



**LEBANON PLANNING BOARD
MAY 13, 2024 - 6:30 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE**

1. Call to Order

- A. To participate in this meeting, please [join live via Microsoft Teams](#) or call 929-229-5356 (access code: 136 734 230#). If you have trouble accessing this meeting, please [email tim.corwin@lebanonnh.gov](mailto:tim.corwin@lebanonnh.gov).

2. Notice of Regional Impact

3. Public Hearing Items

- A. **Dartmouth Hitchcock Medical Center, 1 Medical Center Drive (Tax Map 10, Lot 8), zoned MC:** Applicant requests a Site Plan amendment to expand and reconfigure four existing parking lots and to widen a driveway, together with associated site improvements. **PB2024-12-SPA**
- B. **Adimab, LLC, 7 Lucent Drive (Tax Map 10, Lot 11, Plot 2600), zoned IND-L:** Pursuant to Section 9.1 of the Site Plan Review Regulations, applicant requests a modification to a previously approved Site Plan (PB2020-14-SPR) to change the parking lot surface material, to reduce the tree shading required, and to amend the approved landscaping and lighting plans. **PB2024-10-SPA**
- C. **The Notch Climbing Real Estate, LLC & Chaloux Properties, LLC, 33 & 25 Labombard Road (Tax Map 51, Lot 15, and Tax Map 64, Lot 25), zoned IND-L:** Request for approval of a Boundary Line Adjustment. **PB2024-17-BLA**
- D. **CP Centerra LLC, 12 Centerra Parkway (Tax Map 10, Lots 11, Plot 100), zoned IND-L:** Pursuant to Section 9.1 of the Site Plan Review Regulations, applicant requests a modification to a previously approved site plan (PB2022-45-SPR) for a restaurant with a drive through together with associated site improvements. Applicant proposes changes to the site circulation, parking, landscaping, and utilities. **PB2024-18-SPA**

4. Other Business

- A. **Choice Storage, LLC, 0 Etna Road, (Tax Map 26, Lot 17), zoned IND-L, RL-3:** Conceptual review per Section 7.3 of the Subdivision Regulations, Section 4.3 of the Site Plan Regulations and Section 501.1.D of the Zoning Ordinance of a proposed Planned Business Park. **PB2024-20-CON**

5. Approval of Minutes

- A. April 15, 2024
B. April 22, 2024

6. Adjournment

The order of agenda items is subject to change.

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

CITY OF LEBANON
APPLICATION FOR

SPECIAL EXCEPTION	☐	☒	SITE PLAN REVIEW
VARIANCE	☐	☐	SUBDIVISION
MOTION FOR REHEARING	☐	☐	LOT LINE ADJUSTMENT
APPEAL OF AN ADMIN. DECISION	☐	☐	CONDITIONAL USE PERMIT

☐ OTHER _____**PROPERTY OWNER (APPLICANT):**

NAME: Mary Hitchcock Memorial Hospital TEL.#: 603-650-5741

MAILING ADDRESS: attn: David Stiger, One Medical Center Drive, Lebanon, NH 03756

E-MAIL ADDRESS: David.L.Stiger@hitchcock.org

CO-APPLICANT, AGENT, OR LESSEE:

NAME: Engineering Ventures, P.C. TEL.#: 603-442-9333

MAILING ADDRESS: attn: Nicholas Fiore, 85 Mechanic Street, Suite E2-3, Lebanon, NH 03766

E-MAIL ADDRESS: nikf@engineeringventures.com

PROJECT LOCATION:

TAX MAP #: 10 LOT#: 8 PLOT #: ZONE: MC

STREET ADDRESS OF PROJECT: One Medical Center Drive, Lebanon

IS THIS PROPERTY LOCATED IN THE: **WETLANDS** ☐ YES ☒ NO **HISTORIC DISTRICT** ☐ YES ☒ NO

FLOOD PLAIN ☐ YES ☒ NO

SCOPE OF PROJECT:

Minor expansions to existing parking lots.

TYPE OF OCCUPANCY:

EXISTING ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☒ COMMERCIAL ☐ INDUSTRIAL

PROPOSED ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☒ COMMERCIAL ☐ INDUSTRIAL

IF USE IS **COMMERCIAL** OR **INDUSTRIAL**, PLEASE NOTE **SPECIFIC**

USE: Medical center

SIGNATURE BLOCK:

FOR PLANNING BOARD APPLICATIONS ONLY: I, the undersigned, hereby submit this application on the date noted below with the knowledge and understanding that the Planning Board shall determine if the submitted application is complete according to its regulations at its next regularly scheduled meeting on _____, 20____, unless I personally request, in writing, that the Board delay its determination of completeness to a later date.

PROPERTY

OWNER:

David L Stiger

DATE: 3.7.2024

NOTE: IF, AS OWNER, YOU WISH TO DESIGNATE AN AGENT TO ACT ON YOUR BEHALF, PLEASE READ THE FOLLOWING AND SIGN BELOW: I hereby designate the person listed above as my agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by any official decision made on the basis of such representation.

PROPERTY

OWNER:

David L Stiger

DATE: 3.7.2024

DATE RECEIVED	FILE # (MAP/LOT)	APPLICATION #			
3/11/2024	10-8	PB2024-12-SPA			

April 30, 2024

City of Lebanon Planning Board
c/o Tim Corwin, Senior Planner and Zoning Administrator
51 North Park St
Lebanon, NH 03766

RE: Site Plan Review Application
DHMC Parking Lot Expansions
Tax Map 10 Lots 8

Dear Chair Faunce & the Lebanon Planning Board,

On behalf of Mary Hitchcock Memorial Hospital, Engineering Ventures, PC (EV) is pleased to submit the enclosed Site Plan Review application package for parking lot expansions to four (4) parking lots of the Dartmouth Hitchcock Medical Center campus. Three of the lot expansions will better meet staff parking needs, and the fourth will provide needed additional parking for the hospital's emergency department. Additionally, the project includes some widening of the driveway in the compressed natural gas (CNG) area to better accommodate access for the delivery vehicles.

Lot 2, near the north end of campus will be expanded in 3 locations and gain a total of 26 spaces.

Lot 4, south of Borwell Building, will receive a small addition of 6 parking spaces.

Lots 8, also south of Borwell Building, will be expanded to add 16 spaces.

The Emergency Department parking lot, Lot E, will be reconfigured somewhat and expanded. The existing lot will be widened by 2 feet, lengthened to add spaces, configured with angled parking, and made one way. The driveway will be reconfigured to remove a slip lane and reduce conflicting turning movements. An additional lot will be added east of the main driveway. In total, the parking area will expand from 28 existing spaces to 52.

Construction is slated to begin in June of this year. The hope is to have it completed this year as well, but it might not be completed until spring or summer of 2025, depending on contractor and materials availabilities.

We look forward to discussing this project with you at the staff review on Monday, May 13, 2024. Please let us know if you need any else in the meantime.

Best Regards,
ENGINEERING VENTURES, PC



Nicholas A. Fiore, PE
Vice President

Cc: Dave Stiger, DH

Enc: SPR Application Form, Checklist, Certified Notification List, & Waivers Application
Written Responses to Staff Comments
Full set of revised plans: 1 @ 24x36 and 6 @ 11x17
Drainage Analysis
Electric Vehicle Parking Memo (by DH)



City of Lebanon, New Hampshire APPLICATION FOR WAIVERS

Office Use Only

Date Received: _____

File No.: _____

PROJECT INFORMATION

Name of Applicant: Mary Hitchcock Memorial Hospital

Project Name: DHMC Parking Lot Expansions

Project Address: 1 Medical Center Drive, Lebanon, NH 03756

WAIVER REGULATIONS

In order to grant a Waiver from a requirement of the City of Lebanon Site Plan Review or Subdivision Regulations, the Planning Board must find that the Waiver is justified under one of the following criteria (See Article VII of the Site Plan Review Regulations and Section 7.15 of the Subdivision Regulations):

Criteria A. Strict conformity would pose an unnecessary hardship to the Applicant and waiver would not be contrary to the spirit and intent of the regulations;

OR

Criteria B. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

WAIVER REQUEST(S)

I (we) hereby request a Waiver from:

[You can respond in the space provided, or attach a separate statement. Please be prepared to address each request during your public hearing. You must show that you have justified granting the Waiver(s).]

5.1.E(5)

1. Section 5.1.E(5) of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because A topographic survey of the project sites was conducted for this project, but the site is such a small portion of the entire property that it would have been impractical to survey the whole property. A current boundary survey is on file with the City. The project will have no effect of any rights-of-way or easements on the property.
2. Section All of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because This project is limited to a relatively small portion of a large property. The Applicant request a general waiver from having to satisfy the Site Plan Review Regulations outside the portion of the property that is proposed to be redeveloped.

3. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____
4. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____
5. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____
6. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____
7. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____
8. Section ____ of the (circle one) **Site Plan Review / Subdivision Regulations**. A Waiver of this Section meets (circle one) **Criteria A / Criteria B** because _____
- _____
- _____

SIGNATURE

I (we) hereby submit this application to the Planning Board and attest that to the best of my (our) knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As the applicant or as the agent of the applicant, I attest that I am duly authorized to act in this capacity.

Signature of Applicant:  Date: 03/11/2024

CITY OF LEBANON, NH SITE PLAN REVIEW REGULATIONS TECHNICAL CHECKLIST	
PROJECT NAME: DHMC Parking Lot Expansions	
APPLICANT: Mary Hitchcock Memorial Hospital	DATE: 04/30/2024
GENERAL SUBMISSION REQUIREMENTS:	

All applications to the Planning Board for Site Plan Review must be submitted by 12:00 Noon on the day of the filing cutoff. [§4.7.B] Submissions must be accompanied by the following information or review of the application may be delayed:

A properly completed and signed Application Form *(available at www.lebanonnh.gov)*. [§5.1.A]

The appropriate filing fees. [§5.1.B]

A written project description. [§5.1.C]

A list of the names and mailing addresses of all persons to be notified, by certified mail, of the public hearing. [§5.1.D]

A completed and signed Application for Waivers *(available at www.lebanonnh.gov)* [§5.1.G.3]

A completed and signed Technical Checklist *(available at www.lebanonnh.gov)*. [§4.7.B]
[Applicants must complete the entire checklist to ensure that all necessary information and materials have been provided with the application or that written requests for waivers have been properly provided in accordance with Article VII of the Site Plan Review Regulations, as appropriate.]

Two (2) full-size sets of the Site Plan set. [§5.1.E]

A digital copy of the Site Plan set in .PDF format. [§5.1.F]

NOTE: Applications shall contain sufficient information to enable the City Staff and the Planning Board to evaluate the proposed development for compliance with the Zoning Ordinance, the Planning Board's Regulations, and other applicable City Codes, and for the Planning Board to make an informed decision.

All required application materials shall be submitted as a single inclusive package, including any appropriate waiver requests as permitted by the Regulations. Submission of a complete application package ensures that the review process by City Staff is as efficient and effective as possible.

The purpose of the filing deadline is to provide adequate time for City review of the proposal. Submission of any altered, additional, or substitute application materials required by Article V of these Regulations, subsequent to the filing deadline, other than as directed by City Staff, shall cause the application to be deemed untimely filed, and such application shall not be heard until a subsequent month.

CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST

PLAN SUBMITTAL TECHNICAL CHECKLIST:

NOTE: Site plan drawings shall include the information described below pursuant to Article V of the Lebanon Site Plan Review Regulations. Plans shall be submitted on sheets no larger than 24" x 36". Plan sets with multiple sheets shall include sheets of uniform size and be bound on the left edge. When more than three (3) sheets are required, an additional cover sheet shall be attached including a table of contents. A scale of not smaller than one (1) inch equals 40 feet is suggested. All lettering shall be of a size and type that is legible.

In order to facilitate the use of the City's Geographic Information System (GIS) for planning purposes, all surveys and engineered plans submitted for Site Plan Review shall utilize the NH State Plane Coordinate system and shall reference the North American Vertical Datum of 1988 (NAVD 88), unless prior approval to use an alternate coordinate system and/or vertical datum is granted by the Planning & Development Department.

