAS:
 ANNUAL INSPECTION OF SITE'S VEGETATION AND LANDSCAPING. ANY AREAS THAT ARE BARE SHALL BE RESEEDED AND MULCHED WITH HAY OR, IF THE CASE IS EXTREME, LOAMED AND SEEDED OR SODDED TO ENSURE ADEQUATE VEGETATIVE COVER. LANDSCAPE SPECIMENS SHALL BE REPLACED IN-KIND, IF THEY ARE FOUND TO BE DEAD OR DYING.

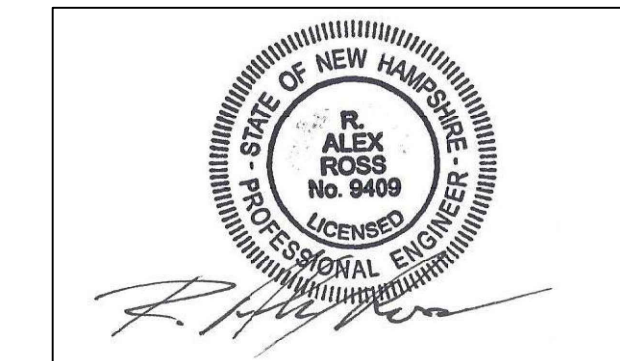
c. DRAIN LINES:
 INSPECT TWICE A YEAR, MORE OFTEN IF NEEDED. INSPECT FOR ACCUMULATION OF DEBRIS. REMOVE MATERIAL FROM INLET/OUTLET AS NECESSARY, DISPOSE OF OFFSITE.

d. CONTECH JELLYFISH TREATMENT STRUCTURE:
 SEE ATTACHED JELLYFISH MAINTENANCE GUIDE.





C. OWNERS SHALL PROVIDE A REPORT ON ACTIVITIES PERFORMED THROUGHOUT THE YEAR. REPORT SHALL INCLUDE DOCUMENTATION THAT INSPECTION AND MAINTENANCE IS ACCOMPLISHED PER THIS DOCUMENT AND A CERTIFICATION THAT THE SYSTEMS CONTINUE TO FUNCTION AS DESIGNED.

STORMWATER INSPECTION & MAINTENANCE LOG

ACTIVITY	DATE OF INSPECTION	WHO INSPECTED	SATISFACTORY: YES, NO, N/A	MAINTENANCE NEEDED	IMPLEMENTED DATE OF CORRECTIVE ACTION	FINDINGS OF INSPECTOR
PARKING AREA						
LANDSCAPE AREA						
DRAIN LINES						
CONTECH JELLYFISH						



4	2/21/2024	REVISIONS	
3	2/16/2024	TAC SUBMITTAL	
2	12/27/2023	ZBA SUBMITTAL	
ISS.	DATE	DESCRIPTION OF ISSUE	
SCALE 1" = 20'			
CHECKED A. ROSS			
DRAWN D.D.D.			
CHECKED			
ROSS ENGINEERING, LLC Civil/Structural Engineering & Surveying 909 Islington St. Portsmouth, NH 03801 (603) 433-7560			
CLIENT RIGZ ENTERPRISES LLC 18 DIXON LANE DERRY, NH 03038			
TITLE			
EROSION CONTROL PLAN 822 US ROUTE 1 BYPASS PORTSMOUTH, NH 03801 TAX MAP 160, LOT 29			
JOB NUMBER	DWG. NO.	ISSUE	
23-010	12 OF 12	4	

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	6	KT-RDLED18PS-6A-9CSE-VDIM (1	Single	N.A.	0.900	6 in Round Downlight 18.5w
	2	KT-WPLED55PS-M4-8CSB-VDIM	Single	7562.5	0.900	Wall Pack 55w
	1	KT-ALED210-L2-OSA-NM-850-VDIM 1	2 @ 90 degrees	31509.1	0.900	2@90 Area Light 210w Type 3
	1	KT-ALED210-L2-OSA-NM-850-VDIM	Single	31509.1	0.900	Single Area Light 210w Type 3

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Workplane Height
CalcPts_1	Illuminance	Fc	2.55	19	0	N.A.	N.A.	0.25

Luminaire Location Summary						
LumNo	Label	X	Y	Mount Height	Orient	Tilt
1	KT-ALED210-L2-OSA-NM-850-VDIM	204	227.5	20	224.49	15
2	KT-ALED210-L2-OSA-NM-850-VDIM 1	73.3	194.1	20	319.086	15
3	KT-RDLED18PS-6A-9CSE-VDIM (1	141	153.4	8	288.435	0
4	KT-RDLED18PS-6A-9CSE-VDIM (1	126.3	139.9	8	288.435	0
5	KT-RDLED18PS-6A-9CSE-VDIM (1	111.7	126.4	8	288.435	0
6	KT-RDLED18PS-6A-9CSE-VDIM (1	97.5	112.7	8	288.435	0
7	KT-RDLED18PS-6A-9CSE-VDIM (1	83	99.2	8	288.435	0
8	KT-RDLED18PS-6A-9CSE-VDIM (1	68.1	86.1	8	288.435	0
9	KT-WPLED55PS-M4-8CSB-VDIM	186.8	161.25	15	47.757	0
10	KT-WPLED55PS-M4-8CSB-VDIM	80.8	58.3	15	219.136	0

There are a total of 2 poles onsite.
 1 of the poles have 2 fixtures (1x2 = 2).
 1 of the poles have 1 fixtures (1x1 = 1).
 2 Wall Packs and 6 Downlights
 The total quantity is 11 fixtures.

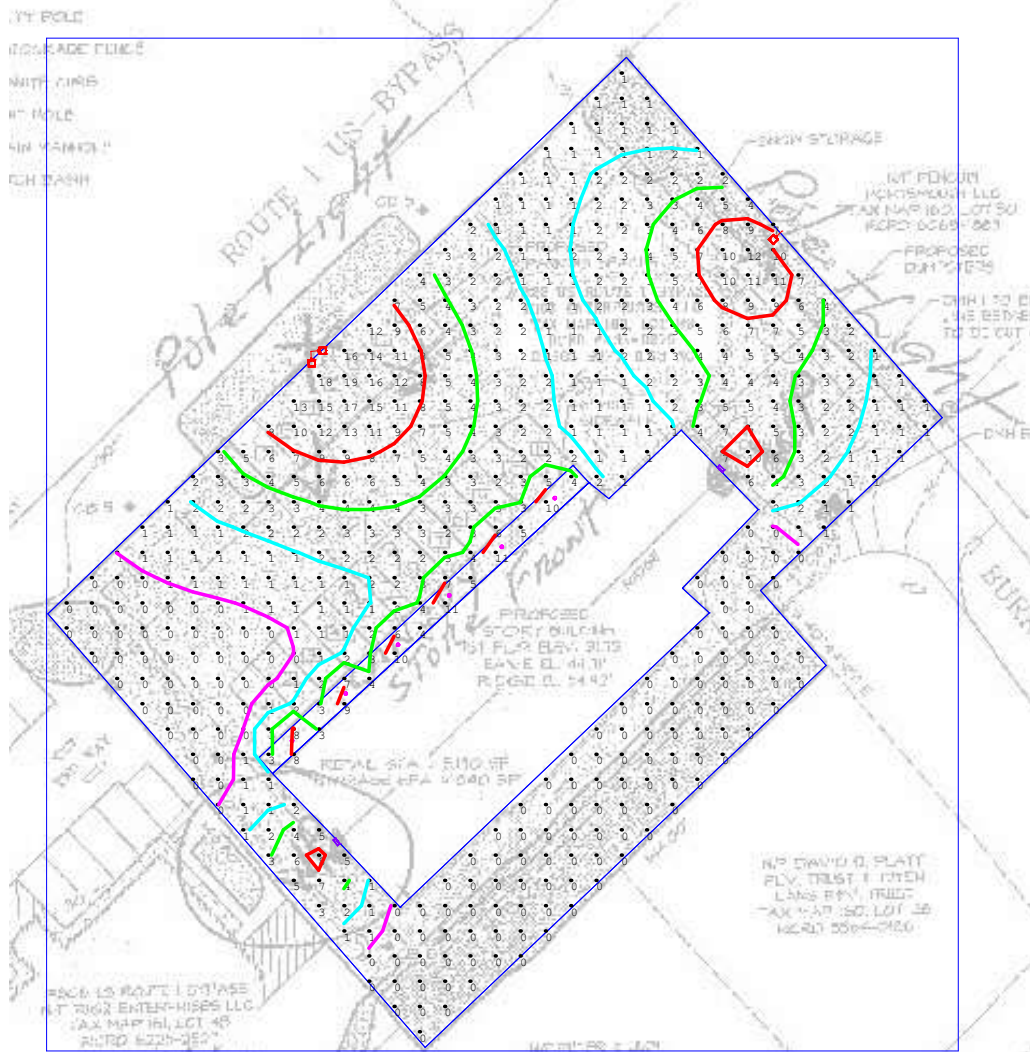


City Tabacco
 KT-ALED210-L2-3
 KT-WPLED55PS
 KT-RDLED18PS
 MH- 8', 15', 20'

Keystone Technologies Lighting Layout

2750 Morris Road
 Lansdale, PA 19446
 Phone 1-800-464-2680
 Email: LightingLayouts@keystonetech.com

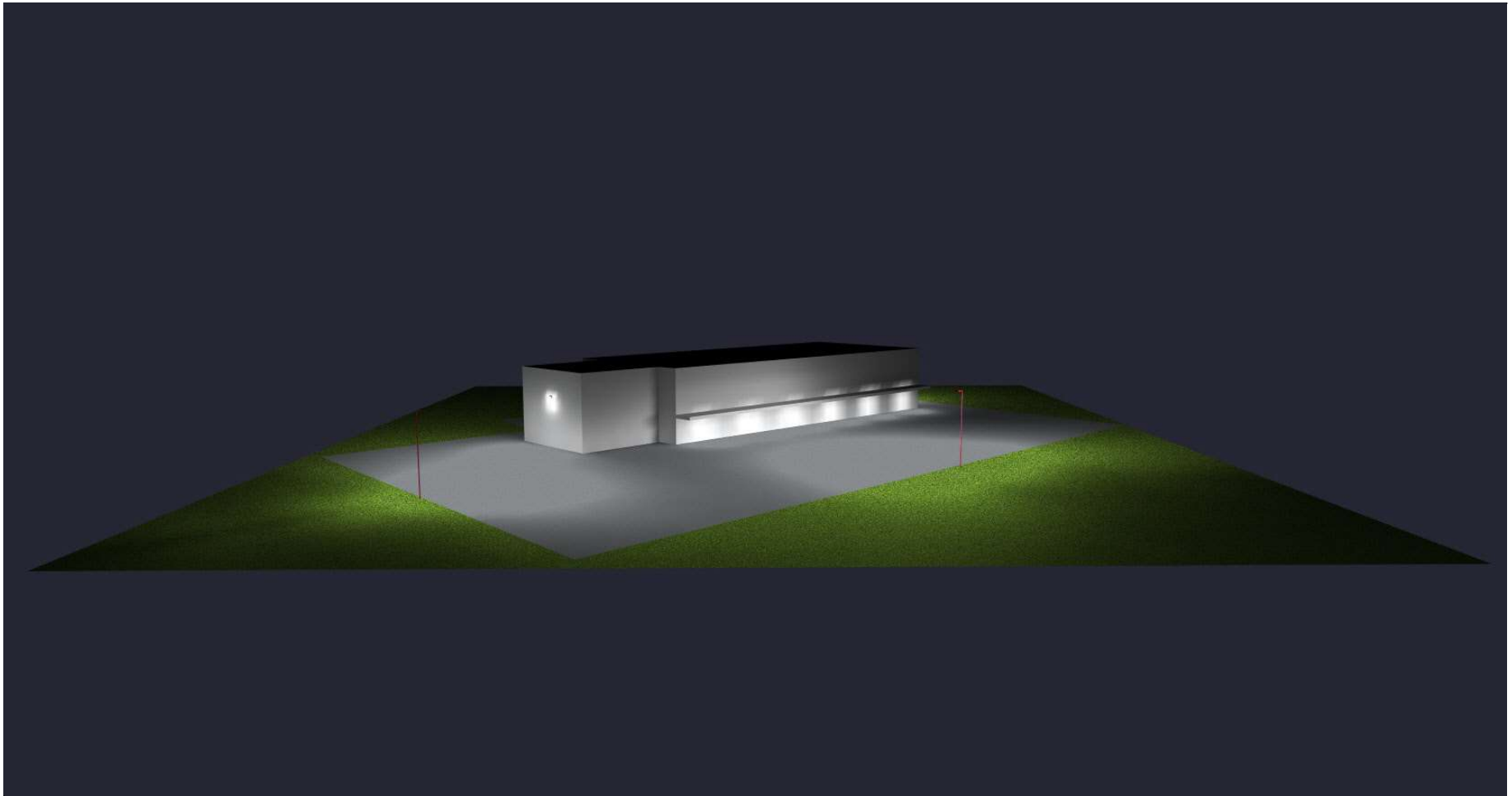




View of point by point

<p>City Tabacco KT-ALED210-L2-3 Red = 8+ FC's Green = 4 FC Blue = 2 FC Violet = 1 FC</p>	<p>Keystone Technologies Lighting Layout 2750 Morris Road Lansdale, PA 19446 Phone 1-800-464-2680 Email: LightingLayouts@keystonetech.com</p>
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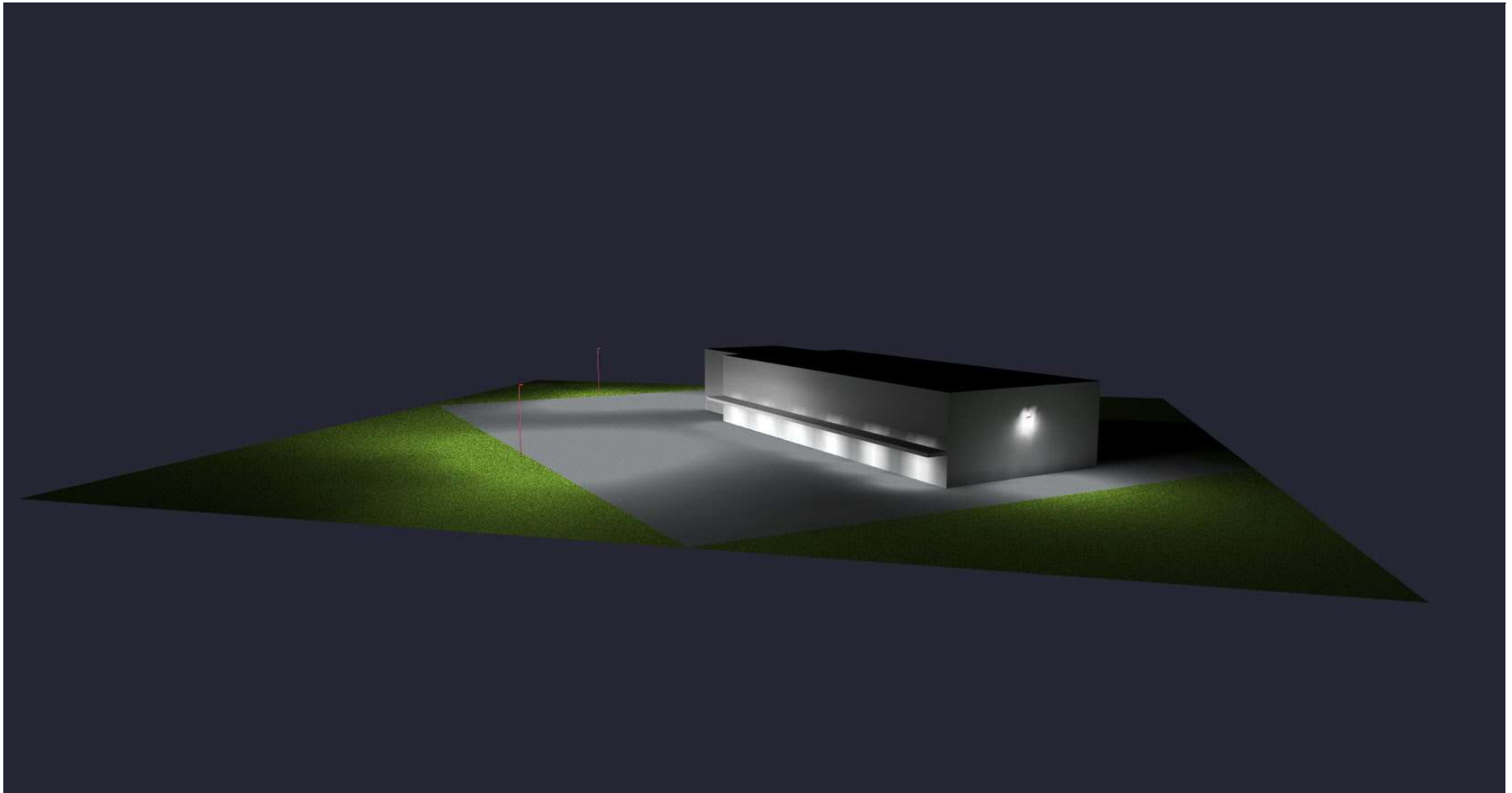


City Tabacco
KT-ALED210-L2-3
KT-WPLED55PS
KT-RDLED18PS
MH- 8', 15', 20'

Keystone Technologies Lighting Layout

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City Tabacco
KT-ALED210-L2-3
KT-WPLED55PS
KT-RDLED18PS
MH- 8', 15', 20'

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Thank you for allowing Keystone Technologies the opportunity to create and provide this Lighting Layout report.

Illumination results shown on this lighting design are based on project parametrics provided to Keystone used in conjunction with luminaire photometric testing conducted under laboratory conditions. Actual project conditions differing from these design parameters may affect field results, such as (but not limited to) windows, furnishings, floor/ceiling/wall surface texture reflectivity, site cleanliness, and lighting component tolerances. Illumination results shown have not been field verified by Keystone and therefore the actual measured results may vary from actual field conditions.

The customer is responsible for verifying dimensional accuracy along with compliance with any applicable electrical, lighting, or energy code. In no event will Keystone Technologies be held responsible for any loss resulting from any use of this lighting design.