A written request for waiver shall be required, pursuant to Article VII of the Site Plan Review Regulations, for any submission requirement for which the information or data is not provided by the applicant. [§5.1.G(4)] NOTE: The submission requirements described in paragraphs 5.1.E(1) through 5.1.E(4) shall not be waivable under the procedures of Article VII of the Site Plan Review Regulations. [§5.1.E]

[Checklist begins on following page]

**CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST**

[illegible]

CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST

Plan Requirements (cont.)	Info. Provided	Waiver Sought
5.1.E(6) - Existing and proposed grades, including topographic contours, with spot elevations. Where the grade is less than 20%, the contours shall be at 2-foot intervals; otherwise they shall be at 5-foot intervals. All contours shall be referenced to USGS or FEMA Flood Insurance Rate Map (FIRM) datums, as appropriate. Existing topographic information shall be prepared by a professional engineer registered in New Hampshire or land surveyor licensed in New Hampshire.	☒	☐
5.1.E(7) - Shape, size, height, and location of all existing structures located on site and within 200 feet of site.	☒	☐
5.1.E(7) - Elevation views indicating shape, size, height, and location of all proposed structures, including expansions of or additions to existing buildings. Such elevation views shall provide sufficient detail to allow for review by the Board and City staff of the adequacy of proposed access and egress points, walkways, lighting, and other site-related improvements.	☐	☐
5.1.E(8) - Location of existing natural features such as streams, marshes, lakes, ponds, wetlands, rock outcrops, or wooded areas, and existing man-made features such as roads and structures. Indicate those natural and man-made features that are to be removed, retained, or altered.	☒	☐
5.1.E(8) - Wetlands on the property shall be delineated by a NH Certified Wetlands Scientist, whose seal and signature shall appear on the plan. Documentation in the form of U.S. Army Corps of Engineers New England District Wetlands Delineation Data Sheets and/or other field notes and materials concerning the delineation shall be submitted.	N/A ☐	☐
5.1.E(9) - Zoning District, Tax Map and Lot number, and use of abutting properties within 200 feet of property.	☒	☐
5.1.E(9) - Location of streets, pedestrian paths/trails, and bicycle routes within 200 feet of the site boundary; and the location of curb cuts and vehicle accesses within 200 feet of the site boundary.	☒	☐
5.1.E(10) - Proposed streets, driveways, emergency vehicle accesses, parking spaces, and sidewalks, with indication of dimensions and direction of travel. Show required sight distances at curb cuts and dimensions for the inside radii of all curves.	☒	☐
5.1.E(10) - Vehicle and bicycle parking spaces shall be numbered.	N/A ☐	☐
5.1.E(10) - Loading spaces and facilities used in connection with any structures on the site shall be shown	N/A ☐	☐
5.1.E(10) - Total square footage and percentage of the lot covered by impervious cover shall be shown.	☒	☐
5.1.E(11) - Parking area safety measures including raised crosswalks/speed tables, signage, walkway lighting, striping and similar markings such as dedicated pedestrian/bicycle crossings and lanes through parking areas, fire lanes, compact and/or electric vehicle parking/charging, parking wayfinding, ADA signage and access aisles.	☒	☐
5.1.E(12) - Size and location of all existing and proposed public and private utilities. <i>(Note: the applicant is encouraged to submit a Sewer Use Permit Application and obtain a Notice of Permitted Allocation, and to obtain a Water Use Permit prior to submission of the Site Plan Review application.)</i>	☒	☐

CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST

Plan Requirements (cont.)	Info. Provided	Waiver Sought
5.1.E(13) - Plan for outdoor lighting showing proposed location, mounting height, fixture type, lamp type, color correlated temperature (CCT), and wattage of all exterior free-standing lighting or building-mounted fixtures.	☒	☐
5.1.E(13) - Analyses and illuminance-level diagrams, to include average and minimum foot-candle measurements, showing that proposed installation conforms to the lighting-level standards in Site Plan Review Regulations.	☒	☐
5.1.E(13) - Manufacturer's specification information for each proposed light fixture and lamp (NOTE: This information may be provided on the plan or as a separate attachment).	☒	☐
5.1.E(13) - Drawings of all relevant building elevations showing location and height of all building-mounted fixtures, the portions of any walls or architectural features to be illuminated, illumination levels of walls or architectural features, and aiming points for any remote light fixtures.	N/A ☐	☐
5.1.E(14) - Plan for location of free-standing or building-mounted signs, including location, mounting, aiming, and shielding of any remote light fixtures for externally-lit signs.	N/A ☐	☐
5.1.E(14) - For internally-lit signs, relevant information concerning the method of illumination and the opacity of the sign background, showing that the proposed installation conforms to the requirements of the Regulations.	N/A ☐	☐
5.1.E(15) - The location and boundaries of any Overlay Districts established pursuant to Article IV of the Zoning Ordinance (including but not limited to the Wetlands Conservation District, Riverbank Protection District, Steep Slopes District, and Floodplain District) and, if applicable, protected shorelands pursuant to the Shoreland Water Quality Protection Act (NH RSA 483-B).	N/A ☐	☐
5.1.E(15) - For properties located within the Floodplain District, the 100-year flood elevation, floodway, shoreland protection zone, and flood plain limits shall be identified.	N/A ☐	☐
5.1.E(16) - Landscaping plan showing proposed new plantings to be installed and existing natural vegetation to be retained. Plan shall show in detail the number, size (height and/or caliper), and species (botanical and common names) of all proposed shrubs and trees.	☒	☐
5.1.E(16) - Existing trees over 12 inches in diameter (measured 4.5 feet above ground surface) within 25 feet of the disturbed area, must be counted and shown on the plan, if included towards fulfilling landscaping requirements.	N/A ☐	☐
5.1.E(16) - Calculations for square footage of perimeter landscaping.	N/A ☐	☐
5.1.E(16) - Parking lot shading calculations shall be provided by depicting new trees and shrubs at 10-year crown size.	☒	☐
5.1.E(17) - Existing and proposed surface and subsurface storm drainage facilities, including City storm drainage facilities located within 200' of site.	☒	☐
5.1.E(17) - Plans for retention, detention, slow release, and treatment of storm water shall be provided shall be provided in accordance with the requirements of Section 6.6.	☒	☐
5.1.E(18) - Section 6.6. Stormwater Management submission requirements.	See Stormwater Checklist	
5.1.E(19) - Plans for snow removal and storage.	☒	☐

CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST

Plan Requirements (cont.)	Info. Provided	Waiver Sought
5.1.E(20) - A plan for the development showing provisions for automobile, transit, bicyclist, and pedestrian access and circulation. Such plan shall show both existing and proposed means of access to the site including connections with, public streets, sidewalks, transit stops, and formal paths/trails. Plans shall include any traffic calming and traffic control devices necessary in conjunction with the site development, as well as the location of all existing transit routes and transit stops located or passing within 1/4 mile (1,320 feet) of the property.	☒	☐
5.1.E(21) - Construction detail drawings including, but not limited to, pavements, walks, steps, curbing, drainage structures, water and/or sewer utilities, ground-mounted signage (e.g., fire lanes, ADA parking, commercial), surface treatments, transit shelters, energy generation units (e.g., solar), bike rack style, electric vehicle charging, outdoor lighting, outdoor furniture, retaining walls, tree boxes and other site systems or structures. Accompanying specifications and cutsheets may be required.	☒	☐
5.1.E(21) - Where applicable, roadway, drainage, water and sewer utility profile drawings shall be provided at a scale of 1"=40 feet (horizontal) and 1"=4 feet (vertical) and typical cross-section drawings shall be provided at a scale of 1"=5 feet (horizontal and vertical), unless prior approval to use an alternate scale is granted by the Reviewing Engineer. (NOTE: Ordinarily, only two (2) sets of such construction drawings shall be provided to the Planning and Development Department with the application submission.)	N/A ☐	☐
5.1.E(22) - Depict any current and proposed easements, rights-of-way, and deed restrictions including those related to sewer, electrical utility, shared access, etc.	☒	☐
5.1.E(23) - For multi-family structures, plans for on-site recreational facilities.	N/A ☐	☐
5.1.E(24) - Where a fire, emergency equipment, or similar vehicle turnaround area is provided, it must have an adequate turn radius. Provide CAD Autoturn data or a similar basis of design for the turn radius, if requested by Lebanon Fire or Engineering staff. City staff may also ask for this information at any time.	N/A ☐	☐
Supporting Documents and Information, Where Applicable	Info. Provided	Not Applicable
5.1.G(1) - An estimated timetable, to include phasing schedules, for construction and completion of buildings, parking, facilities, landscaping, and other required improvements.	☒	☐
5.1.G(2) - Any development estimated to generate a net increase of 100 peak hour trips or 1,000 average daily trips (based upon the most current edition of the ITE Trip Generation Manual) shall prepare and submit a Traffic Impact Study in accordance with standard traffic analysis conventions as set forth by the NHDOT. The Board may, at its discretion, require the submission of a Traffic Impact Study for developments estimated to generate less than 100 peak hour trips or 1,000 average daily trips if the Board has reason to believe such development could adversely affect levels of service or have other adverse impacts.	N/A ☐	☐
5.1.G(3) - Written requests for waivers from all applicable provisions of these Regulations shall be provided pursuant to Article VII - "Waiver Procedure". (note: use Application for Waivers form).	☒	☐
5.1.G(4) - For multi-family dwelling developments and mixed-use developments resulting in a net increase of 50 dwelling units or more, the application shall include the information and impact statements identified in Section 6.9.B.	N/A ☐	☐

NOTE: THE APPLICANT IS RESPONSIBLE FOR PROVIDING THE REQUIRED INFORMATION PURSUANT TO ARTICLE V OF THE SITE PLAN REVIEW REGULATIONS. PLEASE BE AWARE THAT THIS CHECKLIST IS FOR INFORMATION AND GUIDANCE ONLY AND DOES NOT REPRESENT THE LAW DICTATING SUBMITTAL REQUIREMENTS NOR IS IT COMPLETE AND INCLUSIVE THEREOF.

Completed By: Engineering Ventures - Nicholas A. Fiore

**CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST**

CITY OF LEBANON, NH STORMWATER REVIEW REGULATIONS TECHNICAL CHECKLIST	
PROJECT NAME: DHMC Parking Lot Expansions	
APPLICANT: Mary Hitchcock Memorial Hospital	DATE: 04/30/2024

NOTE: Stormwater plans shall include the information described below pursuant to Article VI of the Lebanon Site Plan Review Regulations. Plans shall be submitted on sheets no larger than 24" x 36". Plan sets with multiple sheets shall include sheets of uniform size and be bound on the left edge. When more than three (3) sheets are required, an additional cover sheet shall be attached including a table of contents. A scale of not smaller than one (1) inch equals 40 feet is suggested. All lettering shall be of a size and type that is legible.

In order to facilitate the use of the City's Geographic Information System (GIS) for planning purposes, all surveys and engineered plans submitted shall utilize the NH State Plane Coordinate system and shall reference the North American Vertical Datum of 1988 (NAVD 88), unless prior approval to use an alternate coordinate system and/or vertical datum is granted by the Planning Office.

A written request for waiver shall be required, pursuant to Article VII of the Site Plan Review Regulations, for any submission requirement for which the information or data is not provided by the applicant. [§6.6.I]

[Stormwater checklist begins on following page]

[illegible]

CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST

Plan Requirements (cont.)	Info. Provided	Waiver Sought
g. Plan references and notes (including sequence of soil disturbance) h. Proposed and existing public and private utilities i. Proposed project components to become property of or the responsibility of the City shall be labeled as such j. Existing and proposed impervious cover, with areas used to calculate effective impervious cover (EIC, as defined herein) clearly identified and the square footage of each type identified and labeled. k. Test Pit(s) locations and data where stormwater practices are proposed, as appropriate. l. Details of individual design elements shown on separate plan sheets following the Proposed Conditions SMP. The Existing Conditions SMP & the Proposed Conditions SMP shall be provided on sheets no larger than 24" x 36", at a scale of one (1) inch = 20 feet for urban areas, and one (1) inch = 40 feet for non-urban areas. The City Engineer will make the final determination as to the appropriate scale, ensuring that all important site and hydrologic features are easily recognized. If plan shall encompass more than two (2) sheets, at the required 1:40 or 1:20 scale, a separate large scale representation plan sheet (e.g. 1:100) is required to be provided, so as to show entirety of site, as well as off-site contributing areas.	☒ ☒ ☐ N/A ☒ ☐ N/A ☒	☐ ☐ ☐ ☐ ☐ ☐
6.6.C.2 - In addition to the above described SMP plan sheets, the following SMP supplemental information is required: 1. A drainage analysis that includes calculations comparing pre- and post-development stormwater runoff rates (cubic feet per minute) and volumes (cubic feet) based on a 1-inch rainstorm, and the 2-year, 25-year, 50-year, and 100-year, 24-hour frequency storms. Calculations shall include, but not be limited to, the sizing of all structures and BMPs, including sizing of emergency overflow structures based on the 50-year 24-hour frequency storm discharge rate, with 1-foot of free-board. Storm rates shall be based on current design depths from the Northeast Regional Climate Center - http://precip.eas.cornell.edu. <i>Any site that was primarily wooded in the last five years shall be considered undisturbed woods Any site from which wooded vegetation has been removed within 5 years prior to the first submission to the planning board with respect to a proposed development, or upon which, at some earlier time, clearing has occurred in anticipation of development, shall be treated as undisturbed woodland for purposes of calculating pre-development runoff volumes. For purposes of this paragraph any tree cutting which occurred without leaving stands of healthy, growing trees within areas near waters and highways, as required by RSA 227-J:9, I, shall be presumed to have occurred in anticipation of development</i>	☒	☐

**CITY OF LEBANON, NH
SITE PLAN REVIEW REGULATIONS
TECHNICAL CHECKLIST & STORMWATER CHECKLIST**

Plan Requirements (cont.)	Info. Provided	Waiver Sought
2. A drainage analysis results summary tabulated (pre & post) for each proposed outfall or catchment outlet point including runoff rates and volumes for each storm event analyzed above.	☒	☐
3. An Erosion and Sediment Control Plan for all proposed construction activities in accordance with the NH Stormwater Management Manual Volume 3, (December 2008 or current revision; downloadable from the website)	☒	☐
4. A comprehensive Operation and Maintenance Plan for long-term maintenance of all proposed stormwater management elements and BMPs including the proposed schedule of inspections and anticipated maintenance (see section H.2 Operations & Maintenance Plan for detailed requirements).	☒	☐
<u>6.6.D</u> - Phased Development: For phased developments, the plans and calculation requirements under this section (6.6) shall apply as though the development of the entire parcel were being proposed in one single application. The review and approval process for phased development applications is provided in section 4.9 of the Lebanon Site Plan Regulations.	☐ N/A	☐

NOTE: THE APPLICANT IS RESPONSIBLE FOR PROVIDING THE REQUIRED INFORMATION PURSUANT TO ARTICLE VI OF THE SITE PLAN REVIEW REGULATIONS. PLEASE BE AWARE THAT THIS CHECKLIST IS FOR INFORMATION AND GUIDANCE ONLY AND DOES NOT REPRESENT THE LAW DICTATING SUBMITTAL REQUIREMENTS NOR IS IT COMPLETE AND INCLUSIVE THEREOF.

Completed By: Engineering Ventures - Nicholas A. Fiore

(Last Revised 9/20/2021)

Planning office Use Only:

Date Received ___/___/___ Checklist Complete YES or NO Checked by: _____

April 29, 2024

City of Lebanon Planning & Development Department
Attn: Tim Corwin, Senior Planner and Zoning Administrator
51 North Park St
Lebanon, NH 03766

RE: DHMC Main Campus Parking Expansion
City of Lebanon, New Hampshire
Planning & Zoning Review

Dear Mr. Corwin,

On behalf of DHMC please find below written responses to comments provided by your office on the above referenced Site Plans Review application. All the comments are repeated below. The highlighted comments are the ones you asked us to specifically address. Our responses are provided in red.

STAFF COMMENTS MISSED BY AI:

- *Site Plan Regs:*
 - 5.1.E.4.e.8 – heights of existing buildings
 - 5.1.E.10 – plans shall indicate direction of travel –
 - EV added flow direction arrows to landscape plans; sheets C209-C212
 - 5.1.E.13 – lighting plan missing –
 - The revised plan set now includes lighting plans.
 - 5.1.E.18 – section 6.6. submission requirements (drainage report / stormwater calculations not provided)
 - This resubmission package includes a drainage report and stormwater calculations.
 - Section 6.2.E.1 – parking area shading requirements
 - EV added shading calc table to landscape plans; sheets C209-C212.
 - Section 6.5.I.3 – bicycle parking requirements
- *General plan comments:*
 - Sheet numbers missing from some of the plan sheets
 - Cover sheet:
 - Zoning chart note 4 – indicate that wetland areas are located outside areas of proposed disturbance
 - The Zoning Chart is revised accordingly.
 - “Applicants” should be singular
 - Revised accordingly.
 - *Recommendation:* Identify prior site plans that the property is currently subject to
 - *Recommendation:* Identify Planning Board application number
 - *Recommendation:* Identify Site Plan Review Regulations that that plan is subject to (ie adoption date and revision date of current SPRs)
 - Sheet 3 (C002)
 - Is abutter’s list up to date?
 - The abutter’s list has been verified and revised as needed.

- If E4H Architects is a project consultant, add to the cover sheet, if not, remove from abutter's list and remove the corresponding footnote –
 - e4h has been removed from the table.
 - Footnote (E) to the abutter's list is non-sensical – please reword –
 - Footnote (E) has been revised.
- **Recommendation: Delineate limits of disturbance on existing plan sheets**
 - Demo items have been added to existing conditions plans; sheets C101-C104
- **Sheet 8 (C104) is mislabeled along the bottom of the sheet as "SITE PLAN"**
 - The mislabeling has been corrected.
- *Recommendation for site plan sheets: identify total area of net new paving and/or impervious coverage for each project area*
- **Sheet 10 (C201)**
 - Note C7 points to a light pole instead of the stop sign
 - The C7 tag has been corrected.
 - The Stormwater Schedule identifies a note "C4" but "C4" does not seem to appear anywhere on the plan
 - The Stormwater Schedule includes D1 thru D3, but not C4. There is a C4 in the Site Schedule and it is used twice on the walkways associated with Lot 8. No action taken.
- **Sheet 11 (C202)**
 - Please label the signs at the exit from the new parking lot (C8?)
 - Callout tags for C8 "stop sign" have been added accordingly.
 - The Site Schedule identifies a note "D3" but "D3" does not seem to appear anywhere on the plan
 - The site schedule includes C1 thru C 12, but no D3. The stormwater schedule include a D3 and a D3 tag points to a stormwater manhole. The revised plans have manhole D3 in a different location.
 - Please remove existing features that will be eliminated or changed (e.g. the plan shows light poles straddling the edge of the existing parking lot that's proposed to be widened
 - Plans have been updated accordingly.
- **Sheet 14 (C205) – the driveway entrance is mismarked "E4" instead of "E5"**
 - The "E4" tag has been revised to "E5".
- **Sheet 18 (C209) –**
 - the plant schedule identifies 16 new plants where only 7 are shown
 - The schedule has been revised to clearly indicate schedule is a combination of all sites. This will make things easier for the contractor.
 - parking lot shading calculations not provided
 - This sheet now includes a table showing shade calculations.
- **Sheet 19 (C210) –**
 - the plant schedule identifies 16 new plants where only 5 are shown
 - The schedule has been revised to clearly indicate schedule is a combination of all sites. This will make things easier for the contractor.
 - parking lot shading calculations not provided

- This sheet now includes a table showing shade calculations.

- o Sheet 20 (C211) –

- the plant schedule identifies 16 new plants where only 4 are shown
 - The schedule has been revised to clearly indicate schedule is a combination of all sites. This will make things easier for the contractor.
- parking lot shading calculations not provided
 - This sheet now includes a table showing shade calculations.

AUTOREVIEW AI COMMENTS [Except as we may have discussed during our staff review meeting, please address only those comments highlighted below in yellow]

1. 5.1.E Table of Contents:

The cover sheet shall include a table of contents.

The PDF does not contain C302, but it includes two instances of C301.

- The sheet numbering has been revised to change the second C301 to C302.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

2. 5.1.E(2) Contact Information:

The plan only partially addresses the following. Please provide the names and mailing addresses of the Holders of any easements, rights of way, or other restrictions, based on the current records of the City Assessor available at City Hall.

Please indicate location of all easements on subject property.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Overview Plan

3. 5.1.E(3) Contact Information:

Names and Address of the following information is missing/incorrect/incomplete:

Soil Scientist

Wetland Scientist

Landscape Architect

Please include this information on the Cover Sheet

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

4. 5.1.E(4)(e)(5) Parking:

The plan only partially addresses the following. Number of existing and proposed on- and off-street parking spaces as a table.

The table must identify:

- the permitted (maximum) number of parking spaces and the calculations for each,
 - future proposed, and
 - existing parking capacity.
- The Zoning Chart has been revised to include the maximum number of parking spaces allowed, the future proposed parking spaces, and the existing parking spaces.

If the site is part of an existing development or subdivision, the master table must provide such information for all related sites and phases, individually and as a project total

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

5. 5.1.E(4)(e)(9) Building Stories:

The Plan does not address the following. Gross Square Footage of Each Story.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

6. 5.1.E(4)(e)(11) Setbacks:

The plan only partially addresses the following. Required and proposed front, side, and rear yard setbacks.

- The revised Zoning Table now includes setback distances in the "Existing" and "Proposed Total" columns. Setbacks area also dimensioned on sheet C002.

Note 5 has been referenced in the Site Data Table on the Cover Sheet; however, Note 5 has not been included within the provided Notes section.

- The revised Cover Sheet now includes Note 5 and Note 6.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

7. 5.1.E(4)(e)(12) Lot Coverage:

The plan only partially addresses the following. Max. allowable lot coverage w/ existing and proposed calculations.

The Existing and Proposed Total percentages for Impervious Area Lot have been provided. However, the percentage for Proposed Work has not been included, even though the Proposed Total Percentage has been updated.

- The revised Zoning Table now includes the 0.20% value under the proposed work column.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations:

Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Cover Sheet

8. 5.1.E(5) Current Survey:

The plan does not address the following. A current survey certified by a land surveyor licensed in New Hampshire, depicting the perimeter boundaries of the lot(s) of the proposed site, including compass bearings, distances, and lot areas, and depicting the location of any existing improvements on the property and the width and location of any rights-of-way and/or easements on the property.

Add surveyor stamp confirming compliance with Section 5.1.E.5 requiring a current survey certified by a land surveyor licensed in New Hampshire.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations:

Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Overall Existing Site Plan Layout

9. 5.1.E(8) – Natural and Man-Made Features:

The plan only partially addresses the following. The location of existing natural features such as streams, marshes, lakes, ponds, wetlands, rock outcrops, or wooded areas, and existing man-made features such as roads and structures. The plan shall indicate those natural and man-made features that are to be removed, retained, or altered. Wetlands on the property shall be delineated by an NH Certified Wetlands Scientist, whose seal and signature shall appear on the plan. In addition, documentation in the form of the U.S. Army Corps of Engineers New England District Wetlands Delineation Data Sheets and/or other field notes and materials concerning the delineation shall be submitted to the Planning Office.

Identify natural and man-made features to be removed with parking expansions.

- The revised existing conditions plans now include demolition items.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations:

Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Site Legend and Notes

10. 5.1.E(10) Proposed Streets, Driveways, Emergency Vehicle Accesses, Parking Spaces, And Sidewalks:

Show required sight distances at curb cuts – Sight triangle is not present on the Site Plan. There shall be no obstruction to vision between the heights of three (3) feet and ten (10) feet above the street surface within any triangular area formed by: 1. The intersection of two street lines and a third line joining them at points 25 feet away from their intersection. 2. The intersection of a driveway and a street line and a third line joining them at points 25 feet away from their intersection.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations:

Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on C209, C210

11. 5.1.G(1) Timetable and Phasing:

The plan does not provide the following information. An estimated timetable, to include phasing schedules (where applicable), for construction and completion of buildings, parking facilities, landscaping, and other required improvements.

Provide an estimated timetable for construction and completion of buildings, parking facilities, landscaping, and other required improvements.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://www.lebanonnh.gov/DocumentCenter/View/10000/Site-Plan-Regulations-PDF)

Flag located on Site Legend and Notes

12. 5.1.E(10) Proposed Streets, Driveways, Emergency Vehicle Accesses, Parking Spaces, And Sidewalks:

Proposed streets, driveways, emergency vehicle accesses, parking spaces, and sidewalks, with indication of dimensions and direction of travel. Show required sight distances at curb cuts and dimensions for the inside radii of all curves. Vehicle and bicycle parking spaces shall be numbered. Loading spaces and facilities used in connection with any structures on the site shall be shown. The total square footage and percentage of the lot covered by impervious cover shall also be shown.

All parking spaces must be numbered. There is a misnumbering observed on the indicated parking space. Kindly rectify the numbering to align with the surrounding numbering scheme.

- The parking spaces have been renumbered. Please note that the Lot 2 work includes repaving two (2) existing parking spaces, and they are labeled as E1 and E2 on sheet C203.

The percentage of impervious cover on the proposed lot in the Site Data Table within the Cover Sheet requires updating with a variable.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://www.lebanonnh.gov/DocumentCenter/View/10000/Site-Plan-Regulations-PDF)

Flag located on Cover Sheet, C203

13. 6.5.E Groundwater Protection Requirements:

Please provide a statement identifying how this project complies with Section 6.5.g Ground Water protection.

- Note No. 18 has been added to sheet C001. Additionally, the project includes new and expanded rain gardens which provide treatment for stormwater from the expanded parking areas so that runoff is cleaned for it becomes groundwater.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.5 Coordination of Roads, Parking, Loading, Recreation, and Safety:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://www.lebanonnh.gov/DocumentCenter/View/10000/Site-Plan-Regulations-PDF)

Flag located on Site Legend and Notes

14. 607.3.A Maximum Off-Street Parking Requirement:

The plan does not address the maximum off-street parking allowance. The maximum off-street parking allowed is 120% of the minimum requirement set forth in Section 607.2.

The minimum requirement for parking spaces is 5,470. Currently, there are 5,618 parking spaces on the subject parcel, with a proposed increase to 5,691 by the applicant. The maximum allowable parking for the development is 6,837. Kindly include this information in the Site Data Table on the Cover Sheet.

- The revised Zoning Chart indicates minimum required and maximum allowable parking spaces.

5470 Minimum Stalls * 1.25 = 6837.5 Maximum Stalls

- Equation is incorrect. Should be $5470 * 1.20 = 6,564$ maximum stalls.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 5.1. Drawings and Other Submittals:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://lebanonnh.gov/DocumentCenter/View/805/Current-Zoning-Ordinance-PDF?bidId=)

City of Lebanon, New Hampshire: Planning & Development Department: Zoning Ordinance: Article VI Additional Standards for Specific Uses: Section 607 Parking: Section 607.3 Maximum Off-Street Parking Requirements:

<https://lebanonnh.gov/DocumentCenter/View/805/Current-Zoning-Ordinance-PDF?bidId=>

Flag located on Cover Sheet

15. 6.2.E.2 Parking Islands:

The plan only partially addresses the following. The end of each row of parking shall have a landscape bed to protect any vehicle parked next to a travel lane. End beds shall be at least 8 feet in width, except for corner radii, shall be long enough to protect tree roots and vehicles parked in the adjacent parking spaces, and shall be planted with deciduous trees for shade.

Not all parking islands feature deciduous trees, and not all are 8 feet wide.

- The only lot that has a true island is Lot 8 and that island is 8 feet wide and will have a tree planted as part of this project. Lots 2, 4 and Lot E do not have parking islands. Areas flagged as #15 on Lots 2, 4 and E are actually the ends of the parking itself and not an island.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.2. Landscaping Standards:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://lebanonnh.gov/DocumentCenter/View/805/Current-Zoning-Ordinance-PDF?bidId=)

Flag located on C209, C210, C211

16. 6.2.E.4 Parking Row Length:

The plan does not address the following. Any single or double row of parking longer than 100 feet shall be dispersed every 100 feet or less by a landscaped bed that is at least 8 feet by 8 feet, exclusive of curbing.

The indicated parking zones exceed 100 feet in length and fail to include the mandated dispersion of landscaped beds, each measuring at least 8 feet by 8 feet, spaced every 100 feet or less. See sheet C211

- Sheet C211 consists of two separate lots that have been misinterpreted as one continuous parking row. The longest row in each added parking area is 81 feet.

- The reconfiguration of the existing ED parking lot on C210 does exceed 100 feet. Islands have been omitted here to maximize parking spaces in the location of the campus's most critical needs, reduce potential conflicts for drivers helping patients out of cars, and reduce obstructions for snow removal. Additionally, these parking rows abut landscaped areas for their full length so the project is requesting that the Planning Board exclude this requirement per the last sentence of 6.2.E.4.

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.2. Landscaping Standards:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on C210, C211

17. 6.2.E.6 Tree Maturity Requirements:

The plan does not address the following. The number of trees required to meet the 30% shading requirement for parking areas shall be calculated at a minimum crown diameter of 30 feet, which each tree shall have attained within 10 years from planting. Trees at maturity must have a trunk diameter of at least 12 inches, measured 4 feet above the ground surface.

Provide a statement on the Landscape Plan addressing tree maturity requirements.

- Sheets C209 – C211 of the revised plan set include shade calculations for the parking areas.
- Tree diameters at maturity are as follows:
 - Amur Maple: 12" – 20"
 - Honeylocust: 24"-36"
 - Hawthorne: 6" x 3 trunks
 - Red Pine: 30" – 40"

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.2. Landscaping Standards:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on Site Legend and Notes

18. 6.2.H.2 Plants Tolerant to Dusty, Salty Locations:

The plants intended for placement near the proposed parking zones do not belong to the list of species known for their tolerance to dusty and salty environments. It is recommended to utilize salt-tolerant plants in areas prone to dust and salt exposure, such as parking lots or driveways.