City Tabacco
KT-ALED210-L2-3
KT-WPLED55PS
KT-RDLED18PS
MH- 8', 15', 20'

Keystone Technologies Lighting Layout

2750 Morris Road
Lansdale, PA 19446
Phone 1-800-464-2680
Email: LightingLayouts@keystonetech.com



THE CITY - BUILDING ONE

822 US ROUTE 1 BYPASS

PORTSMOUTH,, NEW HAMPSHIRE

Gleason Architects
P.O. BOX 596
STRATHAM, NH 03885



603 772-7370

INDEX TO DRAWINGS

ARCHITECTURAL

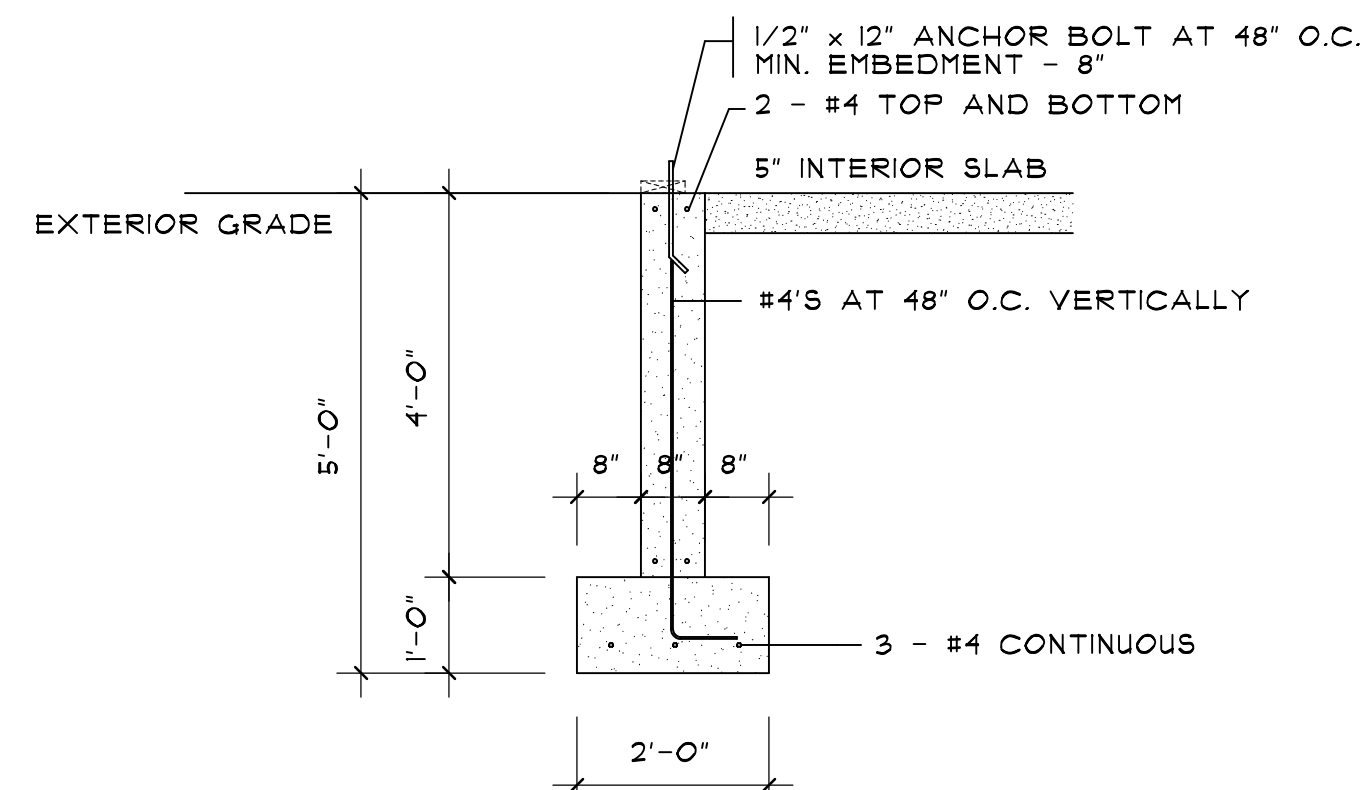
A1 - FOUNDATION PLAN, FIRST FLOOR PLAN, DETAILS AND DOOR SCHEDULE
A2 - ELEVATIONS, SECTION AND ROOF FRAMING PLAN

GENERAL NOTES

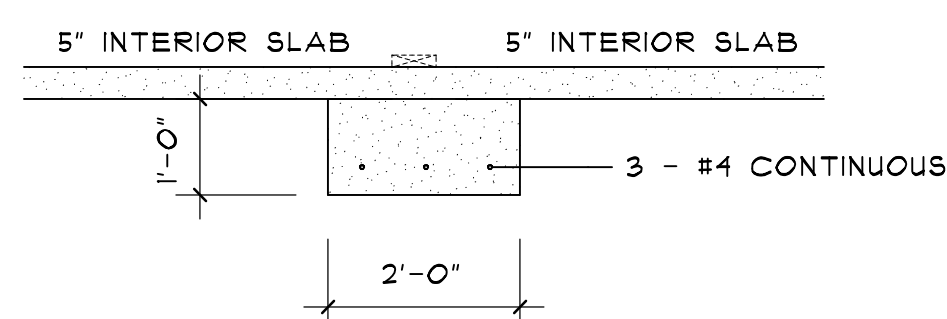
1. All work meets state, local and 2015 IBC Codes.
2. Contractor(s) must visit the job site prior to submitting a bid.
3. It is assumed the soil bearing capacity is 2000 psf or better.
4. Footings are to be placed on undisturbed soil, a minimum of one (1) foot below the frost line.
5. Provide 2" rigid insulation around the foundation perimeter to 4' below grade.
6. All wood on concrete is to be pressure treated lumber with sill seal and insulation.
7. Poured in place concrete is to be 3000 psi or better.
8. Concrete slabs are to have 6/6 10x10 w.w.f., 6 mil poly vapor barrier over 6" of crush stone or gravel, unless noted otherwise.
9. Use anchor bolts at 4'-0" on center on foundation walls.
10. Exterior walls are to be 2 x 6 wood studs, min. no. 2 grade, at 16" on center with lateral bracing, 1/2" gypsum board interior 1/2" sheathing exterior and "building wrap". The walls will have full batt insulation or equal.
11. Interior walls are to be 2 x 4 wood studs at 16" on center with 1/2" gypsum board each side.
12. All material used in the construction of this building will be new. No used or reconditioned material is permitted.
13. All interior finishes are to be determined by the contract with the owner.
14. Notify the architect immediately if conditions are different than indicated on the plans.
15. Any changes to these plans must be reviewed and approved by the owner(s) and the architect.
16. These drawings are prepared for the owner(s) to meet local and state codes. Any deficiencies must be noted and architect contacted to review those deficiencies.

CODE REVIEW:

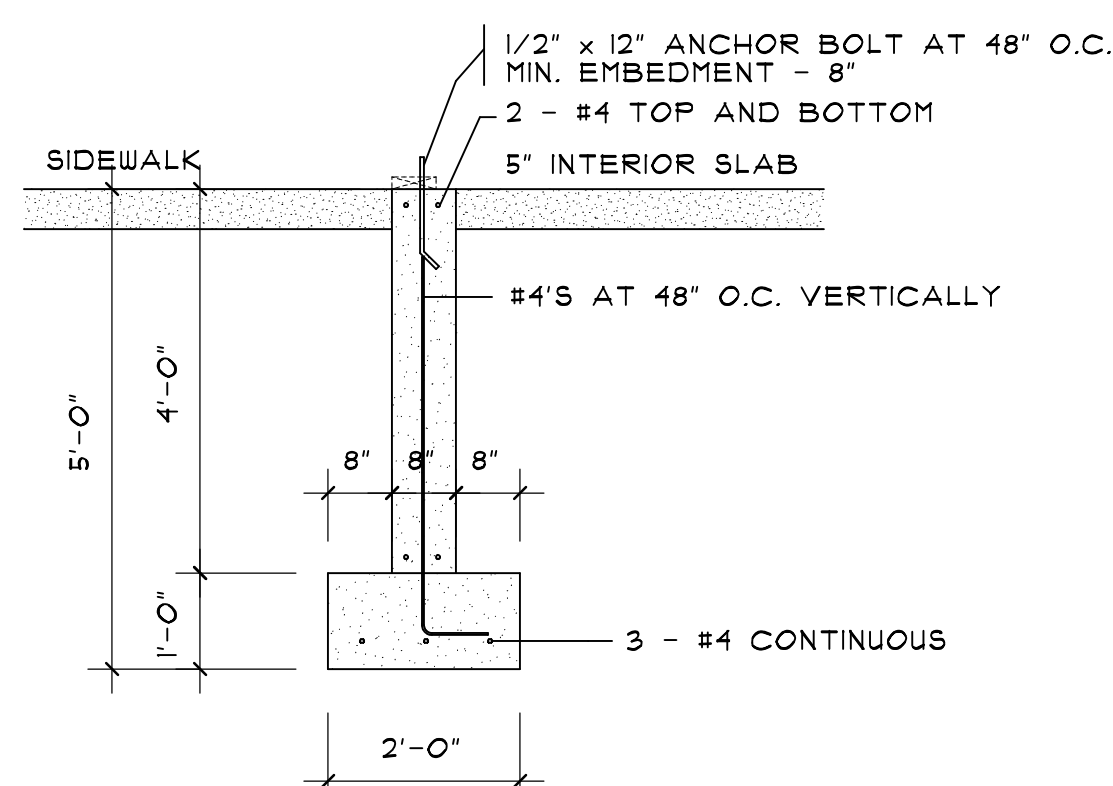
PROJECT: SINGLE STORY COMMERCIAL BUILDING - CONVENIENCE STORE
USE GROUP: MERCANTILE - M
TYPE OF CONSTRUCTION: 5B, WOOD FRAME, UNPROTECTED
HEIGHT - STORIES ALLOWED WITH SPRINKLER SYSTEM, BUILDING IS TWO STORY
BUILDING TO HAVE AN APPROVED SPRINKLER SYSTEM
AREA - 36,000 SF, SPRINKLERED, ACTUAL SQUARE FOOTAGE - 5480 SF
OCCUPANT LOAD - 5480 SF/40 SF PER PERSON - 92 PEOPLE (TABLE 1004.1.2
TABLE 1011.2 EXIT ACCESS TRAVEL DISTANCE - USE M, WITH SPRINKLER - 250 FEET



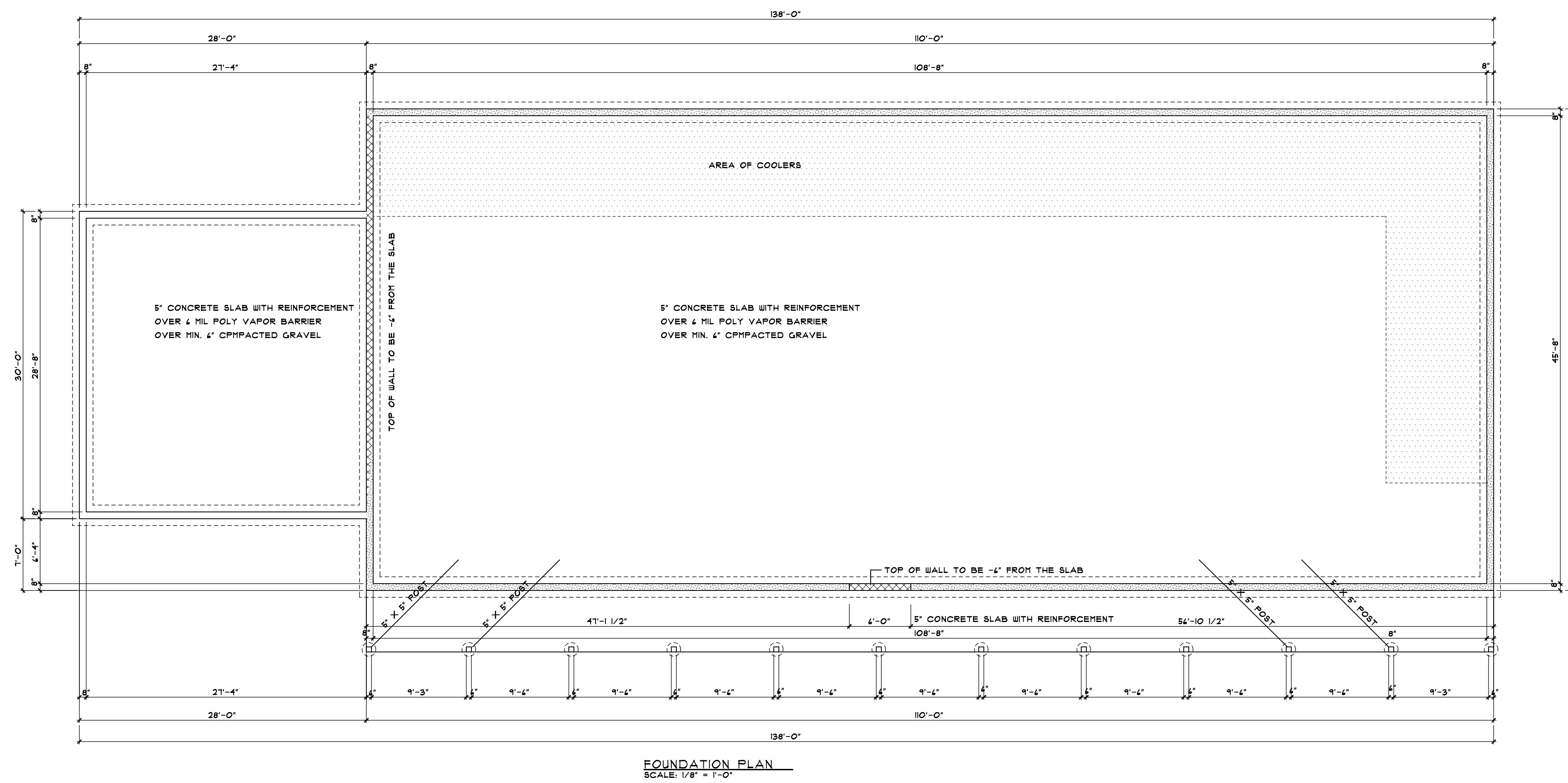
1 FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



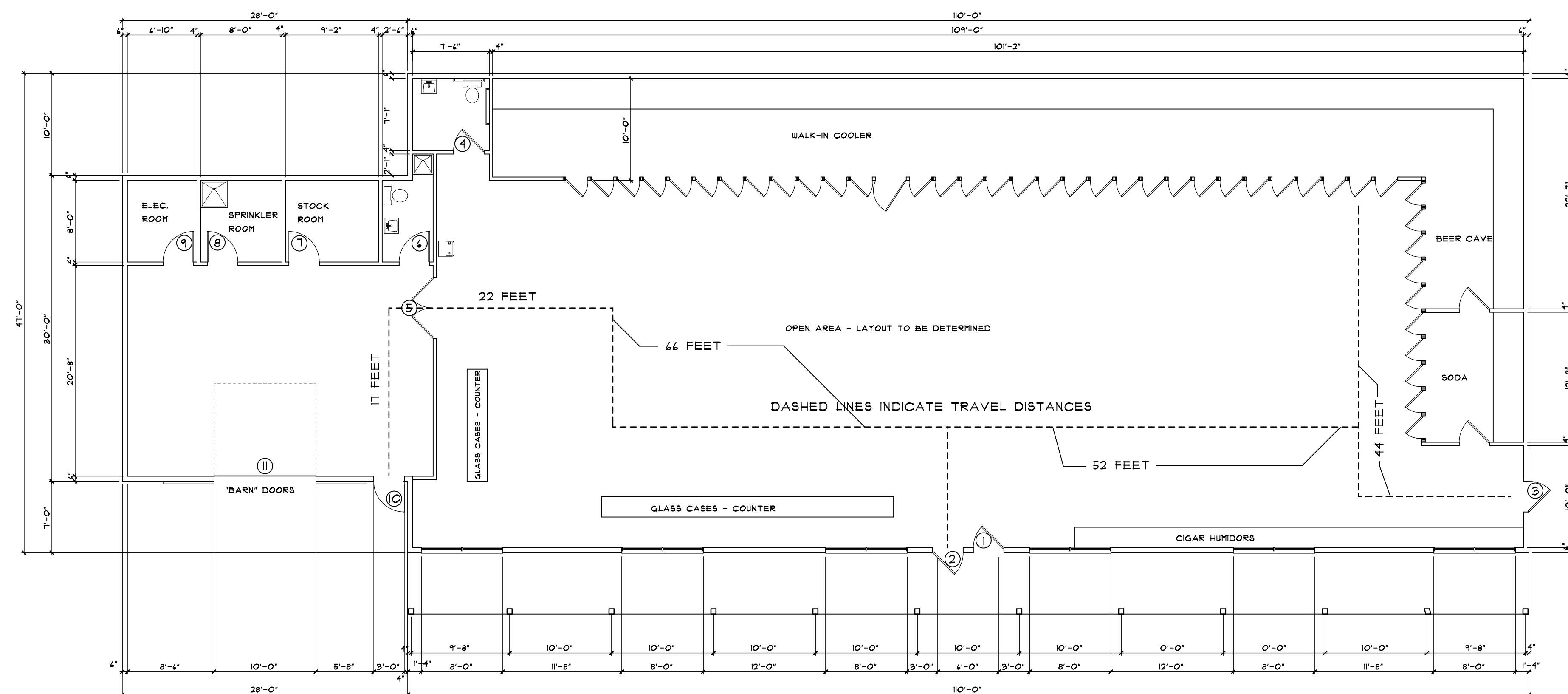
2 FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



3 FOUNDATION SECTION
SCALE: 1/2" = 1'-0"



FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



FLOOR PLAN
SCALE: 1/8" = 1'-0"

DOOR SCHEDULE

MARK	DOOR WIDTH	DOOR HEIGHT	REMARKS
------	------------	-------------	---------

FIRST FLOOR

1.	3'-0"	7'-0"	AL./GLASS ENTRY DOOR
2.	3'-0"	7'-0"	AL./GLASS ENTRY DOOR
3.	3'-0"	6'-8"	HM DOOR HM FRAME
4.	3'-0"	6'-8"	SCWD DOOR HM FRAME SELF CLOSING
5.	FR. 3'-0"	6'-8"	DOUBLE ACTING IMPACT DOORS WITH KICK PLATES
6.	2'-6"	6'-8"	HM DOOR HM FRAME
7.	3'-0"	6'-8"	HM DOOR HM FRAME
8.	3'-0"	6'-8"	HM DOOR HM FRAME
9.	3'-0"	6'-8"	HM DOOR HM FRAME
10.	3'-0"	6'-8"	HM DOOR HM FRAME
11.	10'-0"	9'-0"	INSULATED OVERHEAD DOOR