Proposed Plants not on the Suggested Salt-Tolerant Species:

October Glory Maple – Replaced with Amur Maple

Red Oak – Replaced with Hawthorne

Northern White Cedar – Replaced with Red Pine

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.2. Landscaping Standards:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](#)

Flag located on C209, C210, C211

Shade Trees for Dusty, Salty Locations

<i>Acer ginnala</i>	Amur maple
<i>Crataegus spp.</i>	Hawthorne
<i>Gleditsia triacanthos</i>	Honey locust
<i>Pinus resinosa</i>	Red pine

19. 6.5.E.3 Parking Stall Sizing:

Parking spaces shall measure a minimum of 9 x 18 feet. Where the parking spaces are perpendicular to a landscape bed, they should measure 16 feet in length on the pavement, with an additional 2 feet of unobstructed overhang into the landscape bed, in order to reduce paved impervious surface area. Parking spaces perpendicular to a sidewalk area may overhang the sidewalk, provided that the sidewalk is a minimum of 6 feet wide, excluding curbing.

In response to the parking space requirements outlined, it's noted that there are 16 spaces measuring 8 x18 feet. This information is provided for reference purposes.

– EV revised dimensions to show the correct 9'x18' dimensions

City of Lebanon, New Hampshire: Planning & Development Department: Site Plan Regulations: Section 6.5. Coordination of Roads, Parking, Loading, Recreation, and Safety:

[Site-Plan-Regulations-PDF \(lebanonnh.gov\)](https://www.lebanonnh.gov/DocumentCenter/View/1000/Site-Plan-Regulations-PDF)

Flag located on C201

20. Discrepancy – Parking Counts:

There is an inconsistency between the text in the Site Data Table on the Cover Sheet and the visual representation on the plan concerning proposed parking spaces. The Site Data Table indicates a total of 73 new parking spots distributed among Lot 4 & 8 with 22 spaces, Lot 'E' with 25 spaces, and Lot 2 with 26 spaces. However, the plan displays 76 new parking spaces, with Lot 'E' having 27 new spaces for a total of 53, and Lot 2 having 27 new spaces.

– EV revised sheets C201, C202, and C203 to include “parking notes” which clearly summarize the parking count for each lot and the table on the cover sheet has been revised to reflect these numbers.

Flag located on Cover Sheet

Thank you for your time and consideration with this project. Please do not hesitate to call or email if you have any questions or need additional information.

Sincerely,
ENGINEERING VENTURES, PC



Nicholas A. Fiore, PE
Vice President

April 30, 2024

Attn: Tim Corwin
City of Lebanon – Planning and Zoning
51 North Park Street
Lebanon, NH 03766

RE: Dartmouth-Hitchcock Medical Center
Main Campus Parking Expansion 2024 - EV Charging Stations

VIA: E-mail

Dear Mr. Corwin

We are working with Nik Fiore at Engineering Ventures to expand our parking capacity at our main campus in Lebanon. This expansion includes additional parking for Emergency Department patients and visitor as well as additional staff parking where we can best fit it in. This letter is to address our approach to the Lebanon Zoning Ordinance section 607.8 regarding accommodations for Electric Vehicles. Our intent is to address this need with charging stations at other locations on our campus which are best served with power and which best serve the needs of our current and future electric vehicle users.

This project will add (73) parking space to our facility. The requirements and our approach to address are as follows:

- ② EVSE-installed spaces (2% = 2 spaces): DH will add charging at 2 spaces in our Colburn Hill Parking lot.
- ② EV-Ready spaces (10% = 8 spaces): DH has these spaces on site now at our Inpatient Pavilion.
- ② EV-Capable Spaces (50% = 37 spaces): DH has previously provided (33) EV charging stations in Lebanon.
- ② All DH installed charging stations are Level 2, each provided with a 40 amp service per parking space. This exceeds the Lebanon requirement which allows one 40 amp circuit to serve (2) parking spots.
- ② We have attached a plan that shows our current and proposed charging stations as well as a summary list of our current charging stations.

We believe DH has been a leader in providing EV charging capacity over the years, prior to any requirements being put in place that mandate EV charging capabilities for projects. The infrastructure required to support the zoning ordinance is extensive. We respectfully ask that the City consider our past efforts and currently built EV infrastructure as meeting the intent of Zoning ordinance 607.8 for this project.

Please contact me at (603) 650-5741 if there are any questions or if additional information is needed. We would be glad to meet with you to review the project documents in more detail if helpful.

Sincerely,



David Stiger
DHMC Facilities

EV Charging stations requirements and existing information

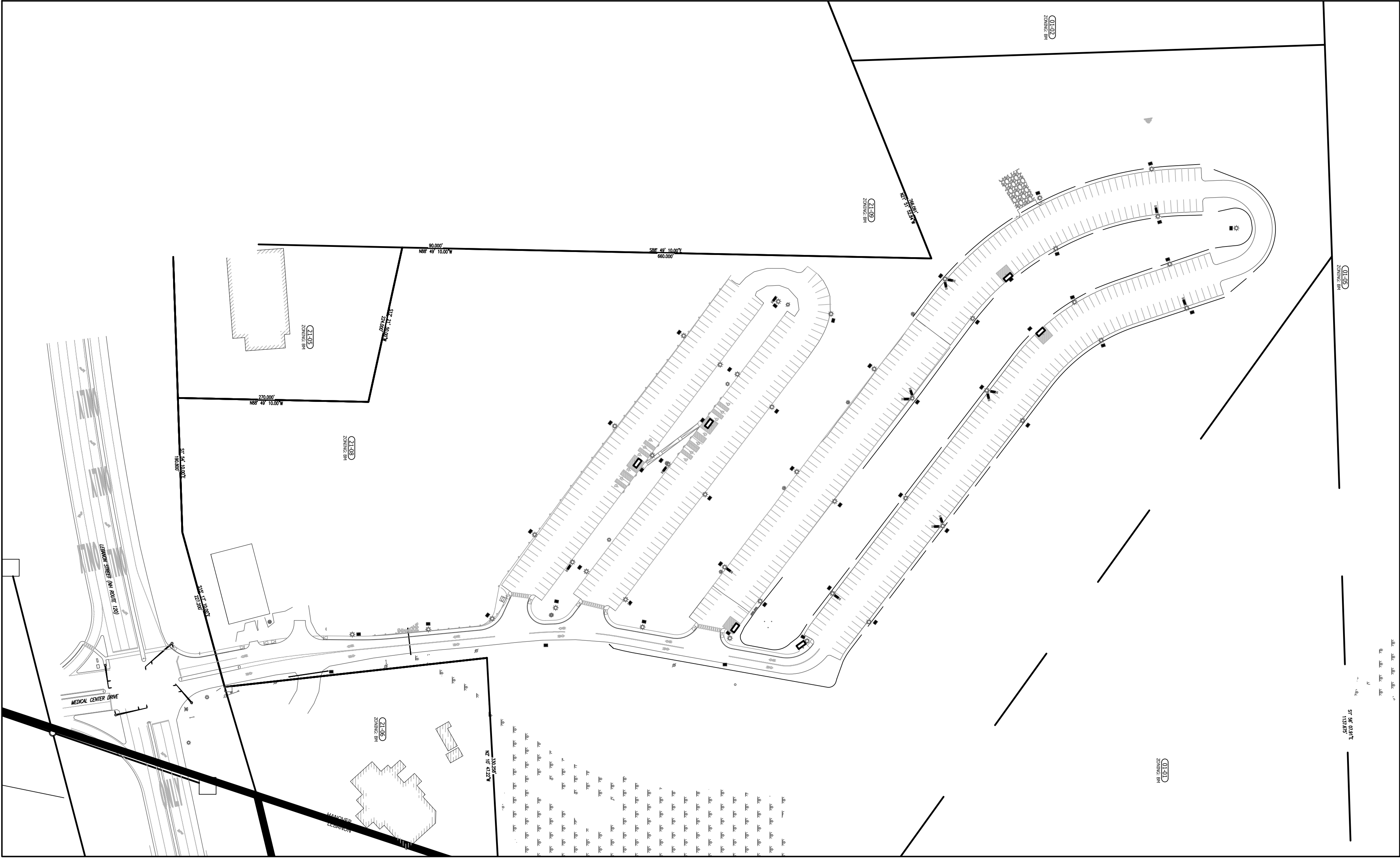
Parking expansion requirements per current zoning regulations:

- ❑ (73) spaces being added
- ❑ EV installed space = 2%, thus (2) parking spaces
- ❑ EV Ready space = 10%, thus (8) parking spaces
- ❑ EV Capable space = 50%, thus (37) parking spaces
- ❑ Charging to support Level 2 charger (40 amp, 208V).
- ❑ One circuit can support two charging stations.

Existing DH EV charging stations

- ❑ Parking Garage
 - 16 parking spaces served by (16) single level 2 stations
- ❑ Inpatient Pavilion
 - 8 parking spaces served by (4) double stations level 2, with (8) dedicated 40 Amp service.
 - 1 parking space served by (1) single station level 2
 - 8 parking spaces EV Ready for (4) double stations w/ (8) dedicated 40 amp service
 - Panel is set up with (18) circuits
 - 208 3 phase 400 amp panel w/ 112.5 kva Isolation transformer
- ❑ Medical Office Building
 - 2 parking spaces served by (2) single stations level 2
- ❑ Outpatient Surgery
 - 2 parking spaces served by (1) double stations level 2
- ❑ Hospice
 - 4 parking spaces served by (2) double stations level 2
- ❑ Colburn Hill
 - DH to add Level 2 charging for (2) parking spots as part of 2024 parking expansion

DHMC
EV Parking stations
4/30/24



LOT 9 INSET

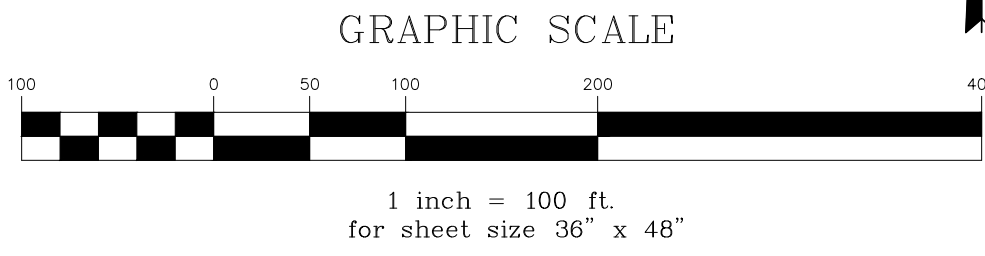
Hospice
(2) double Level 2 chargers = (4) parking spaces

Patient Pavilion
(1) single Level 2 space for ADA parking
(4) double Level 2 spaces = (8) parking spots
(4) future double Level 2 spaces = (8) parking spaces

Two parking spaces to be provided with Level 2 Charging stations

Parking Garage
(16) single Level 2 Charging stations = (16) parking spots

Outpatient Surgery Center
(1) Double Level 2 charging stations = (2) parking spaces



DHMC CAMPUS MAP

CERTIFIED NOTIFICATION LIST

Notice shall be sent by certified mail to the Owner; Applicant, if different from Owner; Abutters; Holders of conservation, preservation, or agricultural preservation restrictions (as defined under RSA 477:45) on the subject property; the holders of easements, rights-of-way, and other restrictions; and every engineer, architect, land surveyor, or soil or wetlands scientist whose seal appears on any plan submitted to the Board; and any other persons required by RSA 676:4, I(d). The names and mailing addresses shall be furnished by the Applicant.

672:3 Abutter. – "Abutter" means any person whose property is located in New Hampshire and adjoins or is directly across the street or stream from the land under consideration by the local land use board. For purposes of receiving testimony only, and not for purposes of notification, the term "abutter" shall include any person who is able to demonstrate that his land will be directly affected by the proposal under consideration. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a condominium or other collective form of ownership, the term abutter means the officers of the collective or association, as defined in RSA 356-B:3, XXIII. For purposes of receipt of notification by a municipality of a local land use board hearing, in the case of an abutting property being under a manufactured housing park form of ownership as defined in RSA 205-A:1, II, the term "abutter" includes the manufactured housing park owner and the tenants who own manufactured housing which adjoins or is directly across the street or stream from the land under consideration by the local land use board.

Source. 1983, 447:1. 1986, 33:2. 2002, 216:1, eff. July 15, 2002.

PLEASE PROVIDE NAMES & MAILING ADDRESSES FOR ALL PERSONS LISTED ABOVE.

Map & Lot Number: 10-8	Map & Lot Number: 10-8
Property Owner: 10-8-100, -200, -300 10-8-70100 Dartmouth Hitchcock Med Center Mary Hitchcock Memorial Hospital 10-10, -21, -22, -23, -25 The Hitchcock Clinic 24-6 c/o David Stiger, DHMC Facilities One Medical Center Drive, Lebanon, NH 03756	Applicant, Co-Applicant, Agent, or Lessee: Dartmouth Hitchcock Med Center c/o David Stiger, DHMC Facilities One Medical Center Drive Lebanon, NH 03756
Map & Lot Number: 5-1, 22-2, 24-4	Map & Lot Number:
Dartmouth College Trustees 10-11-1500 c/o Dan Justynski, Real Estate Office 10-11-1600 PO Box 5188 10-8-7020 Hanover, NH 03755 10-24-100 10-24-200	
Map & Lot Number: 6-1	Map & Lot Number: 10-9 & Hanover 21-6
Liberty Utilities 15 Buttrick Road Londonderry, NH 03053	Route 120 Realty Company c/o Mark Milowsky PO Box 92 Hanover, NH 03755

Map & Lot Number: 10-6-100	Map & Lot Number: 10-6-200
Northern NE Tele Oper LLC Fairpoint Communications Inc 770 Elm St, Tax Dept 2nd Floor Manchester, NH 03101	David's House Inc. Jaye Olmstead, Executive Director 461 Mount Support Road Lebanon, NH 03766
Map & Lot Number: 10-7	Map & Lot Number: 10-7-101
Hanover Road Professional Center PO Box 682 Hanover, NH 03755	Route 102 A-1 Holdings, LLC 10-7-102 Route 102 B-1 Holdings, LLC 10-7-201 Route 102 A-2 Holdings, LLC 1 Pine Drive Hanover, NH 03755
Map & Lot Number:	Map & Lot Number: 10-7-105
	MDM Land Company 1800 West Loop South Houston, TX 77027
Map & Lot Number:	Map & Lot Number: 10-7-202
	Caldwell, MW & TW Ttees 10-7-602 PO Box 176 Lyme Center, NH 03769
Map & Lot Number: 10-7-203	Map & Lot Number: 10-7-204
AJSNH LLC 1046 Goose Pond Rd Canaan, NH 03741	Tiempo de Vals Properties LLC 216 Whitaker Rd Meriden, NH 03770
Map & Lot Number: 10-7-205	Map & Lot Number: 10-7-302
Rentacs LTD Partnership 10-7-502 PO Box 177 Etna, NH 03750	SHUJAA LLC 367 NH Route 120, Unit B3 Lebanon, NH 03766
Map & Lot Number: 10-7-305	Map & Lot Number: 10-7-402
JCP LLC 367 NH Route 120, Unit E3 Lebanon, NH 03766	Geiling, Karen & James Ttees 19 Hollenbeck Ln Hanover, NH 03755

(Revised 2/8/2024)

Map & Lot Number: 10-7-405	Map & Lot Number: 10-7-702
Hanover Oral Surgery, PLLC 367 NH Route 120, Unit B5 Lebanon, NH 03766	BTA Real Estate LLC PO Box 730 Lebanon, NH 03766
Map & Lot Number: 10-7-802	Map & Lot Number: Hanover 21-1
Rumford Street Properties, LLC 210 Rumford St Concord, NH 03301	Jolley Assoc. P.O. Box 671 St. Albans, VT 05474
Map & Lot Number: Hanover 20-1	Map & Lot Number: Hanover 20-2
Town of Hanover c/o Dartmouth Real Estate Office PO Box 5188 Hanover, NH 03755	Town of Hanover PO Box 483 Hanover, NH 03755
Map & Lot Number:	Map & Lot Number:
Engineering Ventures PC c/o Nicholas Fiore 85 Mechanic St., Suite E2-3 Lebanon, NH 03766	City of Lebanon 51 N Park St Lebanon, NH 03766
Map & Lot Number:	Map & Lot Number:
Map & Lot Number:	Map & Lot Number:
Map & Lot Number:	Map & Lot Number:

(Revised 2/8/2024)

FEE SCHEDULE LEBANON PLANNING BOARD

Adopted January 24, 2022

LOT LINE ADJUSTMENT (Boundary Line Adjustment)		
		TOTALS
FILING FEE	\$25.00	\$25.00
ADVERTISING FEE	\$100	\$100
NOTIFICATION FEE (see note on page 2)	\$5.00 + Current USPS rate per certified notice (see below) X _____ notices	\$5.00 \$ _____ (abutter certified)
TOTAL DUE		\$ _____

MINOR SUBDIVISION		
		TOTALS
FILING FEE	\$150.00	\$150.00
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note on page 2)	\$5.00 + Current USPS rate per certified notice (see below) X _____ notices	\$5.00 \$ _____ (abutter certified)
TOTAL DUE AT TIME OF FILING		\$ _____

**Engineering Review fees may also be required. See note on page 2.

PRELIMINARY REVIEW OF A MAJOR SUBDIVISION		
		TOTALS
FILING FEE	\$200.00	\$200.00
NUMBER OF LOTS* _____	\$30.00 per lot*	
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note on page 2)	\$5.00 + Current USPS rate per certified notice (see below) X _____ notices	\$5.00 \$ _____ (abutter certified)
TOTAL DUE AT TIME OF FILING		\$ _____

*Or units when the subdivision does not create individual lots.

**Engineering Review fees will also be required. See note on page 2.

FINAL REVIEW OF A MAJOR SUBDIVISION		
		TOTALS
FILING FEE	\$500.00	\$500.00
FIRST FIVE (5) LOTS*	\$75.00 per lot*	
NUMBER OF LOTS 6+*	\$150.00 per lot*	
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note on page 2)	\$5.00 + Current USPS rate per certified notice (see below) X _____ notices	\$5.00 \$ _____ (abutter certified)
TOTAL DUE TIME OF FILING		\$ _____

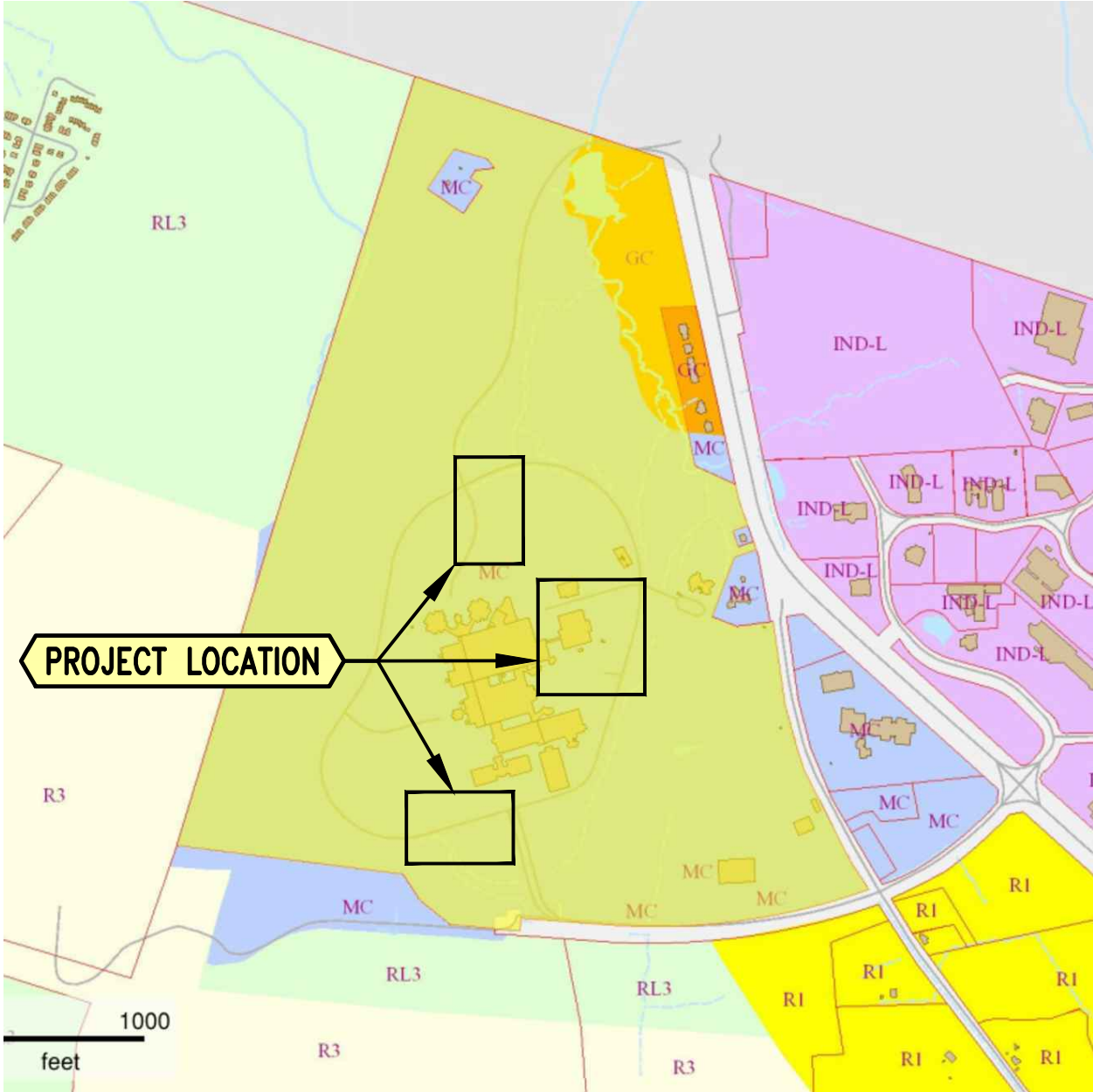
*Or units when the subdivision does not create individual lots.

**Engineering Review fees will also be required. See note on page 2.

SITE PLAN REVIEW		
		TOTALS
FILING FEE	\$250.00	\$250.00
SQUARE FOOTAGE _____ OSF	\$75.00 per 1,000 sq. ft. (gross floor area)	\$0.00
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note on page 2)	\$5.00 + Current USPS rate per certified notice (see below) X <u>26</u> notices	\$5.00 \$ <u>131.04</u> (abutter certified)

DARTMOUTH-HITCHCOCK MEDICAL CENTER

MAIN CAMPUS PARKING EXPANSION



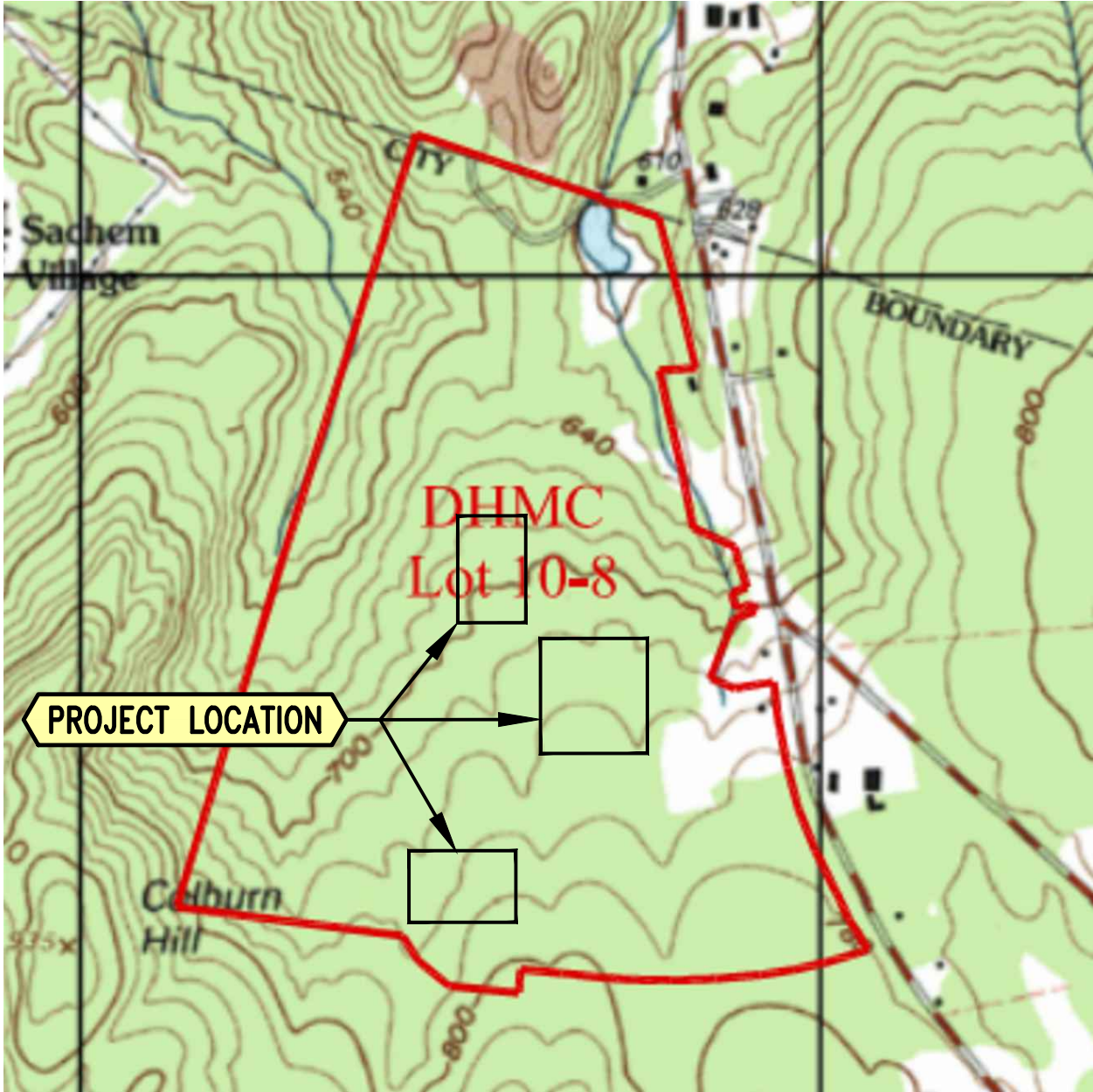
ZONING MAP

1"=1000'