NO.	DESCRIPTION OF REVISION	DATE

THE CITY - BUILDING ONE
822 US ROUTE 1 BYPASS
PORTSMOUTH, NEW HAMPSHIRE

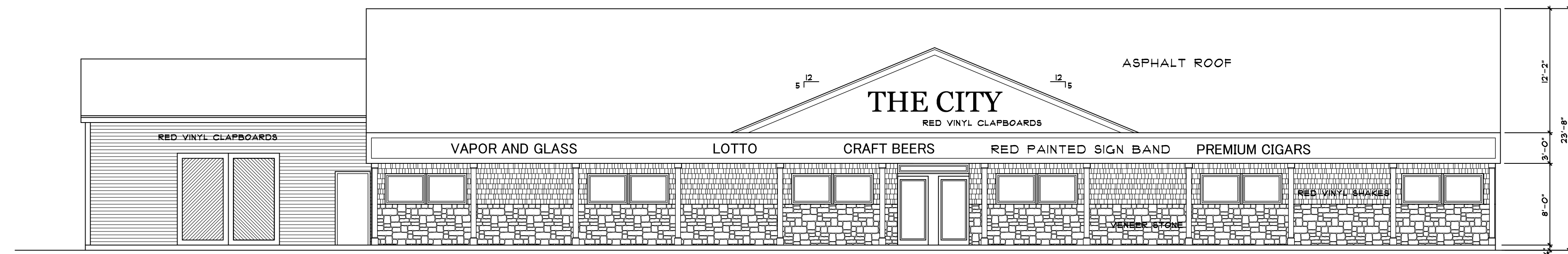
Gleason Architects
P.O. BOX 596
STRATHAM, NEW HAMPSHIRE 03885
603 772-7370



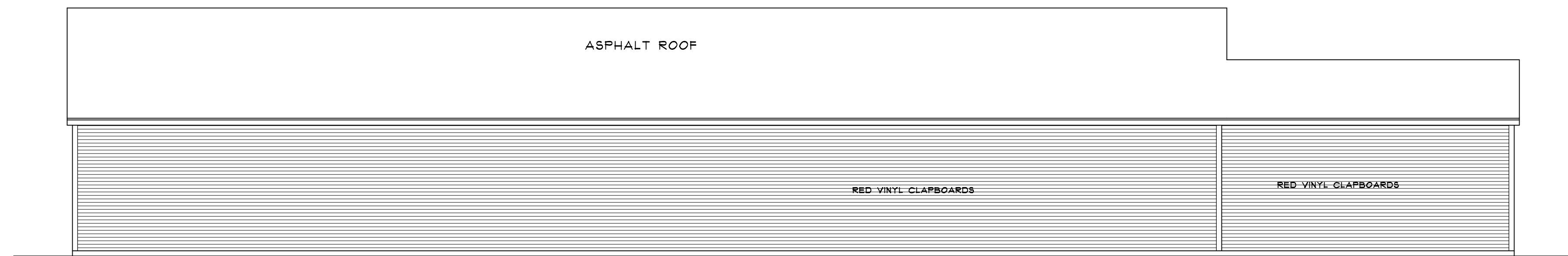
ARCHITECT

ENGINEER
DATE: 08/04/23
PROJECT NO. 202329
SHEET NO.

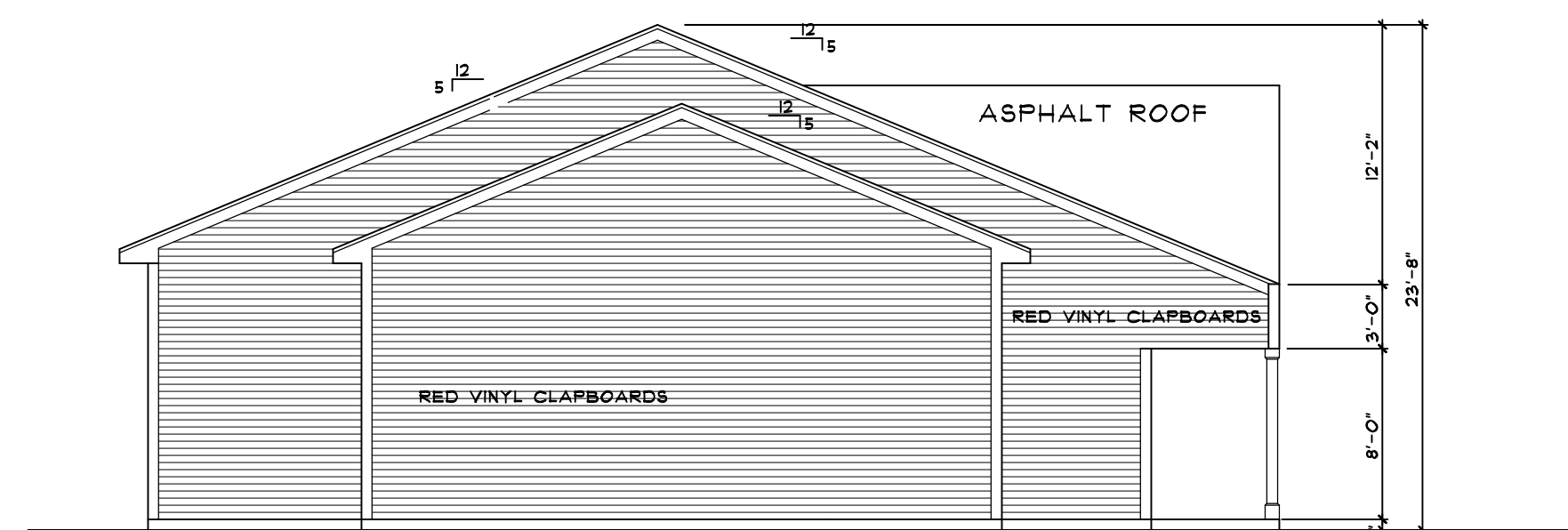
A-1
OF SHEETS



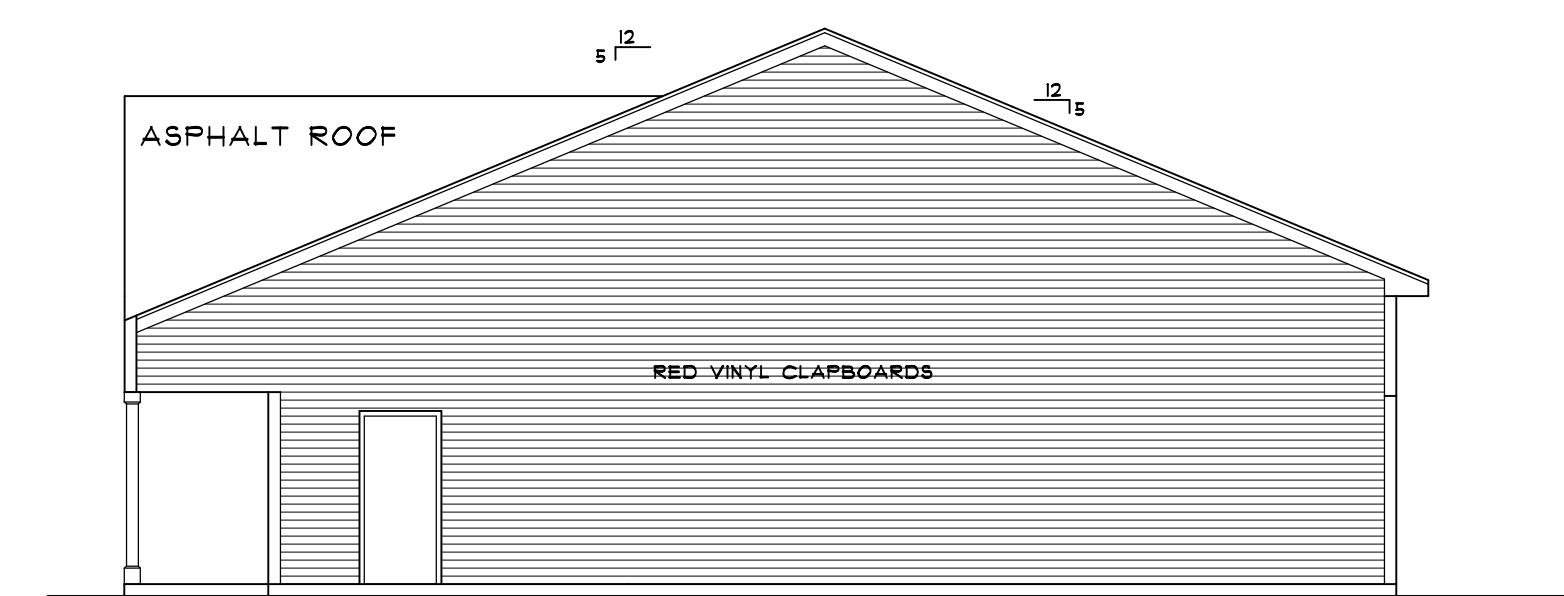
FRONT ELEVATION
SCALE: 1/8" = 1'-0"



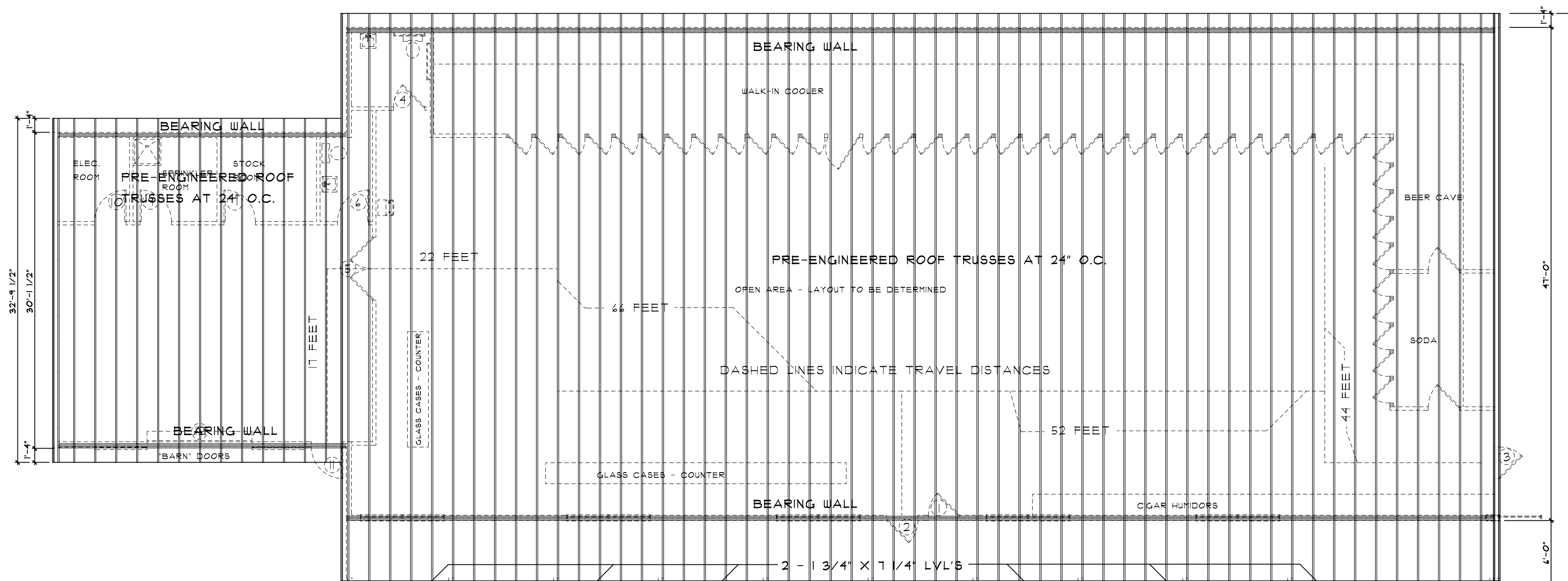
REAR ELEVATION
SCALE: 1/8" = 1'-0"



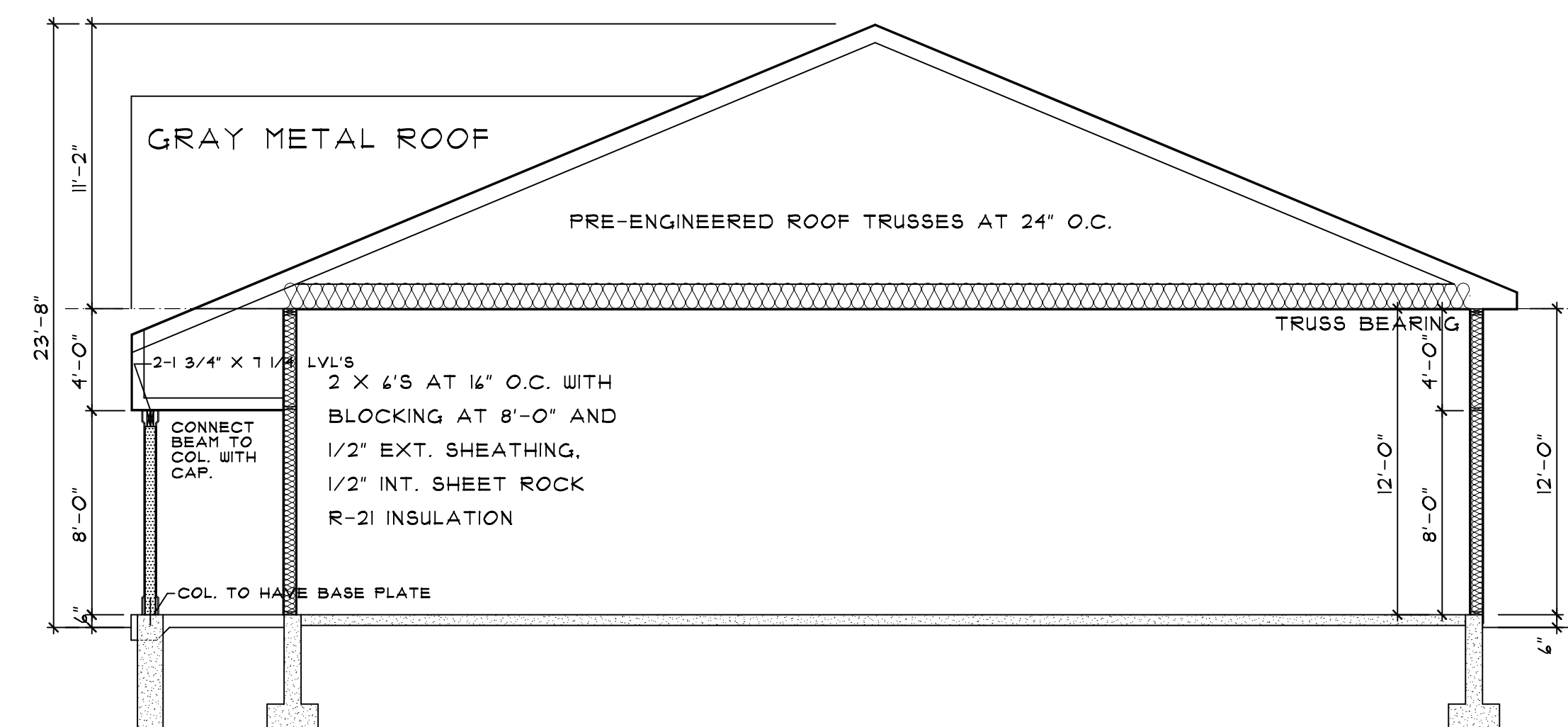
LEFT SIDE ELEVATION
SCALE: 1/8" = 1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/8" = 1'-0"



ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"



SECTION
SCALE: 3/16" = 1'-0"

NO.	DESCRIPTION OF REVISION	DATE

THE CITY - BUILDING ONE
822 US ROUTE 1 BYPASS
PORTSMOUTH, NEW HAMPSHIRE

Gleason Architects
P.O. BOX 596
STRATHAM, NEW HAMPSHIRE 03885
603 772-7370



ARCHITECT

ENGINEER
DATE: 08/04/23
PROJECT NO. 202329
SHEET NO.