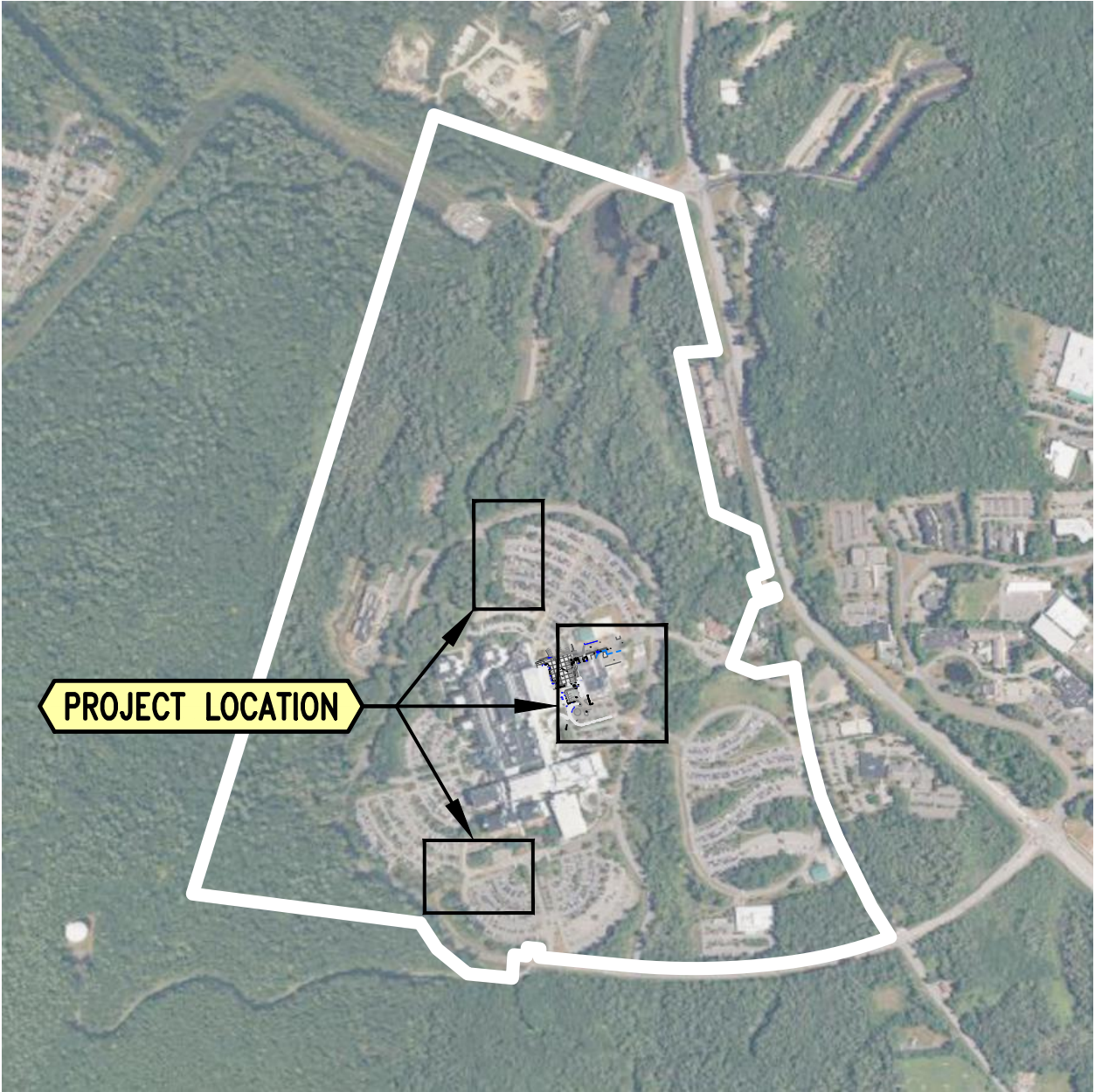
ADVANCE TRANSIT BLUE ROUTE

NO SCALE



USGS MAP

1"=1000'



LOCATION MAP

1"=1000'

ZONING CHART

	Zoning Limit	Existing	Proposed Work	Proposed Total	Notes
Zoning District		MC		MC	
Tax Map / Lot #		10 / 8		10 / 8	
Use		Medical Center		Medical Center	
Area of Lot (acres)	75,000 s.f. min.	288.6	0	288.6	1
Building Footprint (s.f.)		611,778	0	611,778	3
Building Coverage	50% max.	4.87%	0%	4.87%	
Building Gross Floor Area (s.f.)		2,324,815	0	2,324,815	
Building Height	100' max.	Varies. Up to 104'	0	Varies. Up to 104'	
Number of Stories		Varies. Up to 6	0	Varies. Up to 6	
Parking Spaces Provided		5,618	72	5,690	2
Lots 4 and 8			22		
Lot "E"			24		
Lot 2			26		
Min. Parking Spaces Required	1 space / 425 s.f.	5,470	No Change	5,470	
Max. Parking Spaces Allowed	120% of Min.	6,564	No Change	6,564	
Loading Spaces		2	0	2	
Bicycle Parking Spaces		114	0	114	
Long-Term		100	0	100	
Short-Term		14	0	14	
Impervious Area (s.f.)		2,813,615	25,326	2,838,941	3
Lots 4 and 8			8,052		
Lot "E"			8,880		
Lot 2			7,800		
CNG Facility			594		
Impervious Area (% of lot)		22.38%	0.20%	22.58%	3
Setbacks					
Front	40'	190'	NA	190'	5,6
Rear	20'	458'	NA	458'	5,6
Side	20'	53'	NA	53'	5,6
City Overlay Districts		Wetlands	NA	Wetlands	4
NHDES Shorland Jurisdiction		NA	NA	NA	

Notes:

- Area of Lot per survey of Record on file with City of Lebanon
- Number of parking spaces includes 614 spaces at Lot 9 (located in Hanover)
- Existing areas noted include the patient towers, emergency department, and OSC expansions currently under construction
- All wetlands are adjacent to site, outside areas of proposed disturbance, and are classified as Medium-Low Value in the City of Lebanon Natural Resources Inventory
- Setbacks vary due to multiple buildings being on the same parcel
- Project does not include any new buildings therefore building setbacks do not change from what currently exists

TABLE OF CONTENTS

SHEET	SHEET #	TITLE	CONSULTANT
1	C000	COVER SHEET	ENGINEERING VENTURES
2	C001	SITE LEGEND AND NOTES	ENGINEERING VENTURES
3	C002	OVERVIEW PLAN	ENGINEERING VENTURES
4	C100	OVERALL EXISTING CONDITIONS PLAN	ENGINEERING VENTURES
5	C101	EXISTING CONDITIONS – LOTS 4 AND 8	ENGINEERING VENTURES
6	C102	EXISTING CONDITIONS – LOT E	ENGINEERING VENTURES
7	C103	EXISTING CONDITIONS – LOT 2	ENGINEERING VENTURES
8	C104	EXISTING CONDITIONS – CNG FACILITY	ENGINEERING VENTURES
9	C200	OVERALL SITE PLAN	ENGINEERING VENTURES
10	C201	SITE PLAN – LOTS 4 AND 8	ENGINEERING VENTURES
11	C202	SITE PLAN – LOT E	ENGINEERING VENTURES
12	C203	SITE PLAN – LOT 2	ENGINEERING VENTURES
13	C204	SITE PLAN – CNG FACILITY	ENGINEERING VENTURES
14	C205	EPSC PLAN – LOTS 4 AND 8	ENGINEERING VENTURES
15	C206	EPSC PLAN – LOT E	ENGINEERING VENTURES
16	C207	EPSC PLAN – LOT 2	ENGINEERING VENTURES
17	C208	EPSC PLAN – CNG FACILITY	ENGINEERING VENTURES
18	C209	LANDSCAPE PLAN – LOTS 4 AND 8	ENGINEERING VENTURES
19	C210	LANDSCAPE PLAN – LOT E	ENGINEERING VENTURES
20	C211	LANDSCAPE PLAN – LOT 2	ENGINEERING VENTURES
21	C212	LANDSCAPE PLAN – CNG FACILITY	ENGINEERING VENTURES
22	C301	SITE DETAILS	ENGINEERING VENTURES
23	C302	STORMWATER DETAILS	ENGINEERING VENTURES
24	C303	EROSION PREVENTION AND SEDIMENT CONTROL DETAILS	ENGINEERING VENTURES
25	SL101	DHMC – AREAS 4 & 8 LIGHTING PLAN	TCI THOMPSON CONSULTING INC.
26	SL102	DHMC – AREA E LIGHTING PLAN	TCI THOMPSON CONSULTING INC.
27	SL103	DHMC – AREA 2 LIGHTING PLAN	TCI THOMPSON CONSULTING INC.

SUBJECT PROPERTY:

TAX MAP 10 LOT 8
ONE MEDICAL CENTER DRIVE
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE 03756

OWNER\APPLICANT:

DARTMOUTH-HITCHCOCK MEDICAL CENTER
ONE MEDICAL CENTER DRIVE
LEBANON, NH 03756

CONSULTANTS:

CIVIL ENGINEER
ENGINEERING VENTURES, PC
NICHOLAS A. FIORE, PE
85 MECHANIC ST. SUITE B2-2
LEBANON, NH 03766

TOPOGRAPHIC SURVEY
ROCKWOOD LAND SERVICES, LLC
TIM ROCKWOOD, PLS
PO BOX 347
HARTLAND, VT 05048

Stamp	
Date	
Description	
No.	
ENGINEERING VENTURES PC 208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225 85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333 414 Union Street, Schenectady, NY 12305 • 518-630-9614 www.engineeringventures.com	
DARTMOUTH - HITCHCOCK MEDICAL CENTER 1 MEDICAL CENTER DRIVE LEBANON, NEW HAMPSHIRE 03766	
COVER SHEET	MAIN CAMPUS PARKING EXPANSION LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE
Sheet Title:	
EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	AS NOTED
Date:	03/11/2024
C000 Page 1 of 27	

LINETYPE LEGEND

PROPOSED FEATURES	EXISTING FEATURES
100 MAJOR CONTOUR	100 MAJOR CONTOUR
98 MINOR CONTOUR	98 MINOR CONTOUR
EDGE OF RIVER	EDGE OF RIVER
EDGE OF POND	EDGE OF POND
PROPERTY LINE	PROPERTY LINE
RIGHT OF WAY	RIGHT OF WAY
SETBACK	SETBACK
EASEMENT	EASEMENT
LOC LIMIT OF CONSTRUCTION	LOC LIMIT OF CONSTRUCTION
LOD LIMIT OF DISTURBANCE	LOD LIMIT OF DISTURBANCE
SF SILT FENCE	SF SILT FENCE
DEMOLITION WORK	DEMOLITION WORK
CENTERLINE	CENTERLINE
EDGE OF PAVEMENT	EDGE OF PAVEMENT
EDGE OF GRAVEL	EDGE OF GRAVEL
EDGE OF CONCRETE	EDGE OF CONCRETE
CURB	CURB
X FENCE (BARBED WIRE)	X FENCE (BARBED WIRE)
O FENCE (CHAIN LINK)	O FENCE (CHAIN LINK)
□ FENCE (WOODEN)	□ FENCE (WOODEN)
GUARD RAIL	GUARD RAIL
TREE LINE	TREE LINE
STONE WALL	STONE WALL
S SANITARY SEWER	S SANITARY SEWER
FM SEWER FORCEMAIN	FM SEWER FORCEMAIN
SS SEWER SERVICE	SS SEWER SERVICE
SLA DISPOSAL AREA LATERAL	SLA DISPOSAL AREA LATERAL
SD STORM LINE	SD STORM LINE
UD UNDER DRAIN	UD UNDER DRAIN
FD FOUNDATION DRAIN	FD FOUNDATION DRAIN
RD ROOF DRAIN	RD ROOF DRAIN
DITCH/SWALE	DITCH/SWALE
T TELECOMM	T TELECOMM
UGT UNDERGROUND TELECOMM	UGT UNDERGROUND TELECOMM
OHT OVERHEAD TELECOMM	OHT OVERHEAD TELECOMM
E ELECTRIC LINE	E ELECTRIC LINE
UGE UNDERGROUND ELECTRIC	UGE UNDERGROUND ELECTRIC
OHE OVERHEAD ELECTRIC	OHE OVERHEAD ELECTRIC
SL ELECTRICAL SITE LIGHTING	SL ELECTRICAL SITE LIGHTING
W WATER LINE	W WATER LINE
WS WATER SERVICE	WS WATER SERVICE
GAS GAS LINE	GAS GAS LINE
CATV CABLE TV	CATV CABLE TV
UGTV UNDERGROUND CABLE TV	UGTV UNDERGROUND CABLE TV
OGTV OVERHEAD CABLE TV	OGTV OVERHEAD CABLE TV

SURVEY NOTES

- EXISTING PHYSICAL FEATURES AND TOPOGRAPHY SHOWN HERE REPRESENTS A COMPILATION OF A SURVEYS PREPARED BY ROCKWOOD LAND SERVICES, LLC AND OVERALL CAMPUS MAPPING MADE AVAILABLE BY THE OWNER. SOURCE ROCKWOOD SURVEY PLANS ARE AS FOLLOWS:
 BOREWELL HANDICAP PARKING EXISTING CONDITIONS, NOVEMBER 14, 2023
 NORTH PARKING LOT EXISTING CONDITIONS, NOVEMBER 14, 2023
 SOUTHERLY PORTION OF LOT 20 EXISTING CONDITIONS, NOVEMBER 14, 2023
 MERGENCY PARKING LOT EXISTING CONDITIONS, NOVEMBER 8, 2023
- FIELD SURVEY DATA COLLECTED IN NOVEMBER 2023.
- THE HORIZONTAL AND VERTICAL DATUMS ARE DERIVED FROM GPS OBSERVATION AND TIED TO PREVIOUS ONSITE PROJECTS. THE HORIZONTAL DATUM IS NEW HAMPSHIRE'S STATE PLAN COORDINATE GRID AND THE VERTICAL DATUM IS NAVD 1988.
- UNDERGROUND UTILITY INFORMATION IS SHOWN BASED ON STRUCTURE OBSERVATION. UNABLE TO PULL COVERS, CONNECTIONS BETWEEN STRUCTURE AND DIRECTION OF UNDERGROUND PIPES ARE APPROXIMATE LOCATIONS. CATCH BASIN INVERTS MEASURED AS CLOSELY AS POSSIBLE. CULVERT SIZES ARE ESTIMATED. ALL UNDERGROUND PIPE SIZES SHOULD BE VERIFIED.
- UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES.
- EXISTING UTILITIES SHOWN ON PLANS WERE TAKEN FROM FIELD OBSERVATIONS OF VISIBLE UTILITIES AND AS-BUILT DATA PROVIDED BY THE OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING UTILITY LOCATIONS PRIOR TO COMMENCING WORK. NOTIFY ENGINEER OF ANY DISCREPANCY BETWEEN UTILITIES AS SHOWN AND AS FOUND. THE CONTRACTOR SHALL CONTACT DIG SAFE (811 or 888-344-7233) A MINIMUM OF 72 HOURS, BUT NOT INCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, PRIOR TO ANY CONSTRUCTION.

SYMBOL LEGEND

PROPOSED FEATURES	EXISTING FEATURES
BOUND	BOUND
BENCHMARK	BENCHMARK
DRILL HOLE	DRILL HOLE
SURVEY POINT	SURVEY POINT
IRON PIN	IRON PIN
TP1	TP1
B1	B1
BORING	BORING
P1	P1
PERC TEST	PERC TEST
CATCH BASIN (SQUARE)	CATCH BASIN (SQUARE)
CATCH BASIN (ROUND)	CATCH BASIN (ROUND)
HEADWALL	HEADWALL
FLARED END SECTION	FLARED END SECTION
STONE APRON	STONE APRON
① DRAIN MANHOLE (DMH)	① DRAIN MANHOLE (DMH)
○ C/O DRAINAGE CLEAN OUT	○ C/O DRAINAGE CLEAN OUT
③ SANITARY SEWER MANHOLE (SMH)	③ SANITARY SEWER MANHOLE (SMH)
○ C/O SANITARY CLEAN OUT	○ C/O SANITARY CLEAN OUT
HYDRANT	HYDRANT
WATER SHUTOFF	WATER SHUTOFF
TAPPING SLEEVE & VALVE	TAPPING SLEEVE & VALVE
GATE VALVE	GATE VALVE
WELL	WELL
UTILITY POLE	UTILITY POLE
GUY POLE	GUY POLE
⑩ ELECTRICAL MANHOLE	⑩ ELECTRICAL MANHOLE
BUILDING MOUNTED LIGHT	FLOOD LIGHT
LIGHT POST	LIGHT POST
TELEPHONE MANHOLE	TELEPHONE MANHOLE
NATURAL GAS MANHOLE	NATURAL GAS MANHOLE
COMMUNICATION MANHOLE	COMMUNICATION MANHOLE
BOLLARD	BOLLARD
SINGLE POLE SIGN	SINGLE POLE SIGN
DOUBLE POLE SIGN	DOUBLE POLE SIGN
SPOT ELEVATION	SPOT ELEVATION
ACCESSIBLE PARKING STALL	ACCESSIBLE PARKING STALL
DRAINAGE FLOW	DRAINAGE FLOW
DECIDUOUS TREE	DECIDUOUS TREE
CONIFEROUS TREE	CONIFEROUS TREE

STANDARD ABBREVIATIONS

BENCHMARK	BM	END OF VERTICAL CURVE ELEVATION	EVCE	LIMITS OF CONSTRUCTION	LOC	REINFORCED CONCRETE PIPE	RCP
BEGINNING OF VERTICAL CURVE ELEVATION	BVCE	END OF VERTICAL CURVE STATION	EVCS	LIMITS OF DISTURBANCE	LOD	RIGHT-OF-WAY	ROW
BEGINNING OF VERTICAL CURVE STATION	BVCS	EXISTING	EX	MAXIMUM	MAX	SANITARY	SAN
CAST-IN-PLACE	CIP	EXISTING GRADE/GROUND	EG	MINIMUM	MIN	SANITARY MANHOLE	SMH
CAST IRON	CI	FINISHED FLOOR	FF	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	MUTCD	SEPTIC TANK	ST
CATCH BASIN	CB	FINISHED GRADE/GROUND	FG	MONITORING WELL	MW	SILT FENCE	SF
CENTERLINE	CL	FIELD INLET	FI	MONUMENT	MON	SLOPE	S=
CLEAN OUT	C/O	FLARED END SECTION	FES	NOT IN CONTRACT	NIC	STATION	STA
CORRUGATED METAL PIPE	CMP	FOOT, FEET	FT	NOT TO SCALE	NTS	STORM MANHOLE	DMH
CUBIC FEET	CF	FOOTING	FTG	POINT OF CURVATURE	PC	TANGENT	TAN
CUBIC FEET PER SECOND	CFS	FOUNDATION	FND	POINT OF INTERSECTION	PI	TANGENT TO CURVE	TC
CUBIC YARD	CY	GALLONS PER MINUTE	GPM	POLYETHYLENE, PROFESSIONAL ENGINEER	PE	TAPPING SLEEVE AND VALVE	TS&V
DIAMETER	DIA	GATE VALVE	GV	PROPERTY LINE	PL	TEMPORARY BENCHMARK	TBM
DISTRIBUTION BOX	D-BOX	HEADWALL	HW	PERC TEST, POINT OF TANGENCY	PT	TEST PIT	TP
DUCTILE IRON	DI	HIGH DENSITY POLYETHYLENE	HDPE	POLYVINYL CHLORIDE	PVC	TOP OF BANK	TOB
EDGE OF CONCRETE	EDC	HYDRANT	HYD	POLYNYL CHLORIDE	PVC	TOP OF CURB	TOC
EDGE OF GRAVEL	EOG	INTERSECTION	INT	POND	PND	TOP OF WALL	TOW
EDGE OF PAVEMENT	EOP	INVERT	INV	QUANTITY	QTY	TYPICAL	TYP
ELECTRIC	ELEC	IRON PIN	IP	QUALITY ASSURANCE	QA	VERIFY IN FIELD	VIF
ELECTRIC MANHOLE	EMH	IRON PIPE SIZE	IPS	QUALITY CONTROL	QC	WATER VALVE	WV
ELEVATION	ELEV	LENGTH	L=	RADIUS	R=		

GENERAL NOTES

- EXACT OBJECT LOCATIONS MAY DIFFER FROM THAT AS SHOWN, AND ADDITIONAL SUB-SURFACE AND SURFACE UTILITIES AND STRUCTURES MAY EXIST. THE CONTRACTOR IS TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK.
- UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED PREMISES. EXISTING UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL UTILITIES. ALL DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND ENGINEER. SITE CONTRACTOR SHALL CALL UTILITY LOCATOR SERVICE AND UTILITY OWNERS 72 HOURS, EXCLUSIVE OF WEEKENDS AND HOLIDAYS, PRIOR TO ANY DIGGING, DRILLING, OR BLASTING:
 A. DIG SAFE (TEL: #811)
 B. NON DIG SAFE MEMBER FACILITY OPERATORS IF KNOWN. A LIST OF DIG SAFE MEMBERS BY STATE CAN BE FOUND ON THE DIG SAFE WEB SITE WWW.DIGSAFE.COM
 C. CITY OF LEBANON PUBLIC WORKS DEPARTMENT (TEL: 448-3112)
- THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL FROM THE ENGINEER.
- THE CONTRACTOR IS INSTRUCTED TO COOPERATE WITH ANY AND ALL OTHER CONTRACTORS PERFORMING WORK ON THIS JOB SITE DURING THE PERFORMANCE OF THIS CONTRACT.
- THE CONTRACTOR SHALL RESTORE LAWNS, DRIVEWAYS, CULVERTS, SIGNS AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO EXISTING CONDITIONS OR BETTER AS DETERMINED BY THE ENGINEER. ANY DAMAGED TREES, SHRUBS AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE, UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIRED PERMITS.
- THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING, AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, AND CERTIFICATES.
- THE CONTRACTOR WILL PROTECT EXISTING PROPERTY LINE MONUMENTATION. ANY MONUMENTATION DISTURBED OR DESTROYED, AS JUDGED BY THE ENGINEER OR OWNER SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE UNDER THE SUPERVISION OF A NEW HAMPSHIRE STATE LICENSED LAND SURVEYOR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE ALL PLAN SHEETS AND SPECIFICATIONS, AND COORDINATE WORK WITH ALL CONTRACTS FOR THE SITE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT EXPLORATORY TEST PITS AS MAY BE REQUIRED TO DETERMINE UNDERGROUND CONDITIONS.
- ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS FOR CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK.
- MAINTAIN FLOW FOR ALL EXISTING UTILITIES, UNLESS NOTED OTHERWISE.
- ALL SITE FILL SHALL MEET SELECTED FILL STANDARDS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- CONTRACTOR TO GRADE ALL AREAS ON THE SITE TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND IMPERVIOUS SURFACES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL PROVIDE MARKED-UP AS-BUILT PLANS FOR ALL UTILITIES SHOWING CONNECTIONS, BENDS, VALVES, LENGTHS OF LINES AND INVERTS. AS-BUILT PLANS SHALL BE REVIEWED BY THE OWNER AND HIS REPRESENTATIVES BEFORE UTILITIES WILL BE ACCEPTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION, MONITORING, MAINTENANCE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES AND TAKING PRECAUTIONARY STEPS TO AVOID ANY SEDIMENT TRANSFER TO NEIGHBORING SITES OR WATERS OF THE STATE.
- THE QUALITY OF GROUNDWATER SHALL NOT BE ADVERSELY AFFECTED BY THE PROPOSED DEVELOPMENT. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE RULES AND REGULATIONS OF THE NEW HAMPSHIRE DIVISION OF WATER SUPPLY AND POLLUTION CONTROL WITH REGARD TO GROUNDWATER.

EPA 2022 CONSTRUCTION GENERAL PERMIT

- THIS PROJECT IS SUBJECT TO AN EPA 2022 CONSTRUCTION GENERAL PERMIT (CGP) FOR STORMWATER DISCHARGES FROM THE SITE FROM START OF CONSTRUCTION THROUGH FINAL COMPLETION.
- CONTRACTOR SHALL FUNCTION AS AND MEET ALL REQUIREMENTS FOR ELIGIBILITY AS AN OPERATOR AS DEFINED BY THE CGP AND SHALL FOLLOW THESE KEY REQUIREMENTS AT A MINIMUM:
 A. DEVELOP A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND KEEP IT UP TO DATE.
 B. COMPLETE AND SUBMIT A NOTICE OF INTENT (NOI) TO EPA VIA THE NPDES EREPORTING TOOL (NET).
 C. IMPLEMENT EROSION AND SEDIMENT CONTROLS AND POLLUTION PREVENTION PRACTICES THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT
 D. CONDUCT REQUIRED INSPECTIONS TO VERIFY COMPLIANCE WITH PERMIT. INSPECTIONS MAY ONLY BE CONDUCTED BY A QUALIFIED PERSON WHO HAS EITHER: (1) COMPLETED THE EPA CONSTRUCTION INSPECTION COURSE AND PASSED THE EXAM, OR (2) HOLDS A CURRENT CONSTRUCTION INSPECTION CERTIFICATION OR LICENSE FROM A PROGRAM THAT COVERS THE SAME CORE MATERIAL AS EPA'S INSPECTION COURSE.
 E. CONDUCT ROUTINE MAINTENANCE AND TAKE CORRECTIVE ACTION TO FIX PROBLEMS WITH CONTROLS OR DISCHARGES.
 F. COMPLETE DOCUMENTATION OF ALL SITE INSPECTIONS, DEWATERING INSPECTIONS, AND CORRECTIVE ACTIONS.
 G. COMPLY WITH TURBIDITY MONITORING REQUIREMENTS FOR DEWATERING DISCHARGES TO SENSITIVE WATERS (IF APPLICABLE).
 H. COMPLY WITH ANY STATE, TRIBAL, OR TERRITORY-SPECIFIC REQUIREMENTS IN PART 9 OF THE PERMIT.

WILDLIFE PROTECTION NOTES

- ALL OBSERVATIONS OF THREATENED OR ENDANGERED SPECIES SHALL BE REPORTED IMMEDIATELY TO THE NEW HAMPSHIRE FISH AND GAME DEPARTMENT NONGAME AND ENDANGERED WILDLIFE ENVIRONMENTAL REVIEW PROGRAM BY PHONE AT 603-271-2461 AND BY EMAIL AT NHFGREVIEW@WILDLIFE.NH.GOV. EMAIL SUBJECT LINE: NH824-0890, DHMC PARKING EXPANSION, WILDLIFE SPECIES OBSERVATION.
- PHOTOGRAPHS OF THE OBSERVED SPECIES AND NEARBY ELEMENTS OF HABITAT OR AREAS OF LAND DISTURBANCE SHALL BE PROVIDED TO NHF&G IN DIGITAL FORMAT AT THE ABOVE EMAIL ADDRESS FOR VERIFICATION AS FEASIBLE;
- IN THE EVENT A THREATENED OR ENDANGERED SPECIES IS OBSERVED ON THE PROJECT SITE DURING THE TERM OF THE PERMIT, THE SPECIES SHALL NOT BE DISTURBED, HANDLED, OR HARMED IN ANY WAY PRIOR TO CONSULTATION WITH NHF&G AND IMPLEMENTATION OF CORRECTIVE ACTIONS RECOMMENDED BY NHF&G, IF ANY, TO ASSURE THE PROJECT DOES NOT APPRECIABLY JEOPARDIZE THE CONTINUED EXISTENCE OF THREATENED AND ENDANGERED SPECIES AS DEFINED IN FIS 1002.04
- THE NHF&G, INCLUDING ITS EMPLOYEES AND AUTHORIZED AGENTS, SHALL HAVE ACCESS TO THE PROPERTY DURING THE TERM OF THE PERMIT.