A-2
OF SHEETS



KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

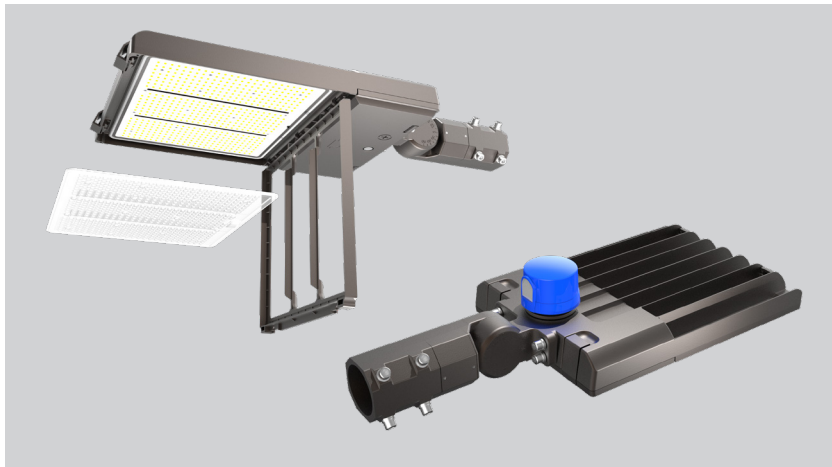
SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

DESCRIPTION

290W Power and Color Select Optic Swap LED Area Light | 120-277V Input | Bronze Housing | Slip Fitter Mount Kit Included

APPLICATION

Pole-mount or structure-mount outdoor illumination needs (including parking lots, auto dealerships, pathways, roadways, recreational venues, and other general area lighting requirements)



PRODUCT FEATURES

- Keystone Power Select technology (290/210/185W)
- Keystone Color Select technology (3000/4000/5000K)
- Innovative optic swap capability under door frame and latch design for quick lens change
- Three lenses in the box: Type III installed, Types IV and V included
- Type II lens sold separately. See below for details
- Heavy duty die cast aluminum housing with ample heat sinking
- Low-profile design delivers high-performance illumination and improves application site aesthetics
- True U0 design for Dark Sky friendly performance that eliminates undesirable sky glow

- Integrated NEMA/ANSI C136.10 7-pin twist-lock receptacle with 3-pin photocell and shorting cap. Standard on all fixtures, simplifies ordering requirements for photo control needs
- Comes with a pre-installed slip fitter mount kit for easy and quick mounting to square or round poles
- Keystone 0-10V dimming driver
- Ambient operating temperature: -40°C/-40°F to 50°C/122°F
- UL Certified, IP65 rated
- Power factor: > 0.95
- THD: < 20%
- LED chip lifetime: L70 > 100,000 hrs @ 25°C/77°F ambient fixture temperature
- Meets FCC Part 15, Part B, Class A standards for conducted and radiated emissions

PRODUCT SPECIFICATIONS

Catalog No.	Wattage	CCT	Lumens	Efficacy	Input Voltage	Dimming	CRI	Distribution Pattern	Photocell Included	Housing Color	Legacy Equivalent
KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P	290	3000K	36320	125 lm/W	120-277V	0-10V	>80	Type III Installed, Types IV and V Included	Yes	Bronze	1000W MH
		4000K	42770	147 lm/W							
		5000K	38700	133 lm/W							
	210	3000K	27300	130 lm/W							
		4000K	31710	151 lm/W							
		5000K	28980	138 lm/W							
	185	3000K	22970	124 lm/W							
		4000K	27060	146 lm/W							
		5000K	24440	132 lm/W							

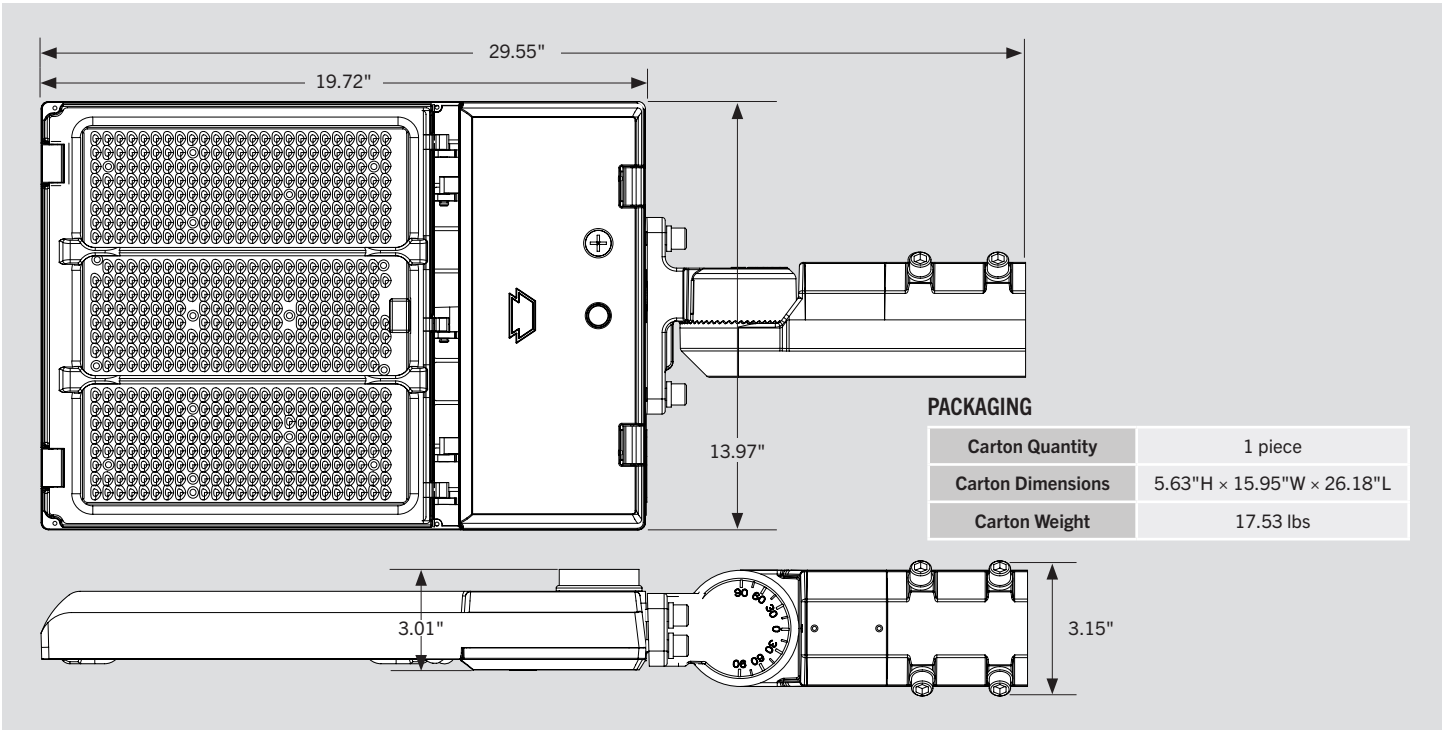
* Fixtures with Type 2 (II) and Type 4 (IV) optics are available and assembled to order. Lead times may apply. Please see catalog number breakdown for full ordering code details.
 **Fixtures (and mounts) with alternate housing colors are available and made to order. Extended lead times apply. Please see catalog number breakdown for full ordering code details.

KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

PHYSICAL SPECIFICATIONS

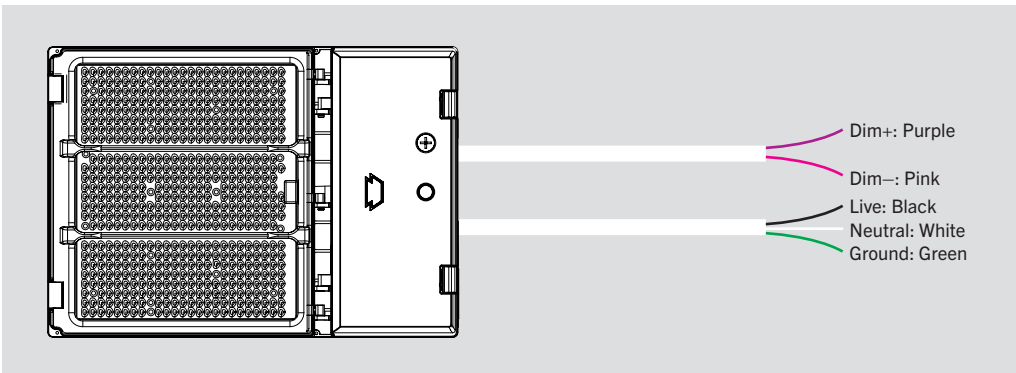
SLIPFITTER-MOUNT LED AREA LIGHT FIXTURE



PACKAGING

Carton Quantity	1 piece
Carton Dimensions	5.63"H x 15.95"W x 26.18"L
Carton Weight	17.53 lbs

WIRING DIAGRAM



- This fixture comes pre-wired with a 7-pin twist-lock receptacle with shorting cap. Make input connections as needed and ensure connections are protected from exposure to the elements.
- Input voltage rating: 120–277V
- Ensure that input voltage on site matches the fixture you intend to install.



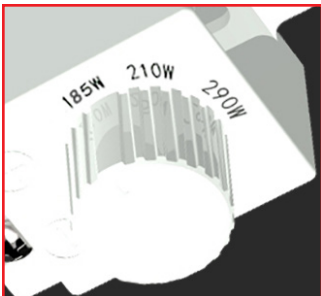
KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

POWER SELECT (WATTAGE) AND COLOR SELECT (CCT) ADJUSTMENT

This fixture is equipped with field-adjustable Keystone Power Select and Color Select technology.

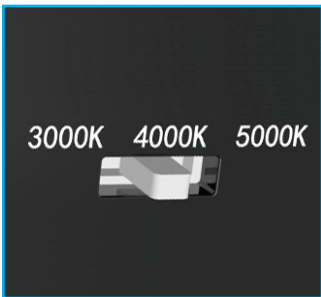
1. Ensure power is off to the fixture.
2. Open the driver compartment located on the underside of the fixture.
2. Adjust switches to desired settings.



POWER SELECT ADJUSTMENT DIAL

Set switch to adjust wattage between 290W, 210W, and 185W.

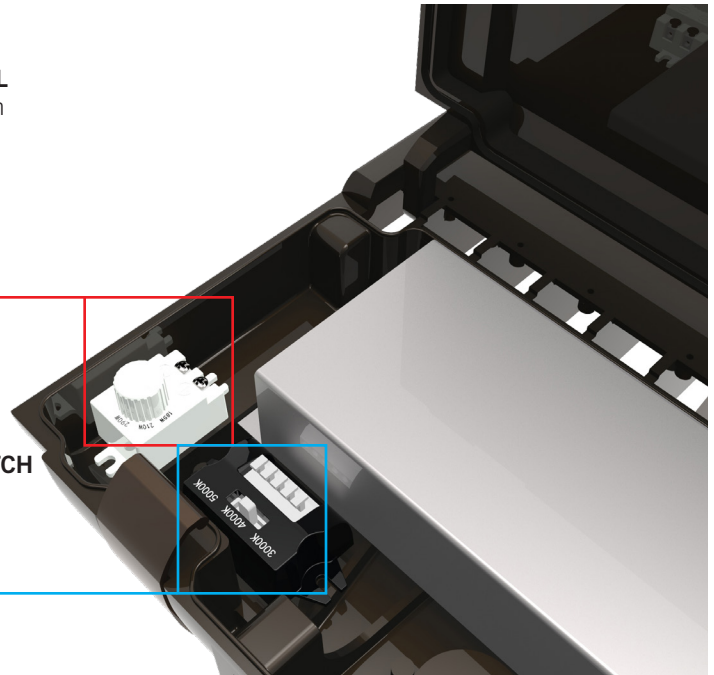
Fixture comes preset at 290W.



COLOR SELECT ADJUSTMENT SWITCH

Set switch to adjust CCT between 3000K, 4000K, and 5000K.

Fixture comes preset at 5000K.





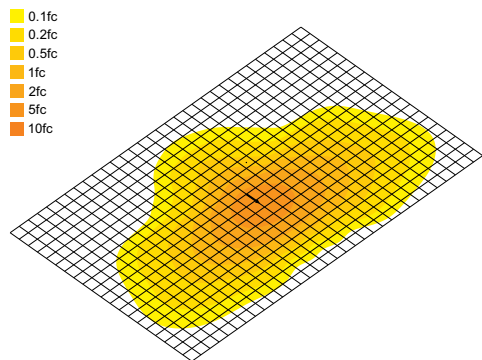
KT-ALED290PS-L2-0SB-SF-8CSB-VDIM-P

SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

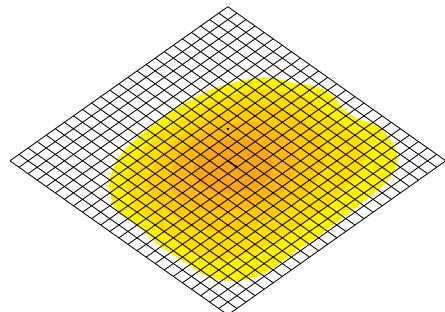
LIGHT DISTRIBUTION PATTERN

Photometric layouts for general reference only. All fixtures are pole mounted at 35ft. Each square is 10 ft x 10 ft

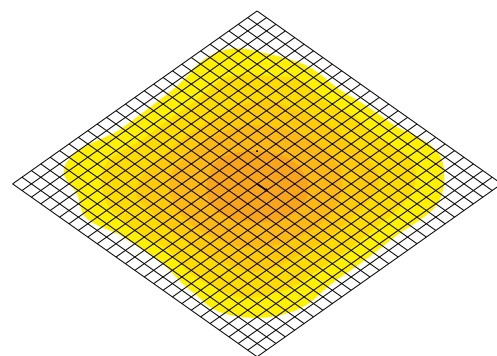
TYPE III (3)



TYPE IV (4)



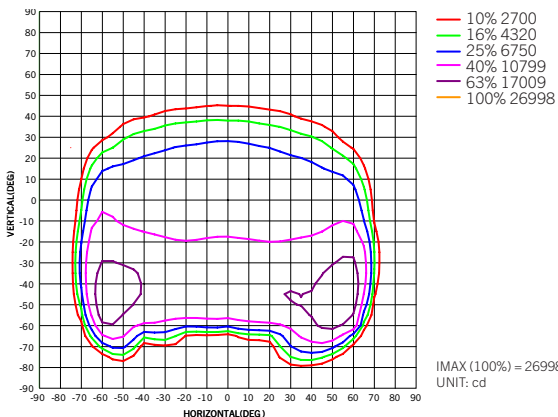
TYPE V (5)



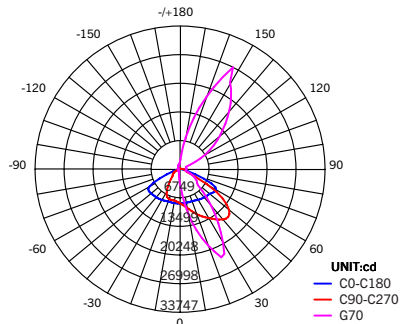
- 0.1fc
- 0.2fc
- 0.5fc
- 1fc
- 2fc
- 5fc
- 10fc

PHOTOMETRIC SPECIFICATIONS (TYPE III [3])

ISOCANDELA PLOT

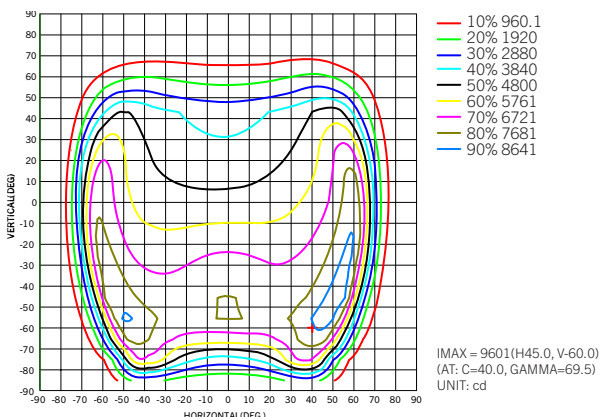


LUMINOUS INTENSITY DISTRIBUTION

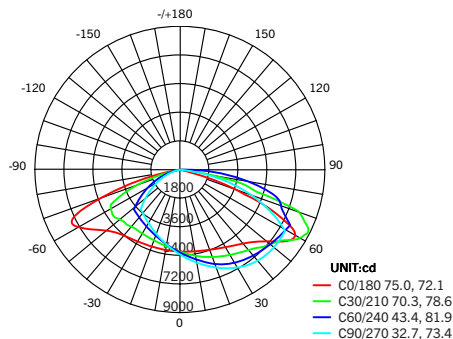


PHOTOMETRIC SPECIFICATIONS (TYPE IV [4])

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION

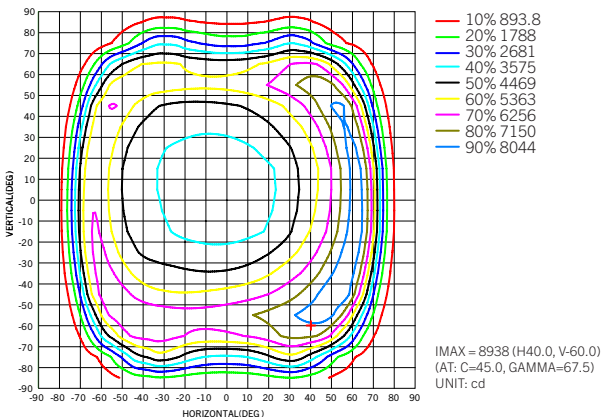


KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

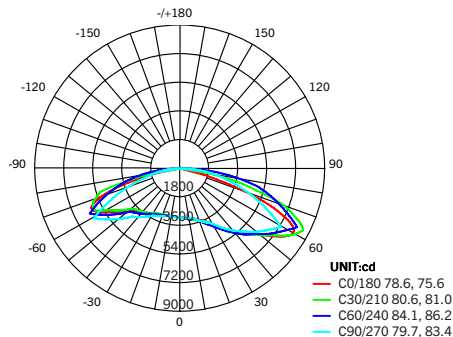
SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

PHOTOMETRIC SPECIFICATIONS (TYPE V [5])

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION



EPA SPECIFICATIONS

LARGE-SIZE FIXTURE HOUSING

- Conditions: Horizontal winds only for calculations. Worst case total projected area used for calculations.
- All drag coefficients are set as worst case 1.2.
- For details on exact EPA calculations and assumptions, please contact productsupport@keystonetech.com

EPA Calcs (1.2*ft ² View)		Single Fixture	2 Fixtures at 90°	2 Fixtures at 180°	3 Fixtures at 90°	3 Fixtures at 120°	4 Fixtures at 90°	2 Fixtures Side-by-Side	3 Fixtures Side-by-Side	4 Fixtures Side-by-Side
Mounting Application	Fixture Position									
Slip Fitter Mount	Horizontal	0.60 sq. ft.	0.98 sq. ft.	1.20 sq. ft.	1.53 sq. ft.	1.57 sq. ft.	1.53 sq. ft.	0.86 sq. ft.	1.30 sq. ft.	1.73 sq. ft.
Slip Fitter Mount	45°	1.92 sq. ft.	2.51 sq. ft.	1.92 sq. ft.	3.09 sq. ft.	4.39 sq. ft.	3.09 sq. ft.	3.84 sq. ft.	5.76 sq. ft.	7.68 sq. ft.
Slip Fitter Mount	Vertical	2.59 sq. ft.	3.19 sq. ft.	2.59 sq. ft.	3.80 sq. ft.	4.07 sq. ft.	3.80 sq. ft.	5.18 sq. ft.	7.77 sq. ft.	10.35 sq. ft.

KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

ACCESSORIES (SOLD SEPARATELY)

SENSORS

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/MW3	KTS-MW3-12V-PKO	12V Microwave Occupancy Sensor	843654130637	TRM-32
	/FC3	KTSL-FC3-12V-PKO-PIR	Bluetooth mesh wireless Smart Port LED controller for SmartLoop system with integrated daylight and PIR motion sensor.	843654138862	OCW-60
	/FC4	KTSL-FC4-12V-PKO	Bluetooth mesh wireless screw-in low voltage fixture controller for SmartLoop system	843654149066	RUN-10



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).

Field-Installable / Field-Use ONLY (purchased separately)

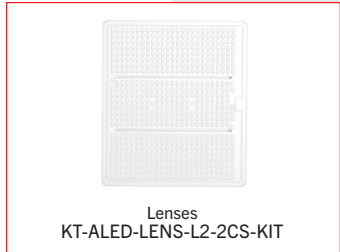
CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KTS-MW3-REMOTECONTROL	Remote Control for KTS-MW3-12V-XX Sensors, Sets/adjusts all sensor performance parameters	843654132020	XSR-61



LENSES

Field-Installable / Field-Use ONLY (purchased separately)

CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KT-ALED-LENS-L2-2CS-KIT	Type II Optics Lens for Color Select, Large Size Housing, Series 2 Area Lights	843654153858	HXC-12



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).



KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

SLIPFITTER-MOUNT LED AREA LIGHT PREMIUM PACKAGE

ACCESSORIES CONTINUED (SOLD SEPARATELY)

MOUNTS AND BRACKETS

Field-Installable / Field-Use ONLY (purchased separately)

CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KT-ALED-GS-L2-KIT	Reversible Glare Shield for Large Size Housing, Series 2 Area Lights, Bronze	843654153810	RDW-18



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).

ORDERING INFORMATION

ORDER CODE	PACK QTY.	UPC	Easy Code
KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P	1	843654153148	IYG-25

CATALOG NUMBER BREAKDOWN

KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

- 1 Keystone Technologies
- 2 Fixture Type
- 3 LED Technology
- 4 Max Wattage
- 5 Power Select
- 6 Size/ Shape
- 7 Style/ Design Designation
- 8 Optic Swap
- 9 Optic Swap Designation
- 10 Slip Fitter Mount
- 11 80 CRI
- 12 Color Select
- 13 Color Select Designation
- 14 0-10V Dimming
- 15 Stock Package

9 Optic Swap Designation
B Type III lens installed, Type IV and V lens included

13 Color Select Designation
B 3000/4000/5000K

ORDERING EXAMPLES

FIXTURE WITH SINGLE FACTORY-INSTALLED ACCESSORY

KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P /7PRS

KEYSTONE FIXTURE
CATALOG NUMBER
KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

FIXTURE WITH NO FACTORY-INSTALLED ACCESSORIES

KT-ALED290PS-L2-OSB-SF-8CSB-VDIM-P

SENSORS	
✓ SUFFIX	CATALOG NUMBER
✓ /7PRS	KT-RSC-7PN

* When ordering more than one factory-installed accessory, use multiple suffixes as shown in the ordering examples above.
 Note: All accessories can also be ordered separately for field installation using just their regular Catalog Number, UPC, or Easy Code.



KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

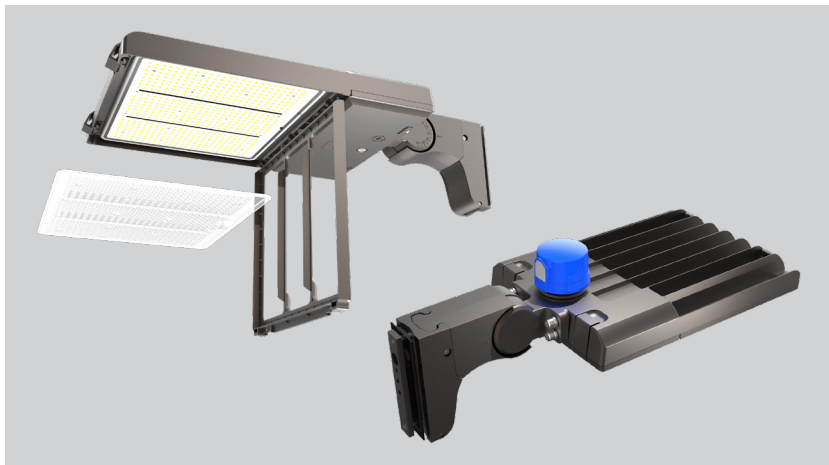
POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

DESCRIPTION

290W Power and Color Select Optic Swap LED Area Light | 120-277V Input | Bronze Housing | Adjustable Pole Mount Kit Included

APPLICATION

Pole-mount or structure-mount outdoor illumination needs (including parking lots, auto dealerships, pathways, roadways, recreational venues, and other general area lighting requirements)



PRODUCT FEATURES

- Keystone Power Select technology (290/210/185W)
- Keystone Color Select technology (3000/4000/5000K)
- Innovative optic swap capability under door frame and latch design for quick lens change
- Three lenses in the box: Type III installed, Types IV and V included
- Type II lens sold separately. See below for details
- Heavy duty die cast aluminum housing with ample heat sinking
- Low-profile design delivers high-performance illumination and improves application site aesthetics
- True U0 design for Dark Sky friendly performance that eliminates undesirable sky glow
- Integrated NEMA/ANSI C136.10 7-pin twist-lock receptacle with 3-pin photocell and shorting cap. Standard on all fixtures, simplifies ordering requirements for photo control needs
- Comes with a pre-installed adjustable pole mount kit for easy and quick mounting to square or round poles
- Keystone 0-10V dimming driver
- Ambient operating temperature: -40°C/-40°F to 50°C/122°F
- UL Certified, IP65 rated
- Power factor: > 0.95
- THD: < 20%
- LED chip lifetime: L70 > 100,000 hrs @ 25°C/77°F ambient fixture temperature
- Meets FCC Part 15, Part B, Class A standards for conducted and radiated emissions

PRODUCT SPECIFICATIONS

Catalog No.	Wattage	CCT	Lumens	Efficacy	Input Voltage	Dimming	CRI	Distribution Pattern	Photocell Included	Housing Color	Legacy Equivalent
KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P	290W	3000K	36320	125 lm/W	120-277V	0-10V	>80	Type III Installed, Types IV and V Included	Yes	Bronze	1000W MH
		4000K	42770	147 lm/W							
		5000K	38700	133 lm/W							
	210W	3000K	27300	130 lm/W							
		4000K	31710	151 lm/W							
		5000K	28980	138 lm/W							
	185W	3000K	22970	124 lm/W							
		4000K	27060	146 lm/W							
		5000K	24440	132 lm/W							

* Fixtures with Type 2 (II) and Type 4 (IV) optics are available and assembled to order. Lead times may apply. Type II (2) lenses are sold separately. For more information, see accessories page below or contact Keystone with questions.
 **Fixtures (and mounts) with alternate housing colors are available and made to order. Extended lead times apply. Please see catalog number breakdown for full ordering code details.

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

PHYSICAL SPECIFICATIONS

POLE-MOUNT LED AREA LIGHT FIXTURE

Technical drawing showing the physical specifications of the pole-mount LED area light fixture. The front view shows a rectangular fixture with a width of 28.80" and a height of 13.97". The depth of the fixture is 19.72". The side view shows a mounting arm with a length of 3.01" and a height of 6.67".

PACKAGING	
Carton Quantity	1 piece
Carton Dimensions	5.63"H x 15.95"W x 26.18"L
Carton Weight	17.53 lbs

ADJUSTABLE POLE MOUNT KIT DRILLING HOLES

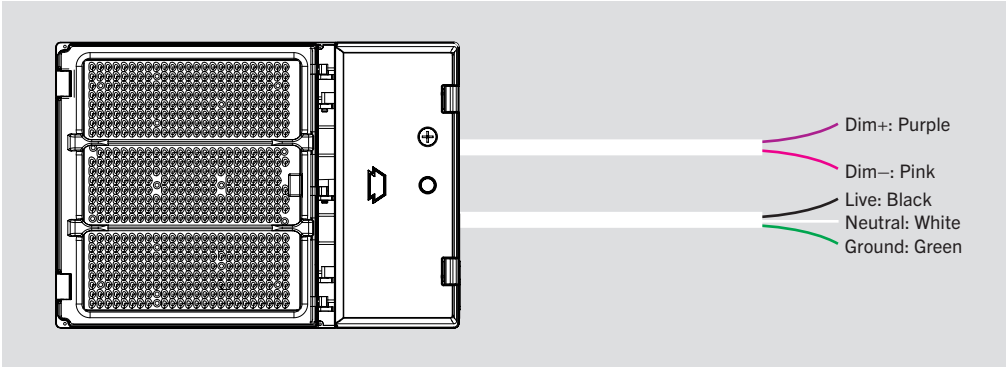
Technical drawing showing the adjustable pole mount kit drilling holes. The main view shows a vertical pole with a diameter of 2.63". The mounting holes are located at the following vertical positions from the top: 1.13" (Ø0.38"), 1.75" (Ø0.69"), 3.19" (Ø0.38"), 5.50" (Ø0.38"), and 6.69" (Ø0.38"). A secondary hole is located 2.31" from the bottom. The side view shows a mounting arm with a length of 6.69" and a height of 2.25".

Three 3D perspective views of the pole mount kit components: the mounting arm, the mounting bracket, and the mounting plate.

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

WIRING DIAGRAM

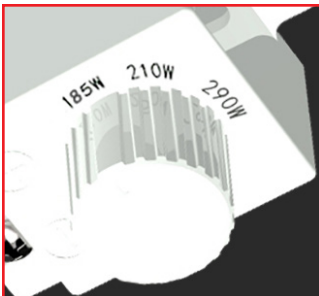


- This fixture comes pre-wired with a 7-pin twist-lock receptacle with shorting cap. Make input connections as needed and ensure connections are protected from exposure to the elements.
- **Input voltage rating: 120–277V**
- Ensure that input voltage on site matches the fixture you intend to install.

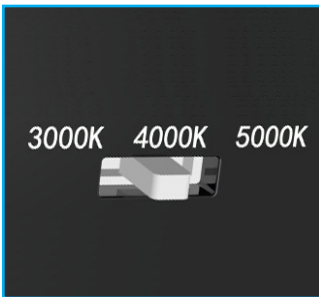
POWER SELECT (WATTAGE) AND COLOR SELECT (CCT) ADJUSTMENT

This fixture is equipped with field-adjustable Keystone Power Select and Color Select technology.

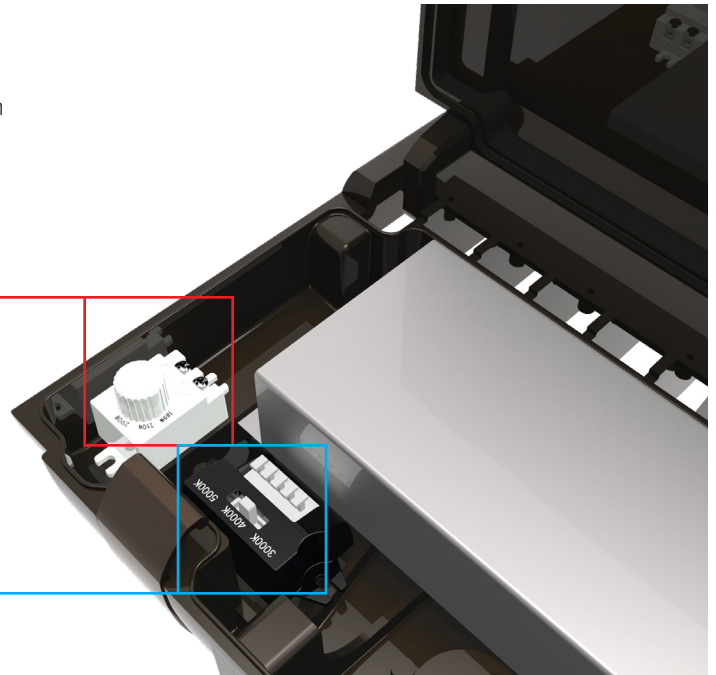
1. Ensure power is off to the fixture.
2. Open the driver compartment located on the underside of the fixture.
3. Adjust switches to desired settings.



POWER SELECT ADJUSTMENT DIAL
Set switch to adjust wattage between 290W, 210W, and 185W. Fixture comes preset at 290W.



COLOR SELECT ADJUSTMENT SWITCH
Set switch to adjust CCT between 3000K, 4000K, and 5000K. Fixture comes preset at 5000K.



KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

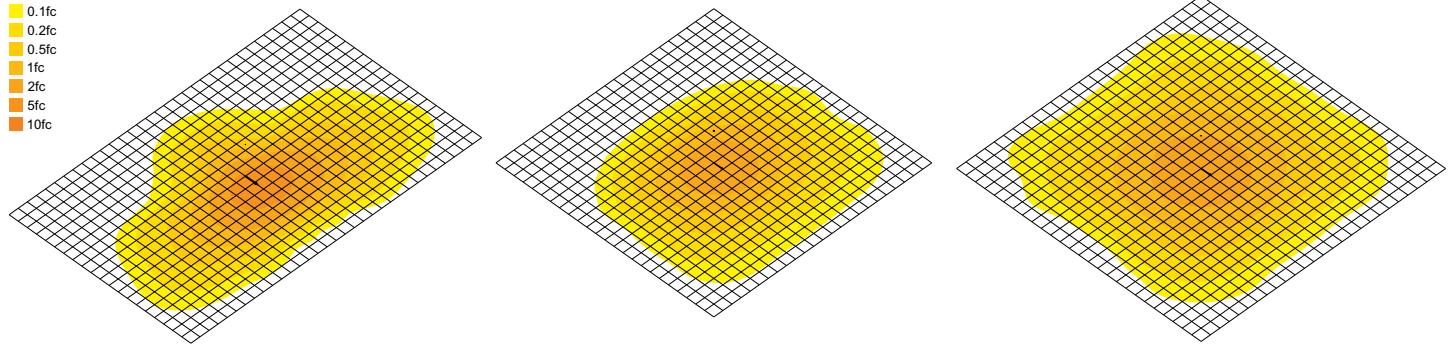
LIGHT DISTRIBUTION PATTERN

Photometric layouts for general reference only. All fixtures are pole mounted at 35ft. Each square is 10 ft x 10 ft

TYPE III (3)

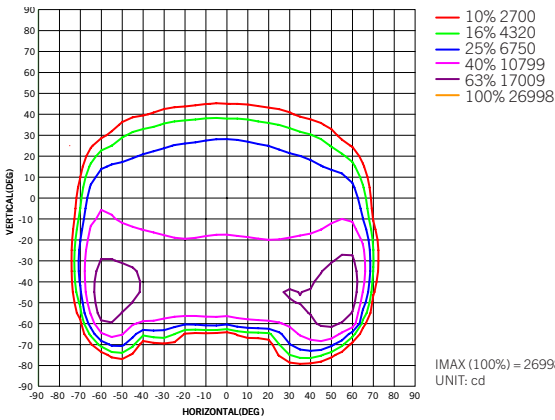
TYPE IV (4)

TYPE V (5)

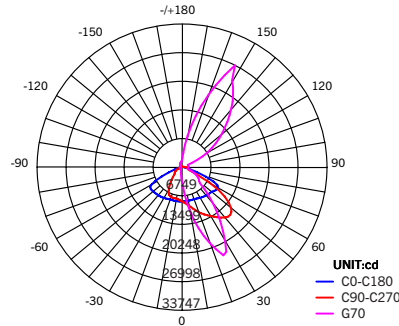


PHOTOMETRIC SPECIFICATIONS (TYPE III [3])

ISOCANDELA PLOT

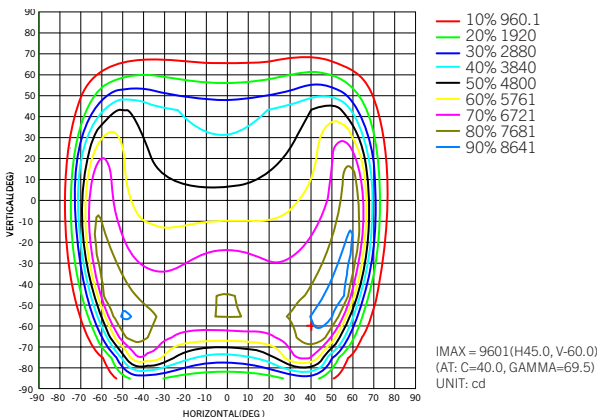


LUMINOUS INTENSITY DISTRIBUTION

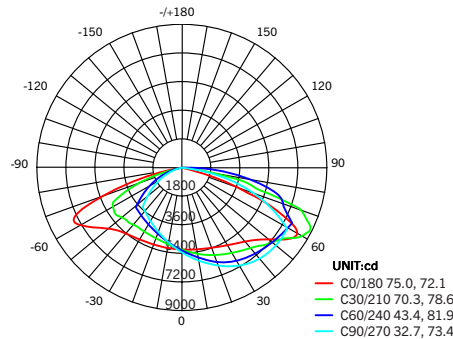


PHOTOMETRIC SPECIFICATIONS (TYPE IV [4])

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION

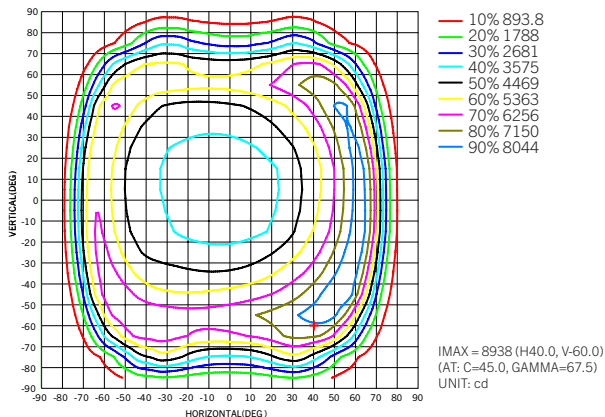


KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

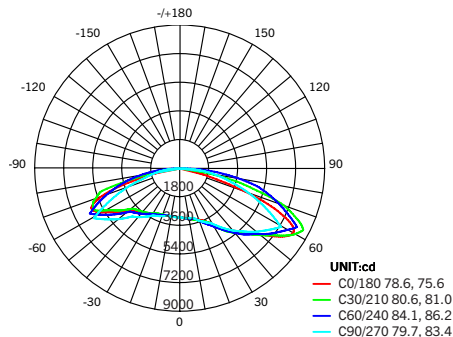
POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

PHOTOMETRIC SPECIFICATIONS (TYPE V [5])

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION



EPA SPECIFICATIONS

LARGE-SIZE FIXTURE HOUSING

- Conditions: Horizontal winds only for calculations. Worst case total projected area used for calculations.
- All drag coefficients are set as worst case 1.2.
- For details on exact EPA calculations and assumptions, please contact productsupport@keystonetech.com

EPA Calcs (1.2*ft ² View)		Single Fixture	2 Fixtures at 90°	2 Fixtures at 180°	3 Fixtures at 90°	3 Fixtures at 120°	4 Fixtures at 90°	2 Fixtures Side-by-Side	3 Fixtures Side-by-Side	4 Fixtures Side-by-Side
Mounting Application	Fixture Position									
Adjustable Pole Mount 	Horizontal	0.62 sq. ft.	0.90 sq. ft.	1.24 sq. ft.	1.42 sq. ft.	1.48 sq. ft.	1.42 sq. ft.	0.74 sq. ft.	1.11 sq. ft.	1.48 sq. ft.
	45°	1.85 sq. ft.	2.43 sq. ft.	1.85 sq. ft.	3.01 sq. ft.	4.42 sq. ft.	3.01 sq. ft.	3.70 sq. ft.	5.55 sq. ft.	7.40 sq. ft.

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

ACCESSORIES (SOLD SEPARATELY)

SENSORS

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/MW3	KTS-MW3-12V-PKO	12V Microwave Occupancy Sensor	843654130637	TRM-32
	/FC3	KTSL-FC3-12V-PKO-PIR	Bluetooth mesh wireless Smart Port LED controller for SmartLoop system with integrated daylight and PIR motion sensor.	843654138862	OCW-60
	/FC4	KTSL-FC4-12V-PKO	Bluetooth mesh wireless screw-in low voltage fixture controller for SmartLoop system	843654149066	RUN-10



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).

Field-Installable / Field-Use ONLY (purchased separately)

CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KTS-MW3-REMOTECONTROL	Remote Control for KTS-MW3-12V-XX Sensors, Sets/adjusts all sensor performance parameters	843654132020	XSR-61



LENSES

Field-Installable / Field-Use ONLY (purchased separately)

CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KT-ALED-LENS-L2-2CS-KIT	Type II Optics Lens for Color Select, Large Size Housing, Series 2 Area Lights	843654153858	HXC-12



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).



KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

POLE-MOUNT LED AREA LIGHT PREMIUM PACKAGE

ACCESSORIES CONTINUED (SOLD SEPARATELY)

MOUNTS AND BRACKETS

Field-Installable / Field-Use **ONLY** (purchased separately)

CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
KT-ALED-GS-L2-KIT	Reversible Glare Shield for Large Size Housing, Series 2 Area Lights, Bronze	843654153810	RDW-18



* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).

ORDERING INFORMATION

ORDER CODE	PACK QTY.	UPC	Easy Code
KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P	1	843654153124	LWD-80

CATALOG NUMBER BREAKDOWN

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Keystone Technologies	2 Fixture Type	3 LED Technology	4 Max Wattage	5 Power Select	6 Size/Shape	7 Style/Design Designation	8 Optic Swap	9 Optic Swap Designation	10 Pole Mount Adjustable	11 80 CRI	12 Color Select	13 Color Select Designation	14 0-10V Dimming	15 Stock Package

9 Optic Swap Designation	B Type III lens installed, Type IV and V lens included
13 Color Select Designation	B 3000/4000/5000K

ORDERING EXAMPLES

FIXTURE WITH SINGLE FACTORY-INSTALLED ACCESSORY

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P /7PRS

KEYSTONE FIXTURE
CATALOG NUMBER
KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

FIXTURE WITH NO FACTORY-INSTALLED ACCESSORIES

KT-ALED290PS-L2-OSB-PMA-8CSB-VDIM-P

SENSORS	
SUFFIX	CATALOG NUMBER
✓ /7PRS	KT-RSC-7PN

* When ordering more than one factory-installed accessory, use multiple suffixes as shown in the ordering examples above.
 Note: All accessories can also be ordered separately for field installation using just their regular Catalog Number, UPC, or Easy Code.



KT-WPLED60-M2-8XX-VDIM

ARCHITECTURAL FULL-CUTOFF LED WALL PACK

DESCRIPTION

Architectural 60W Full-Cutoff LED Wall Pack | 120–277V Input |
4000–5000K | Medium Housing | Bronze Finish | Wide Optic Lens

APPLICATION

Building mount for exterior illumination (perimeters, pathways,
loading docks, and other general security lighting requirements)



10 YEAR
LIMITED WARRANTY

PRODUCT FEATURES

- Architectural full cutoff design that improves building appearance and optimizes functional light distribution
- Heavy duty die cast aluminum housing with (5) 1/2" threaded conduit hubs: (1) on back and (1) on all four sides
- Powered by Keystone 0–10V dimming LED drivers
- Dark Sky friendly performance that eliminates undesirable sky glow and glare
- Features one translucent 3/4" threaded plug with anti-yellowing agent for use with photocell accessory KT-WPLED-PS-UV-KO, sold separately
- Precision-crafted optical lens that provides wide distribution pattern ideal for increased fixture spacing and uniformity
- Covers footprint of mid-size HID wallpacks
- Ambient operating temperature: –40°C/–40°F to 50°C/122°F
- UL Certified for wet locations; IP65 rated
- Fixture impact rating IK08
- Power Factor: >0.95
- THD: <20%
- LED chip lifetime: L70 >100,000 hrs @ 25°C/77°F ambient fixture temperature
- Meets FCC Part 15, Part B, Class A standards for conducted and radiated emissions
- **Compatible with Keystone LED Emergency Backups. See Accessories page for more details**

PRODUCT SPECIFICATIONS

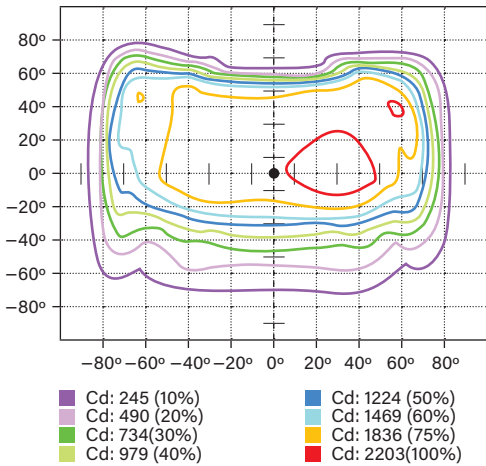
Catalog Number	Wattage	Lumens	Lumens Below 90°	Dimming	CCT	Efficacy	CRI	Housing Color	Input Voltage	Rated Life	Legacy Equivalent
KT-WPLED60-M2-840-VDIM	60W	7500	7445	0–10V	4000K	125 lm/W	>80	Bronze	120–277V	50,000 hrs	250W MH
KT-WPLED60-M2-850-VDIM		7800	7745		5000K	130 lm/W					

KT-WPLED60-M2-8XX-VDIM

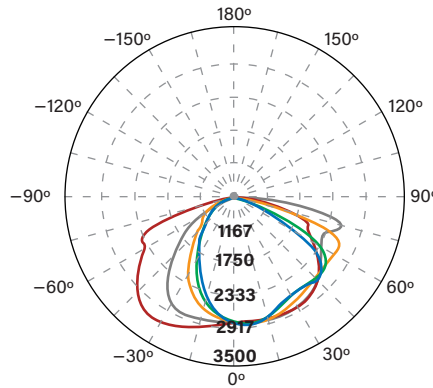
ARCHITECTURAL FULL-CUTOFF LED WALL PACK

PHOTOMETRIC SPECIFICATIONS

ISOCANDELA PLOT



LUMINOUS INTENSITY DISTRIBUTION



Average diffuse angle (50%): **114.2°**

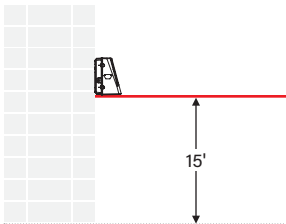
- 1 Blue - 0° H
- 2 Red - 90° H
- 3 Green - 22.5° H
- 4 Orange - 45° H
- 5 Grey - 67.5° H

FLUX DISTRIBUTION

Zone	Lumens	% Luminaire
Forward Light	4,722 lm	65.0%
0°-30°	907 lm	12.5%
30°-60°	2,329 lm	32.0%
60°-80°	1,327 lm	18.3%
80°-90°	159 lm	2.2%
Back Light	2,520 lm	34.6%
0°-30°	772 lm	10.6%
30°-60°	1,249 lm	17.2%
60°-80°	454 lm	6.2%
80°-90°	45 lm	0.6%
Up Light	25 lm	0.4%
90°-100°	4 lm	0.1%
100°-180°	21 lm	0.3%

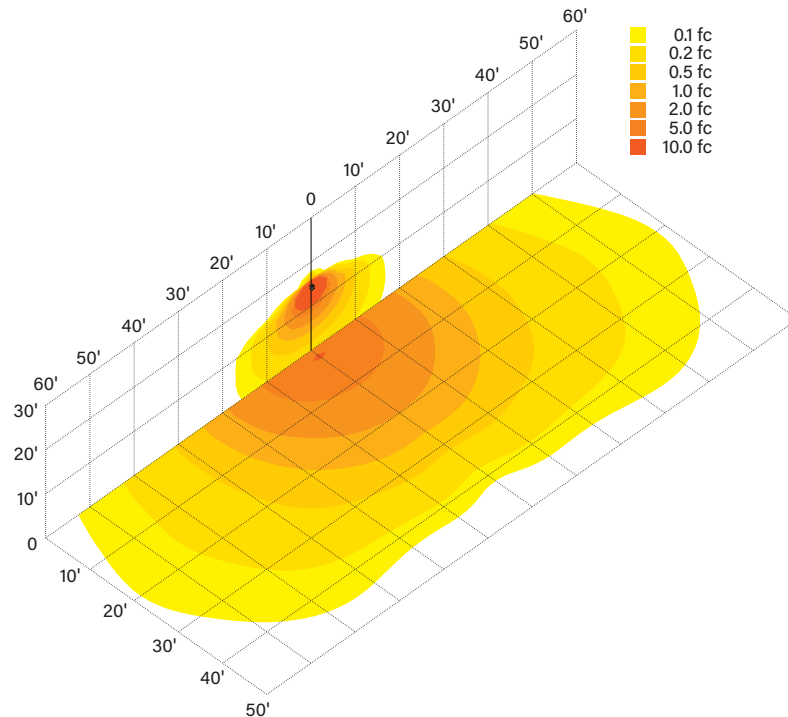
MOUNTING

Side view



LIGHT DISTRIBUTION PATTERN

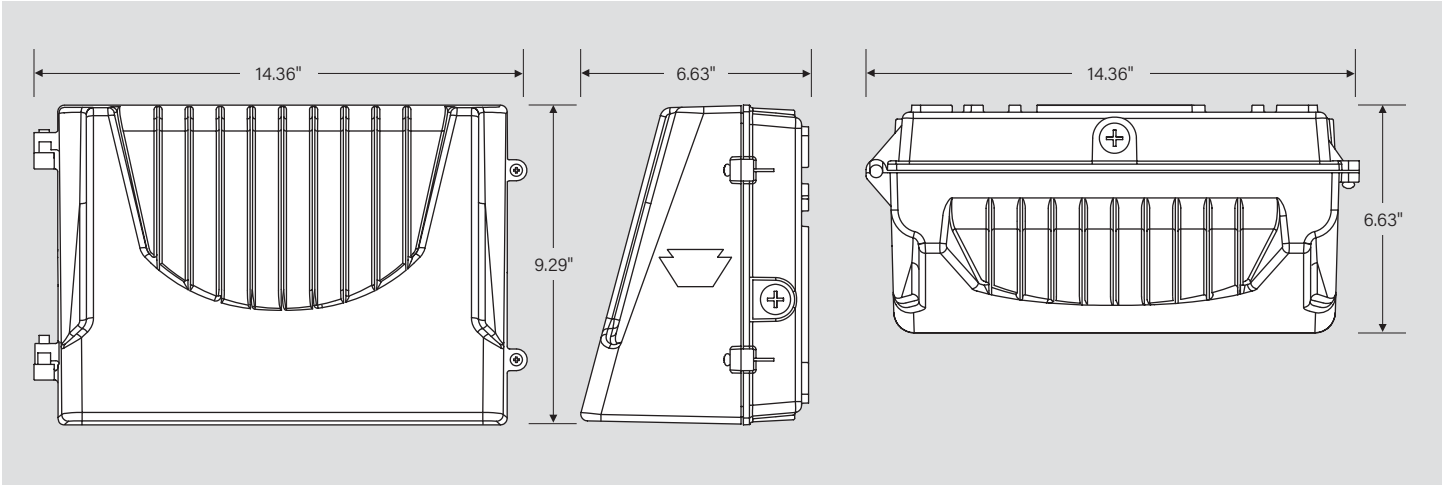
Isometric view from above; Luminaire mounted at 15'



KT-WPLED60-M2-8XX-VDIM

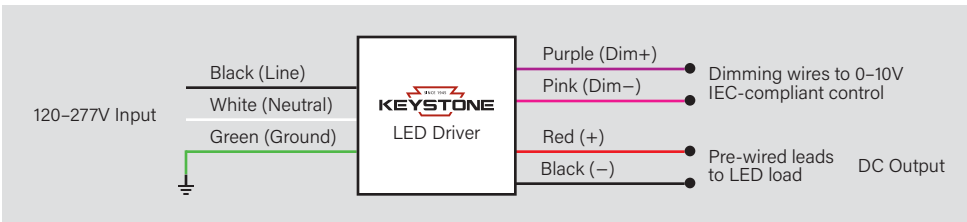
ARCHITECTURAL FULL-CUTOFF LED WALL PACK

PHYSICAL SPECIFICATIONS



GENERAL SETUP INSTRUCTIONS

GENERAL WIRING DIAGRAM



Caution: Before installing, make certain that AC power to the fixture is off.

Caution: The electrical rating of this product is 120-277V. Installer must confirm that there is 120-277V at the fixture before installation.

KT-WPLED60-M2-8XX-VDIM

ARCHITECTURAL FULL-CUTOFF LED WALL PACK

ACCESSORIES

SENSORS

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/MW3	KTS-MW3-UV-KO-K1	Microwave Sensor Kit, Includes 120-277V input to 12V DC convertor & 12V input sensor head, IP65. Bi-Level Control with Adjustable Hold Time, Dim Level and Standby Time. Installs via standard 1/2in KO	843654134147	BKG-51
	/PS	KT-WPLED-PS-UV-KO	Dawn to Dusk Photocell for WallPack fixtures. Fits M1, M2, L1 housings. 120-277V Input. Install via standard 1/2in KO	843654129198	DLU-58



** For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).*

CORD SETS

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/515P6	KT-CS-515P-6-18/3	Cord set for high bay; 125V NEMA 5-15P; straight blade plug; 6' SJTOW cable; 18/3 wire	843654140124	UKH-26
	/L515P6	KT-CS-L515P-6-16/3	Cord set for high bays; 250V NEMA L5-15P; twist lock plug; 6' SJTOW cable; 16/3 wire	843654140186	POC-82



** For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).
Note: For cord sets not listed here, please contact your Keystone sales rep.*

(Accessories continued on next page)

KT-WPLED60-M2-8XX-VDIM

ARCHITECTURAL FULL-CUTOFF LED WALL PACK

ACCESSORIES (continued)

EMERGENCY BACKUP

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/EM12	KT-EMRG-LED-12C-1200	LED Emergency Back-Up, 12W Constant Wattage Design. Approx 1200 Lumens. 120-277V Input. Remote Compact Battery Pack. CEC T20 Compliant.	843654103112	OJQ-32
	-	KT-EMRG-LED2-TS-IP65	IP65 Rated Wet Location Test Switch for 5W and 12W CEC Compliant LED Emergency Packs	843654130019	MDB-29



12W, 1200 lumen Battery Backup
KT-EMRG-LED-12C-1200



Wet Location Test Switch
KT-EMRG-LED2-TS-IP65

* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).
† Factory installation of emergency backup units will automatically include any relevant mounting bracket.

MOUNTS AND BRACKETS

Field-Installable / Field-Use ONLY (purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	-	KT-WPLED-BP-M	Back Plate for Medium Size Wallpacks, Covers Legacy Style Large HID Housing Dimensions. Standard Bronze Color.	843654130613	CCJ-21



Back Plate
KT-WPLED-BP-M

* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).
Note: This is needed with EM - will be added when factory installing EM

SURGE PROTECTORS

Factory-Installable OR Field-Installable (field-installable purchased separately)

✓	SUFFIX*	CATALOG NUMBER	DESCRIPTION	UPC	EASY CODE
	/10KV	KTSP-10KV-C	External Surge Protector, compact design. Parallel Wiring, 120-277V Input, Max Peak Protection (10KV, 10KA)	843654129204	BUU-26



External Surge Protector
KTSP-10KV-C

* For factory installation of accessory, add suffix to fixture part number (see ordering examples and instructions on last page of spec sheet).



KT-WPLED60-M2-8XX-VDIM

ARCHITECTURAL FULL-CUTOFF LED WALL PACK

ORDERING INFORMATION

CATALOG NUMBER	PACK QTY.	UPC	EASY CODE	DLC PRODUCT ID
KT-WPLED60-M2-840-VDIM	1	843654129075	VMR-18	PIKA3HFT
KT-WPLED60-M2-850-VDIM	1	843654129082	OYW-93	PPT7NCOK

CATALOG NUMBER BREAKDOWN

KT-WPLED60-M2-8XX-VDIM

1	2	3	4	5	6	7	8	9	10
1 Keystone Technologies	2 Fixture Type	3 LED Lamp	4 Max Wattage	5 Size	6 Style	7 CRI	8 CCT	9 Dimming	10 Additional Options
	WP Wallpack			M Medium	2 Full-Cutoff	8 >80	40 4000K	VDIM 0-10V	
							50 5000K		

ORDERING EXAMPLES

FIXTURE WITH MULTIPLE FACTORY-INSTALLED ACCESSORIES*

KT-WPLED60-M2-8XX-VDIM /MW3/515P6/EM12

FIXTURE WITH SINGLE FACTORY-INSTALLED ACCESSORY

KT-WPLED60-M2-8XX-VDIM /MW3

FIXTURE WITH NO FACTORY-INSTALLED ACCESSORIES

KT-WPLED60-M2-8XX-VDIM

KEYSTONE FIXTURE

CATALOG NUMBER
KT-WPLED60-M2-8XX-VDIM

SENSORS

✓ SUFFIX	CATALOG NUMBER
✓ /MW3	KTS-MW3-UV-KO-K1

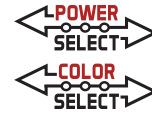
CORD SETS

✓ SUFFIX	CATALOG NUMBER
✓ /515P6	KT-CS-515P-6-18/3

EMERGENCY BACKUP

✓ SUFFIX	CATALOG NUMBER
✓ /EM12	KT-EMRG-LED-12C-1200

* When ordering more than one factory-installed accessory, use multiple suffixes as shown in the ordering examples above.
 Note: All accessories can also be ordered separately for field installation using just their regular Catalog Number, UPC, or Easy Code.



KT-RDLED18PS-6A-9CSE-VDIM

6" RECESSED DOWNLIGHT

DESCRIPTION

6" Recessed Downlight | Power Select Technology | Color Select Technology | Internal Driver and Integral Whip

APPLICATION

Ideal for hospitality, retail, office, and other retrofit and new construction applications



PRODUCT FEATURES

- Keystone Power Select and Color Select technologies offer SKU reduction and allow for easy, on-the-job adjustments
- Designed with integral whip to connect directly to a junction box; Ideal for installation into existing CFL pin-based fixture infrastructure
- Integral driver eliminates the need for a traditional multi-piece fixture setup
- Ideal for new construction, remodel, and retrofit applications
- Smooth reflector trim offers clean, modern appearance
- Diffused lens reduces glare
- Interchangeable trims available in matte black, brushed nickel, and bronze
- Powered by Keystone 0–10V dimming LED driver; 10–100% dimming
- Ambient operating temperature: –20°C/–4°F to 40°C/104°F
- Suitable for use in wet locations
- Airtight and Type IC-rated
- Power factor: >0.90
- THD: <20%
- LED chip lifetime: L70 >80,000 hrs @ 25°C/77°F ambient fixture temp
- FCC Part 15, Subpart B, Class B
- CEC Compliant Flicker Rate (CEC JA10 std.)

PERFORMANCE SPECIFICATIONS

Catalog Number	Input Voltage	Wattage (Selectable)	CCT (Selectable)*	Lumen Output	Efficacy	CRI	Power Factor	Lifetime
KT-RDLED18PS-6A-9CSE-VDIM	120–277V	18.5W	3000K	1450	78 lm/W	>90	>0.9	50,000 hrs
			3500K	1550	84 lm/W			
			4000K	1500	81 lm/W			
		13W	3000K	1000	77 lm/W			
			3500K	1100	85 lm/W			
			4000K	1050	81 lm/W			
		9W	3000K	700	78 lm/W			
			3500K	750	83 lm/W			
			4000K	725	81 lm/W			

* Preset to highest CCT: 4000K
Color Uniformity: CCT (Correlated Color Temperature) range as per guidelines outlined in ANSI C78.377-2017

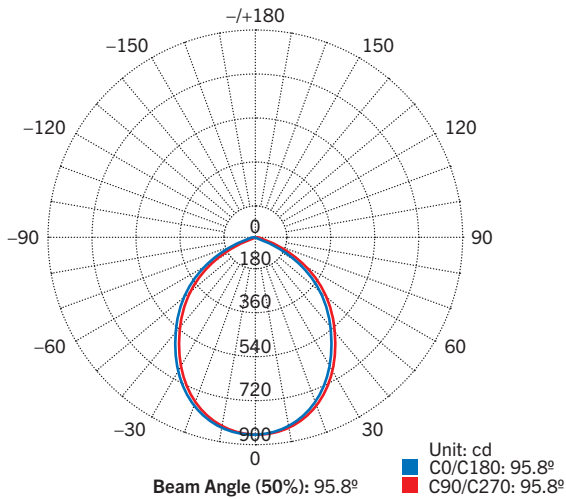


KT-RDLED18PS-6A-9CSE-VDIM

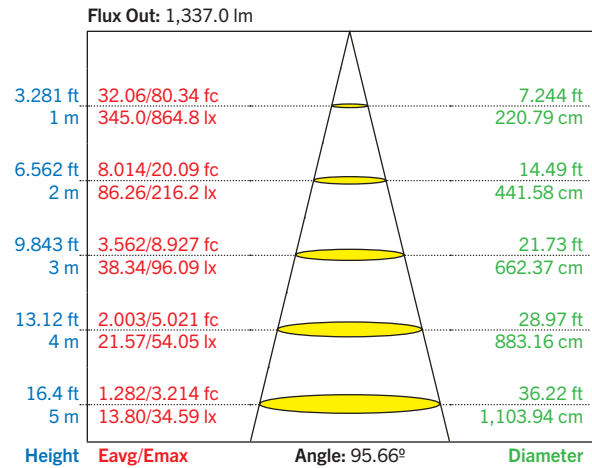
6" RECESSED DOWNLIGHT

PHOTOMETRIC SPECIFICATIONS*

POLAR CANDELA DISTRIBUTION

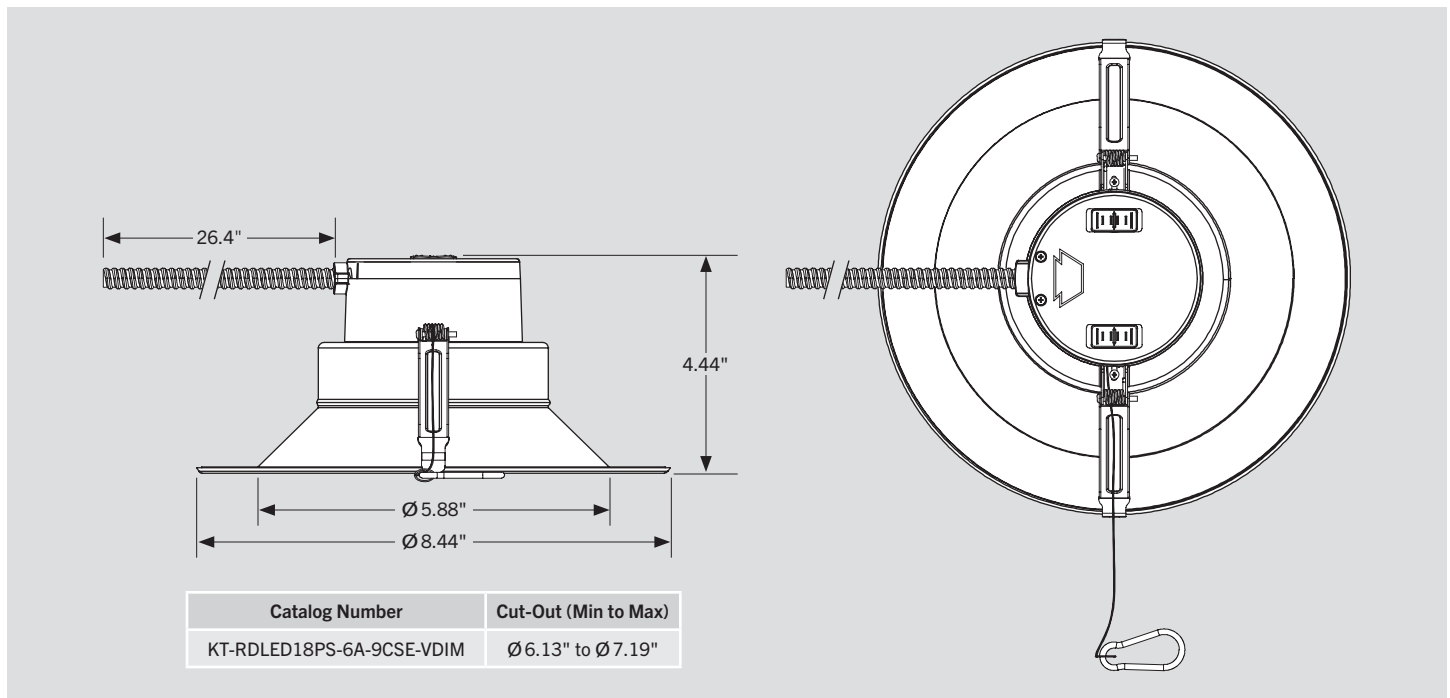


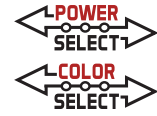
LUX DISTANCE CURVE



* Tested at 18.5W and 3000K

PHYSICAL SPECIFICATIONS





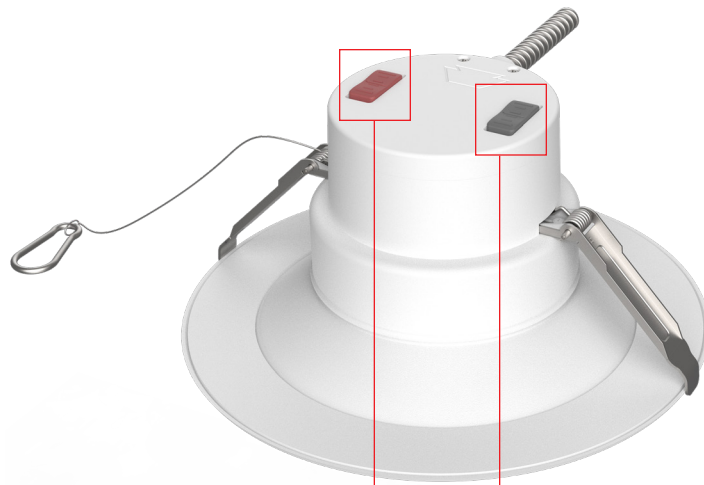
KT-RDLED18PS-6A-9CSE-VDIM

6" RECESSED DOWNLIGHT

POWER SELECT (WATTAGE) AND COLOR SELECT (CCT) ADJUSTMENT

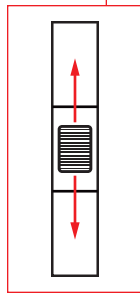
This fixture is equipped with field-adjustable Keystone Power Select and Color Select technology.

1. Ensure power is off to the fixture.
2. Adjust dip switches to desired settings.



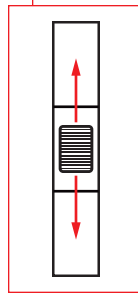
COLOR SELECT ADJUSTMENT SWITCH

Set dip switch to adjust CCT between 3000K, 3500K, and 4000K. Fixture comes preset at 4000K.

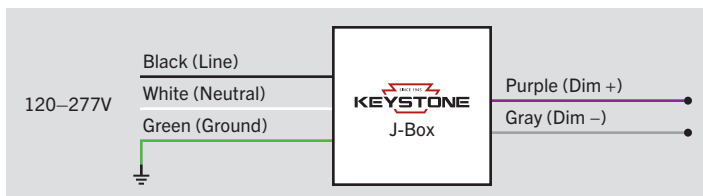


POWER SELECT ADJUSTMENT SWITCH

Set dip switch to adjust wattage between 9W, 13W, and 18.5W. Fixture comes preset at 18.5W.



WIRING DIAGRAM





ADVANTA



KT-RDLED18PS-6A-9CSE-VDIM 6" RECESSED DOWNLIGHT

INSTALLATION INSTRUCTIONS

RETROFIT INSTALLATION

- 1. Shut off power at the source of the fixture housing into which you are installing fixture.**

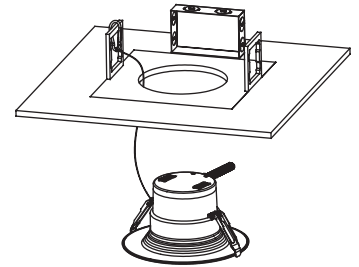
Remove existing trim and CFL or incandescent bulb.

Note: Follow all federal and local regulations when disposing of lamps and removed components.

- 2. Measure ceiling opening to ensure that the edge of the luminaire will cover the entire opening and still sit firmly in the ceiling (see *Physical Specifications* on page 2).**

- 3. Select desired Wattage and CCT using adjustment switches on fixture (see *Power Select (Wattage) and Color Select (CCT) Adjustment* on page 3).**

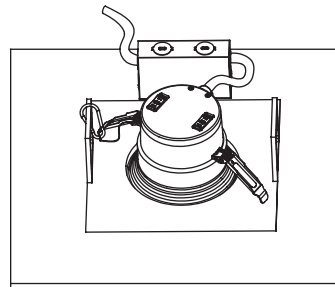
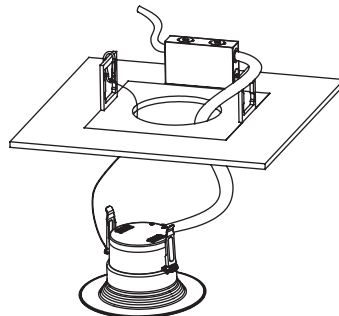
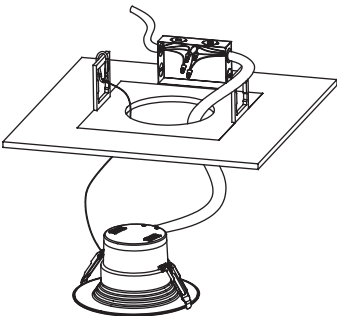
- 4. Attach carabiner safety clip to the existing fixture housing.**



- 5. Insert lamp conduit into J-box and wire to power source (see *Wiring Diagram* on page 3). Reattach J-box cover when done.**

- 6. Squeeze the two housing clips so they are in an upright position and then insert lamp into housing.**

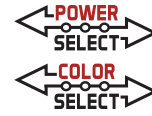
- 7. Once lamp is inside housing, release housing clips and continue to push lamp into housing until securely fixed and flush with ceiling. Restore power.**



(Installation Instructions continued on next page)



ADVANTA

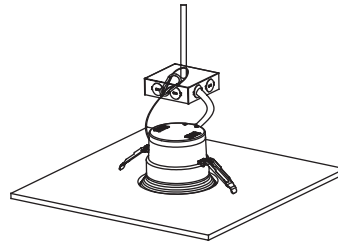
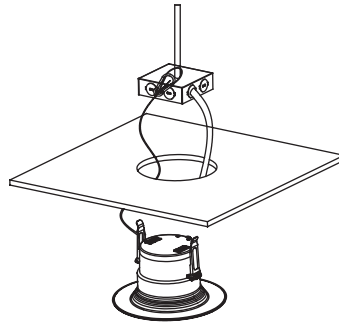
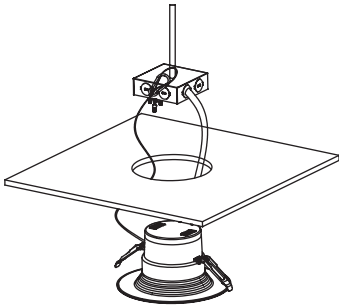
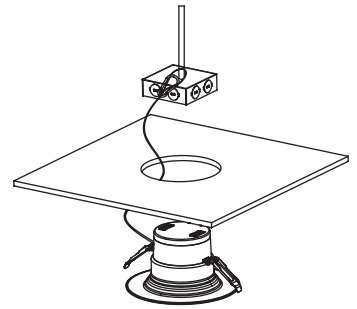


KT-RDLED18PS-6A-9CSE-VDIM 6" RECESSED DOWNLIGHT

INSTALLATION INSTRUCTIONS (continued)

NEW-CONSTRUCTION INSTALLATION*

- 1. Shut off power at the source of the fixture housing into which you are installing fixture.**
- 2. Create ceiling opening to ensure that the edge of the luminaire will cover the entire opening and still sit firmly in the ceiling (see *Physical Specifications* on page 2).**
- 3. Select desired Wattage and CCT using adjustment switches on fixture (see *Power Select (Wattage) and Color Select (CCT) Adjustment* on page 3).**
- 4. Attach carabiner safety clip to secure location in ceiling.**
- 5. Insert lamp conduit into J-box and wire to power source (see *Wiring Diagram* on page 3). Reattach J-box cover when done.**
- 6. Squeeze the two housing clips so they are in an upright position and then insert lamp into opening.**
- 7. Once lamp is inside opening, release housing clips and continue to push lamp into opening until securely fixed and flush with ceiling. Restore power.**



* Keystone offers optional New Construction Plate (KT-RDLED-PLATE-1) for both new joist and T-grid installations. See Optional Accessories (sold separately) on page 6.



ADVANTA



KT-RDLED18PS-6A-9CSE-VDIM 6" RECESSED DOWNLIGHT

OPTIONAL ACCESSORIES (sold separately)

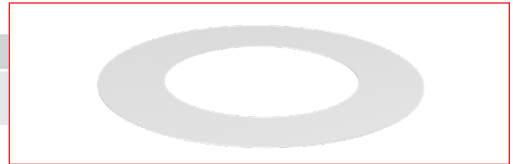
INTERCHANGEABLE TRIM

Catalog Number	Description	UPC	Easy Code
KT-RDLED-6A-MB-TRIM	6" Interchangeable trim for 6" recessed downlights; Matte black	843654137155	TCP-85
KT-RDLED-6A-BN-TRIM	6" Interchangeable trim for 6" recessed downlights; Brushed nickel	843654137186	CZZ-70
KT-RDLED-6A-BR-TRIM	6" Interchangeable trim for 6" recessed downlights; Bronze	843654137216	CUN-05



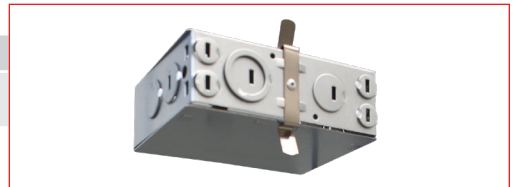
GOOF RING

Catalog Number	Description	UPC	Easy Code
KT-RDLED-6A-GOOF	6" Goof ring for 6" recessed downlights; 10.51" outer diameter	843654137247	LFJ-16



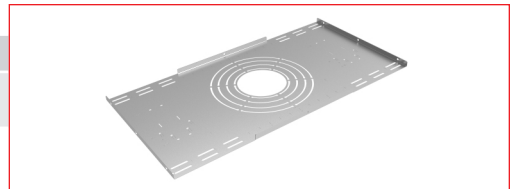
JUNCTION BOX

Catalog Number	Description	UPC	Easy Code
KT-RDLED-JBOX-1-KIT	Junction box for recessed downlights	843654137278	HJA-70



NEW-CONSTRUCTION PLATE

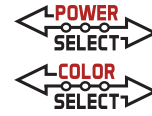
Catalog Number	Description	UPC	Easy Code
KT-RDLED-PLATE-1	New-construction plate for recessed downlights	843654137285	BMS-81



EMERGENCY PACK

Catalog Number	Description	UPC	Easy Code
KT-EMRG-LED-12-1200-AC/DF	LED Emergency Backup, 12W - 1200 Lumen Constant Power Design. 120-277V Input. Dual Flex Cable Design. Installs on Primary Side of AC Powered LED load.	843654139890	MPM-43





KT-RDLED18PS-6A-9CSE-VDIM

6" RECESSED DOWNLIGHT

ORDERING INFORMATION

Catalog Number	Pack Qty.	UPC	Easy Code
KT-RDLED18PS-6A-9CSE-VDIM	1	843654137117	EIK-33

CATALOG NUMBER BREAKDOWN

KT-RDLED18PS-6A-9CSE-VDIM

1
2
3
4
5
6
7
8
9
10
11

- 1** Keystone Technologies
- 2** Fixture Type

RD	Recessed Downlight
----	--------------------
- 3** LED Technology
- 4** Maximum Wattage
- 5** Power Select Technology
- 6** Size

6	6" Nominal
---	------------
- 7** Style/Design Designation

A	Series A
---	----------
- 8** CRI

9	90
---	----
- 10** Color Select Designation

E	3000K, 3500K, 4000K
---	---------------------
- 11** Dimming

VDIM	0-10V Dimming
------	---------------



KT-SP-XSQ-XX-XXG-UNV-K1

SQUARE STRAIGHT STEEL POLE

DESCRIPTION

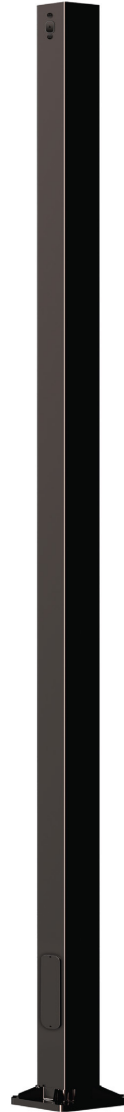
The Keystone Square Pole Kits are designed for top or side mounted luminaries, with a new universal drill pattern on all four sides of the pole. Polycarbonate black plugs are included to cover all unused holes (12 total). Kits are stocked in 15', 17', 20', 25' and 30' lengths in a dark bronze finish. Pole kit includes pole, pole cap, base plate cover, hand-hole cover, anchor bolts and anchor bolt template.

CONSTRUCTION

- High grade steel exceeds ASTM A597 Grade C (IS 2062 E350) with minimum yield strength of 55,000 PSI
- Base plates constructed of high strength ASTM A36 steel with 36,000 PSI minimum yield strength
- Galvanized high strength ASTM A36 anchor bolts with 55,000 PSI minimum yield strength
- Poles have a standard bronze polyester powder coat finish over a base layer of zinc primer (custom finishes available, consult factory)
- Pre-drilled universal hole pattern on all four sides for flexible luminaire attachment (accommodates 2"-3" on-center hole patterns)

INSTALLATION

- Pole includes spring-loaded polycarbonate pole cap, easily secured 2-piece base plate cover, reinforced cast-iron hand hole cover with ground screw, anchor bolts and bolt circle template
- 12 Plugs provided to seal unused drill holes at top of pole



PERFORMANCE SPECIFICATIONS

Catalog Number	Height	Nominal Shaft Dimensions	Wall Thickness	Bolt Circle	Bolt Circle (Range)	Bolt Square (Range)	Base Plate Square	Anchor Bolt Size	Bolt Projection	Pole Weight
KT-SP-4SQ-15-11G-UNV-K1	15 ft.	4"	0.119"	9"	8" – 11"	5.66" – 7.78"	10.5"	3/4" x 30" x 4"	3.5"	127 lbs
KT-SP-4SQ-17-11G-UNV-K1	17 ft.	4"	0.119"	9"	8" – 11"	5.66" – 7.78"	10.5"	3/4" x 30" x 4"	3.5"	139 lbs
KT-SP-4SQ-20-11G-UNV-K1	20 ft.	4"	0.119"	9"	8" – 11"	5.66" – 7.78"	10.5"	3/4" x 30" x 4"	3.5"	157 lbs
KT-SP-4SQ-25-11G-UNV-K1	25 ft.	4"	0.119"	9"	8" – 11"	5.66" – 7.78"	10.5"	3/4" x 30" x 4"	3.5"	188 lbs
KT-SP-5SQ-30-11G-UNV-K1	30 ft.	5"	0.119"	11"	10.5" – 12"	7.47" – 8.63"	11"	3/4" x 30" x 4"	3.5"	275 lbs
KT-SP-5SQ-30-7G-UNV-K1	30 ft.	5"	0.179"	11"	10.5" – 12"	7.47" – 8.63"	11"	3/4" x 30" x 4"	3.5"	386 lbs

* KT-ABOLT-K1 – Set of 4, 3/4" x 30" (included with pole)

* KT-ABOLT-K2 – Set of 4, 1" x 36"



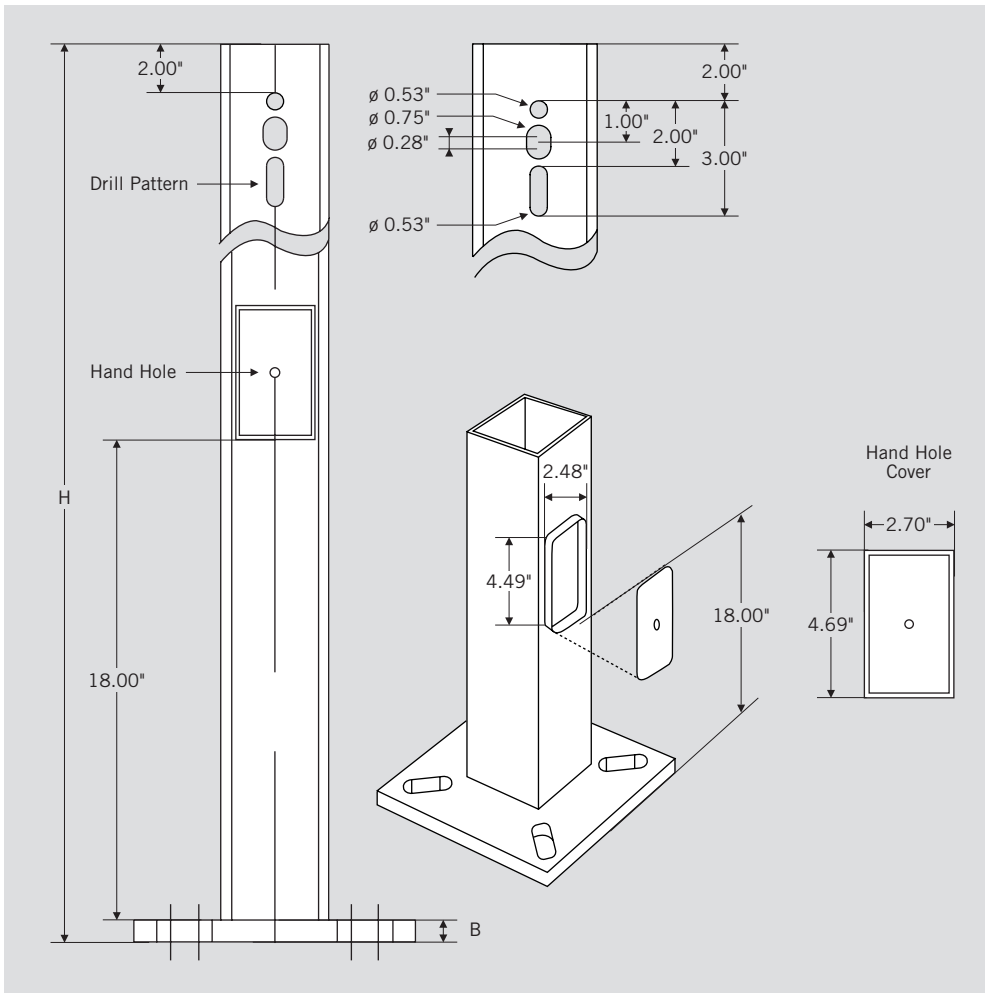
KT-SP-XSQ-XX-XXG-UNV-K1

SQUARE STRAIGHT STEEL POLE

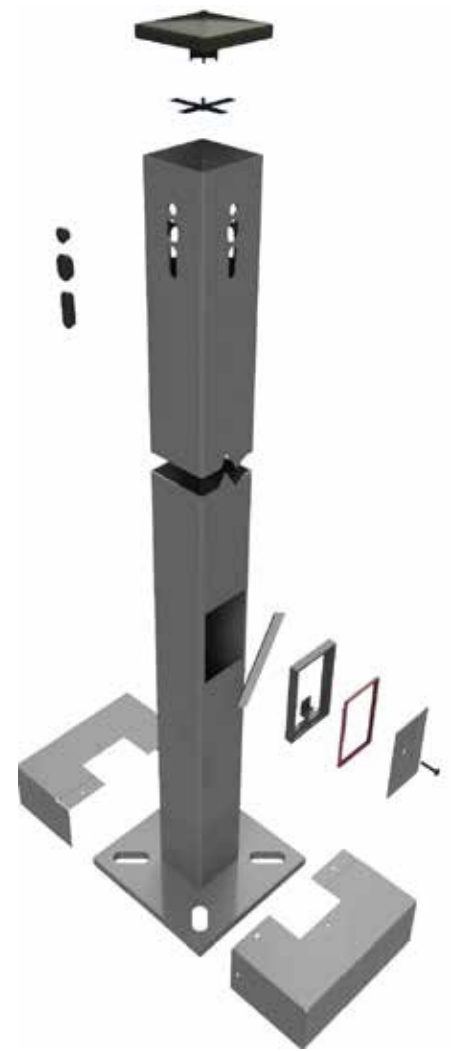
INCLUDED ACCESSORIES

ANCHOR BOLTS JB3044 (Set of 4, 3/4" x 30")	BASE PLATE COVER	POLE CAP (Black)	HAND HOLE COVER	TEMPLATE	PLUGS (12 total)

PHYSICAL SPECIFICATIONS



EXPLODED VIEW



DIMENSIONS

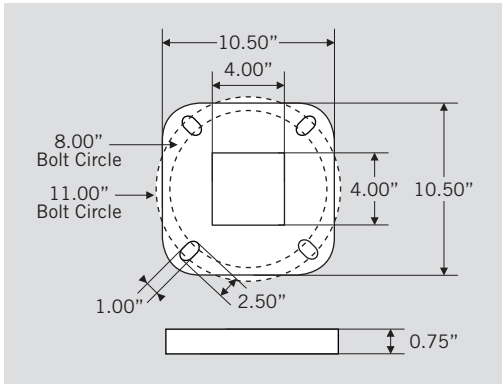
H	B
15' - 25'	0.75"
30'	1"

KT-SP-XSQ-XX-XXG-UNV-K1

SQUARE STRAIGHT STEEL POLE

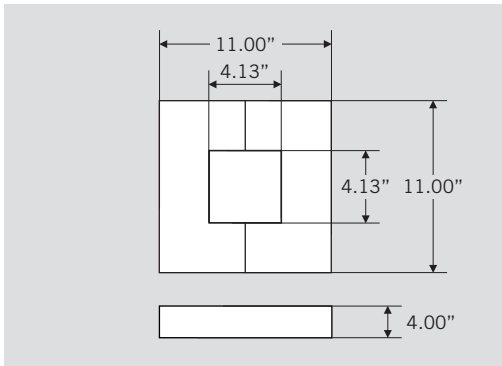
4" X 4" POLE SHAFT DIMENSIONS

BASE PLATE

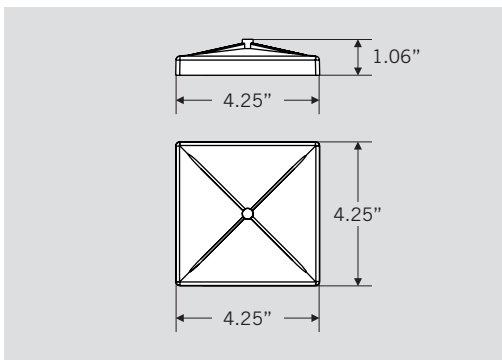


BASE PLATE COVER

(INCLUDED; PACKAGED SEPARATELY)

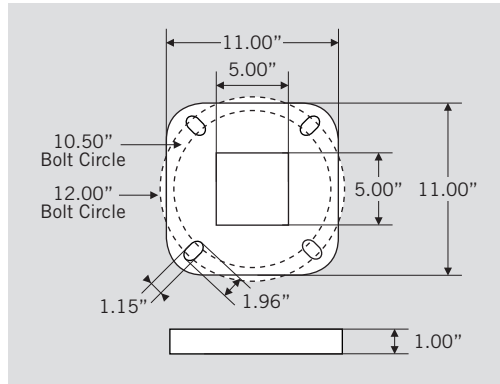


POLE CAP (INCLUDED)



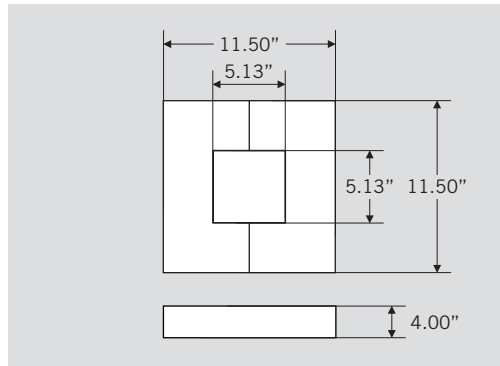
5" X 5" POLE SHAFT DIMENSIONS

BASE PLATE

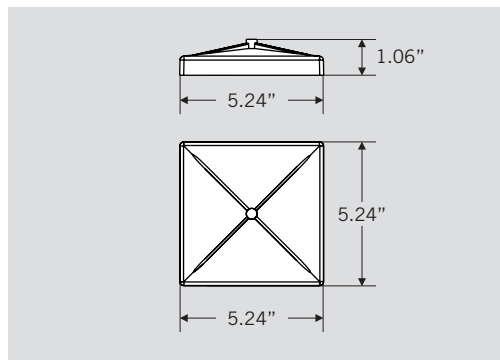


BASE PLATE COVER

(INCLUDED; PACKAGED SEPARATELY)



POLE CAP (INCLUDED)

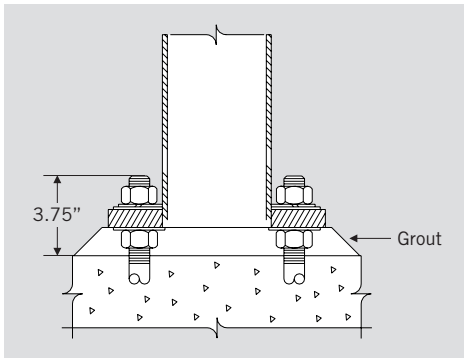




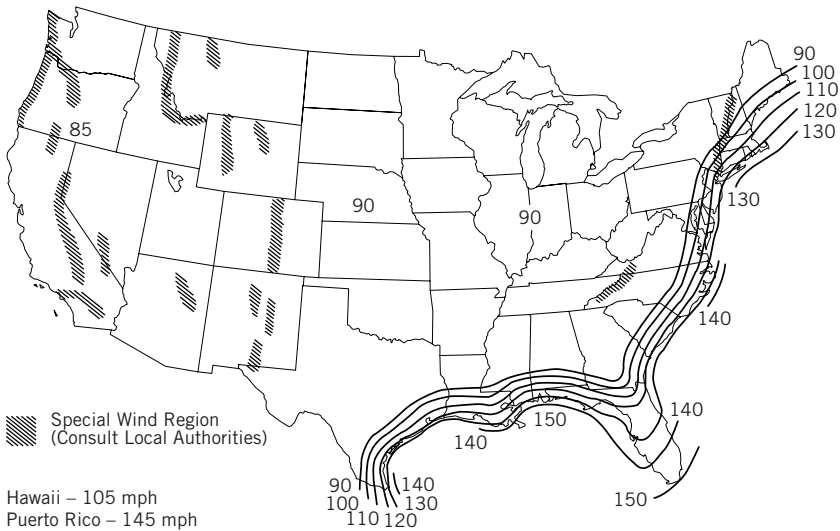
KT-SP-XSQ-XX-XXG-UNV-K1

SQUARE STRAIGHT STEEL POLE

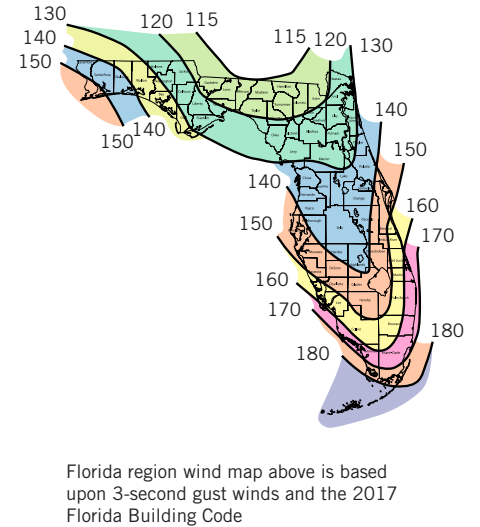
ANCHOR BOLTS
BOLT PROJ.



WIND MAP



FLORIDA REGION WIND MAP



DESIGN WIND SPEED (PER AASHTO LTS-6)

Catalog Number	Mounting Height (ft)	90 mph	100 mph	110 mph	120 mph	130 mph	Anchor Bolt	
		EPA (ft ²)	EPA (ft ²)	EPA (ft ²)	EPA (ft ²)	EPA (ft ²)	Diameter (in)	Length (in)
KT-SP-4SQ-15-11G-UNV-K1	15 ft.	12.3	9.8	8.5	7.0	4.9	0.75	30
KT-SP-4SQ-17-11G-UNV-K1	17 ft.	9.0	7.2	6.2	5.1	3.2	0.75	30
KT-SP-4SQ-20-11G-UNV-K1	20 ft.	7.3	5.9	5.0	4.2	2.9	0.75	30
KT-SP-4SQ-25-11G-UNV-K1	25 ft.	3.3	2.6	2.0	1.8	1.0	0.75	30
KT-SP-5SQ-30-11G-UNV-K1	30 ft.	3.4	2.7	2.1	1.7	0.7	0.75	30
KT-SP-5SQ-30-7G-UNV-K1	30 ft.	8.6	6.9	5.9	4.9	2.9	0.75	30



KT-SP-XSQ-XX-XXG-UNV-K1

SQUARE STRAIGHT STEEL POLE

WARNING

- Applications: Lighting installations for side and top mounting of luminaires with an effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location.
- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The Wind Maps are intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. The responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty.
- Wind speeds and listed EPAs are for ground-mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards.
- Wind induced vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings.
- Extreme wind events like hurricanes, typhoons, cyclones, or tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings. Due to our continued efforts to improve our products, product specifications are subject to change without notice.
- Factory supplied template must be used when setting anchor bolts. Keystone Technologies will deny any warranty claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.
- For the diameter and depth of concrete pads for anchor bolts, please consult a qualified engineer.

ORDERING INFORMATION

ORDER CODE	PACK QUANTITY	EASY CODE	UPC
KT-SP-XSQ-XX-XXG-UNV-K1	TBD	TBD	TBD

CATALOG NUMBER BREAKDOWN

KT-SP-XSQ-XX-XXG-UNV-K1

1 2 3 4 5 6 7 8

- 1 Keystone Technologies
- 2 Steel Pole
- 3 Size
- 4 Square Shape
- 5 Height
- 6 Wall Thickness
- 7 Drill Pattern: Universal Style
- 8 Kit Package Designation