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Description					
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SITE LEGEND AND NOTES

Sheet Title

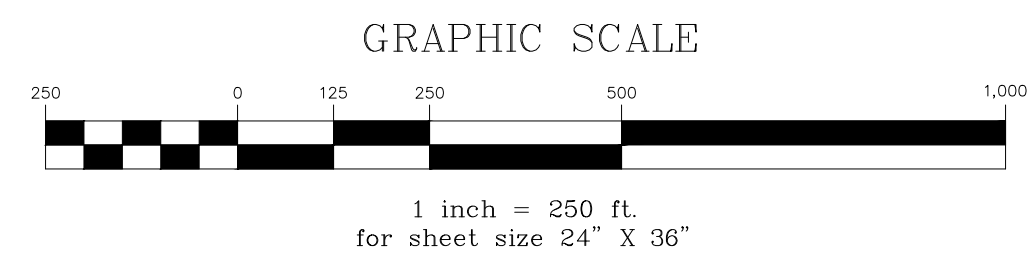
**MAIN CAMPUS
PARKING EXPANSION**

Project Title

EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	AS NOTED
Date:	03/11/2024

C001

Page 2 of 27



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(E) ABUTTER ALSO HOLDS EASEMENT ON SUBJECT PROPERTY
(H) ABUTTING PROPERTY IN TOWN OF HANOVER
(C) PROJECT CONSULTANT

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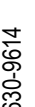
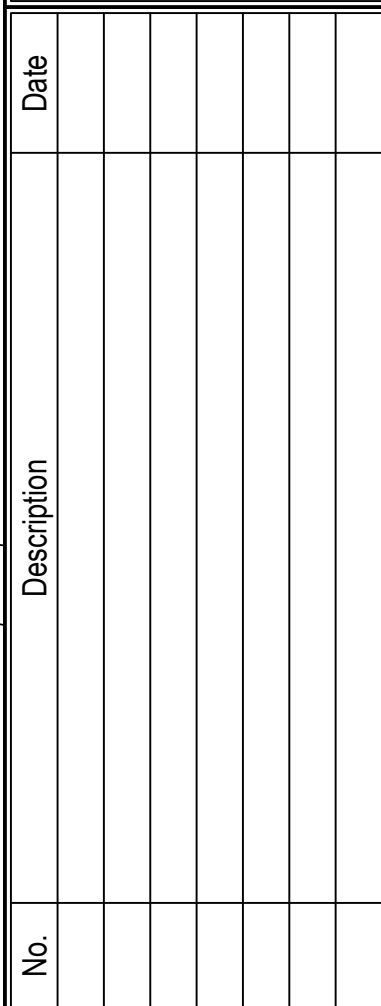
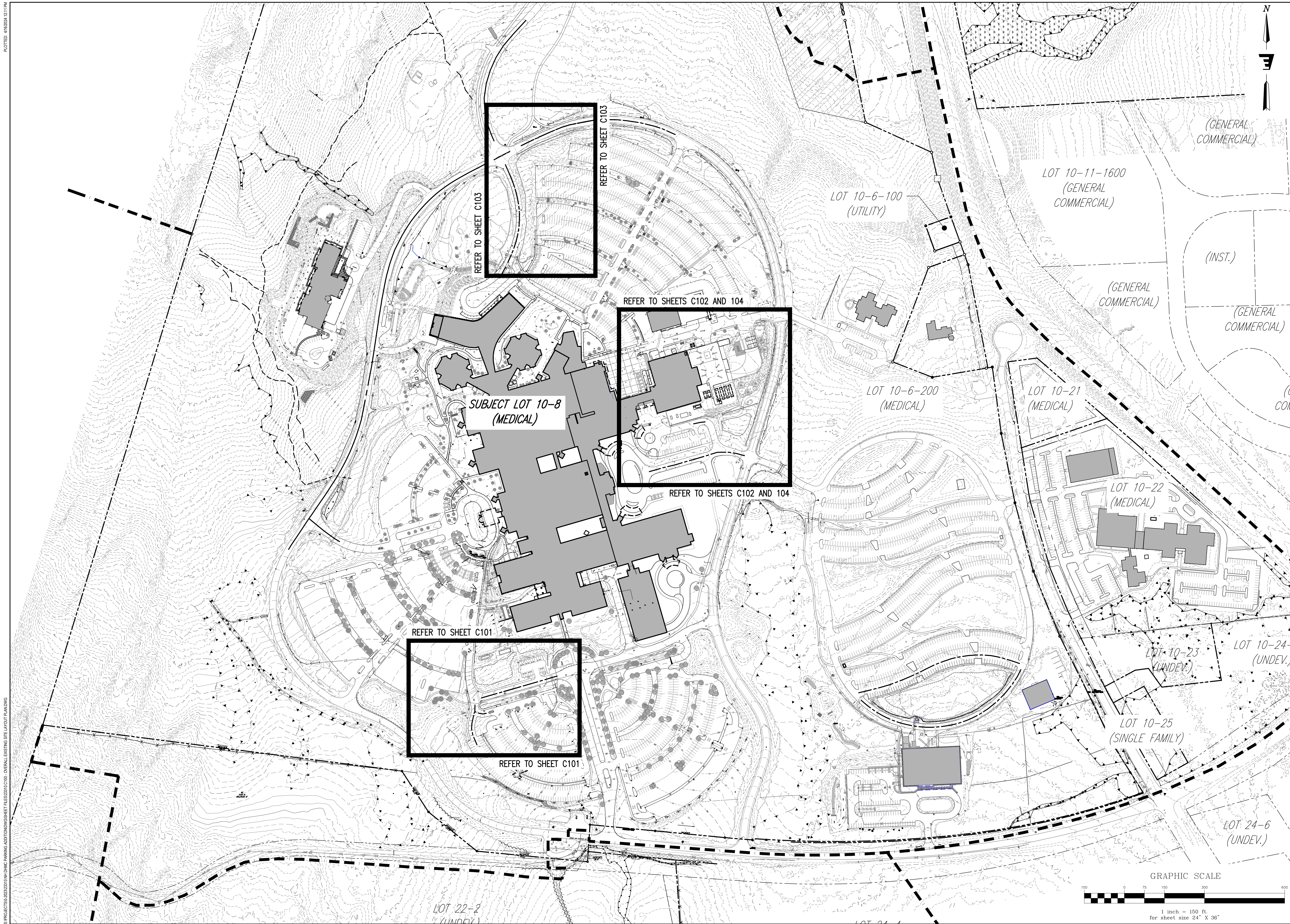
DARTMOUTH - HITCHCOCK
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1 MEDICAL CENTER DRIVE
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OVERVIEW PLAN

**MAIN CAMPUS
PARKING EXPANSION**

EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 250'
Date:	03/11/2024

C002
Page 3 of 27



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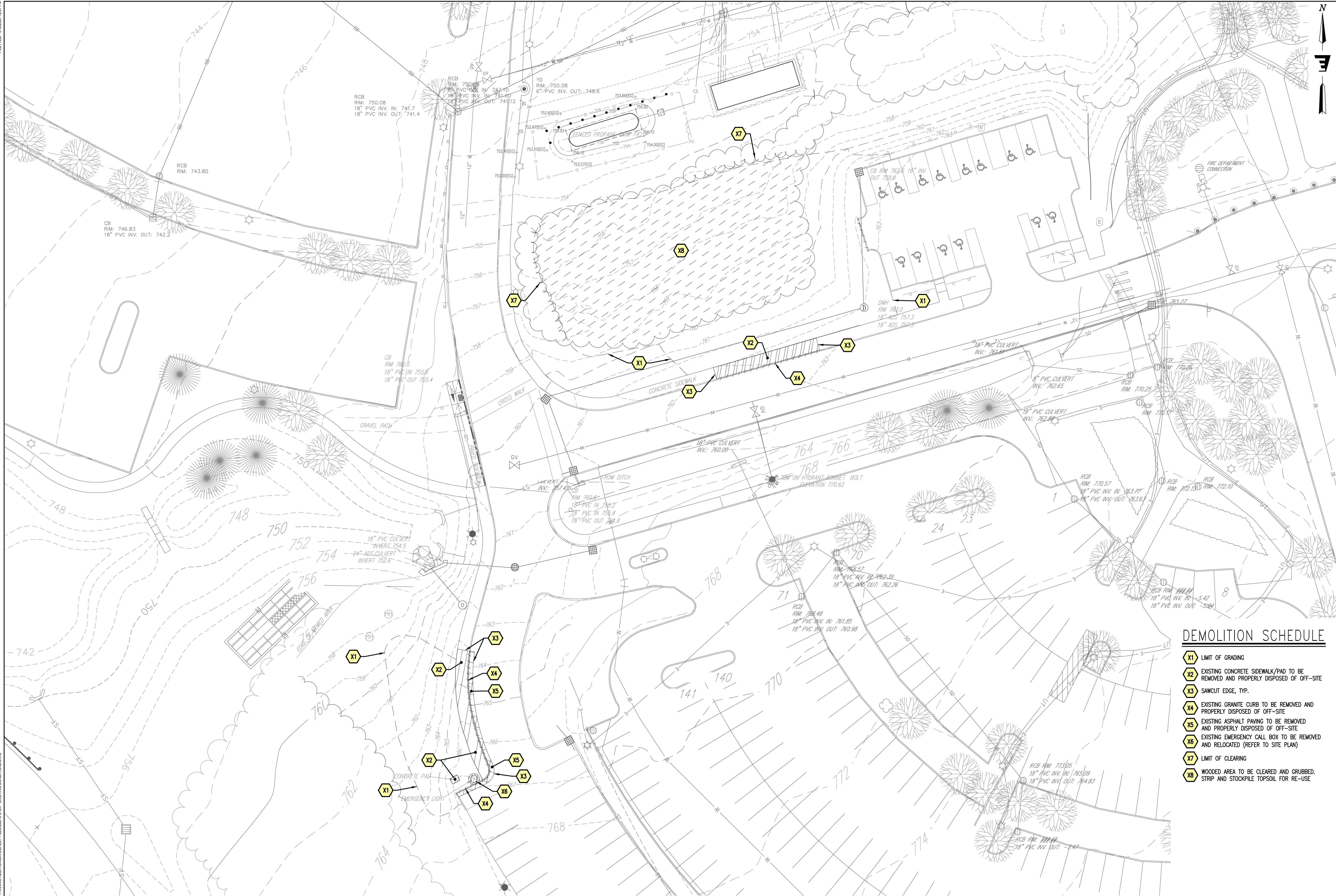
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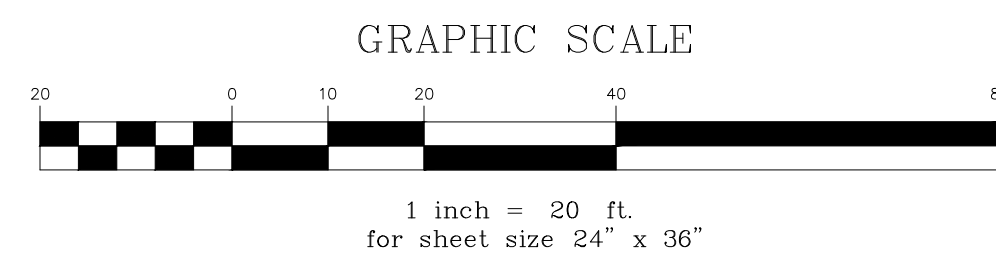
**MAIN CAMPUS
PARKING EXPANSION**
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

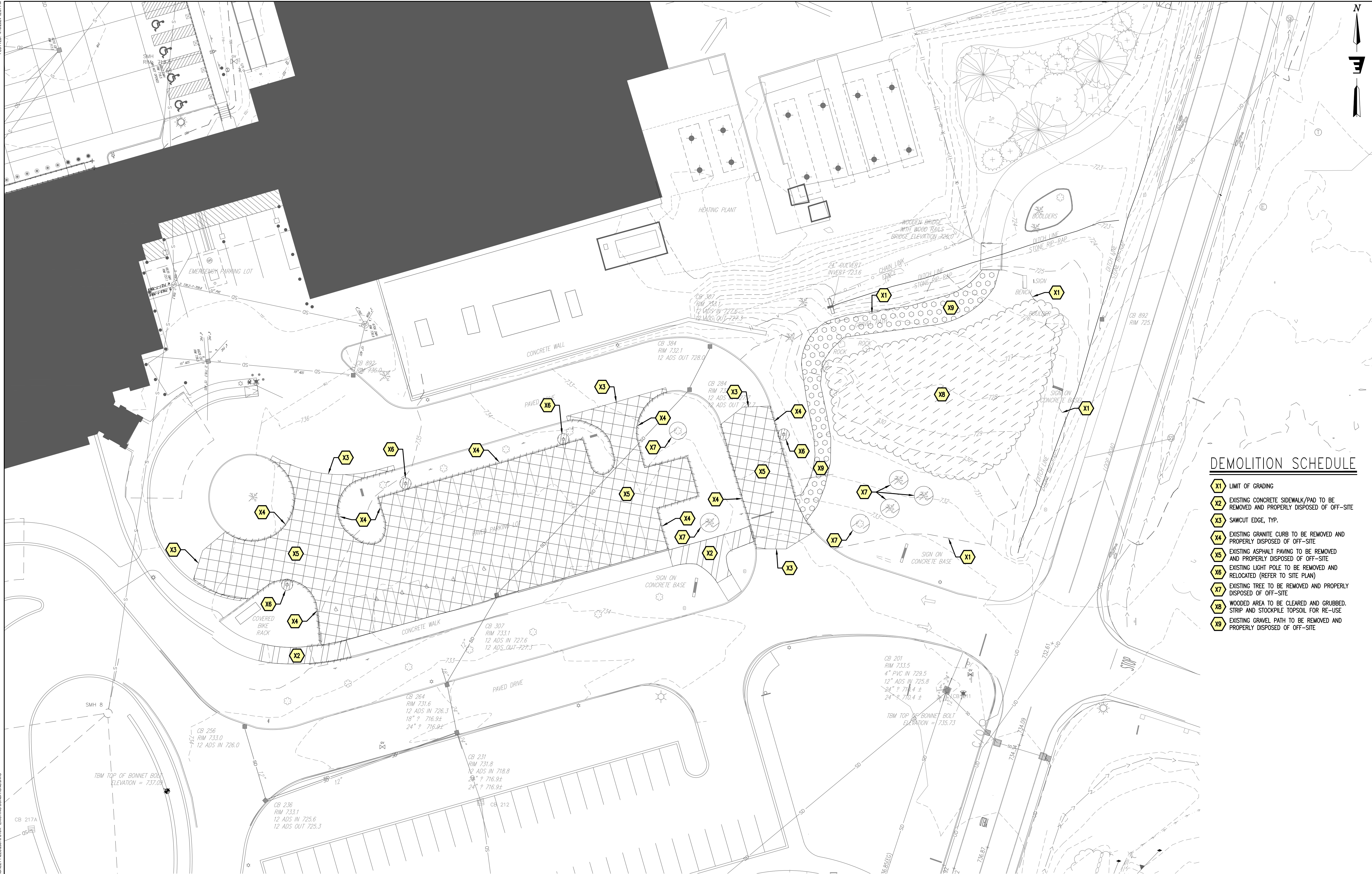
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EV Project #	23310
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Checked By:	NAF
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Date:	03/11/2024

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Page 4 of 27



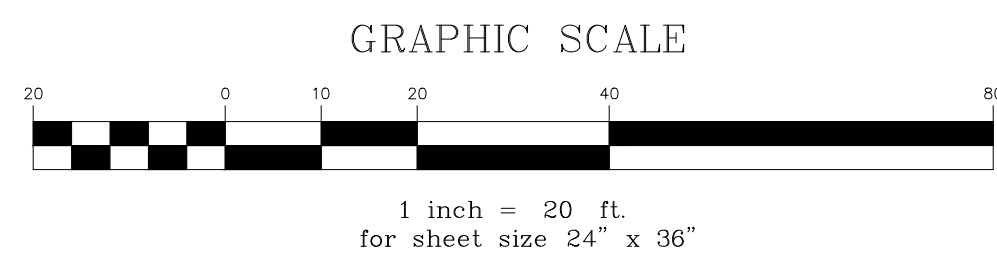
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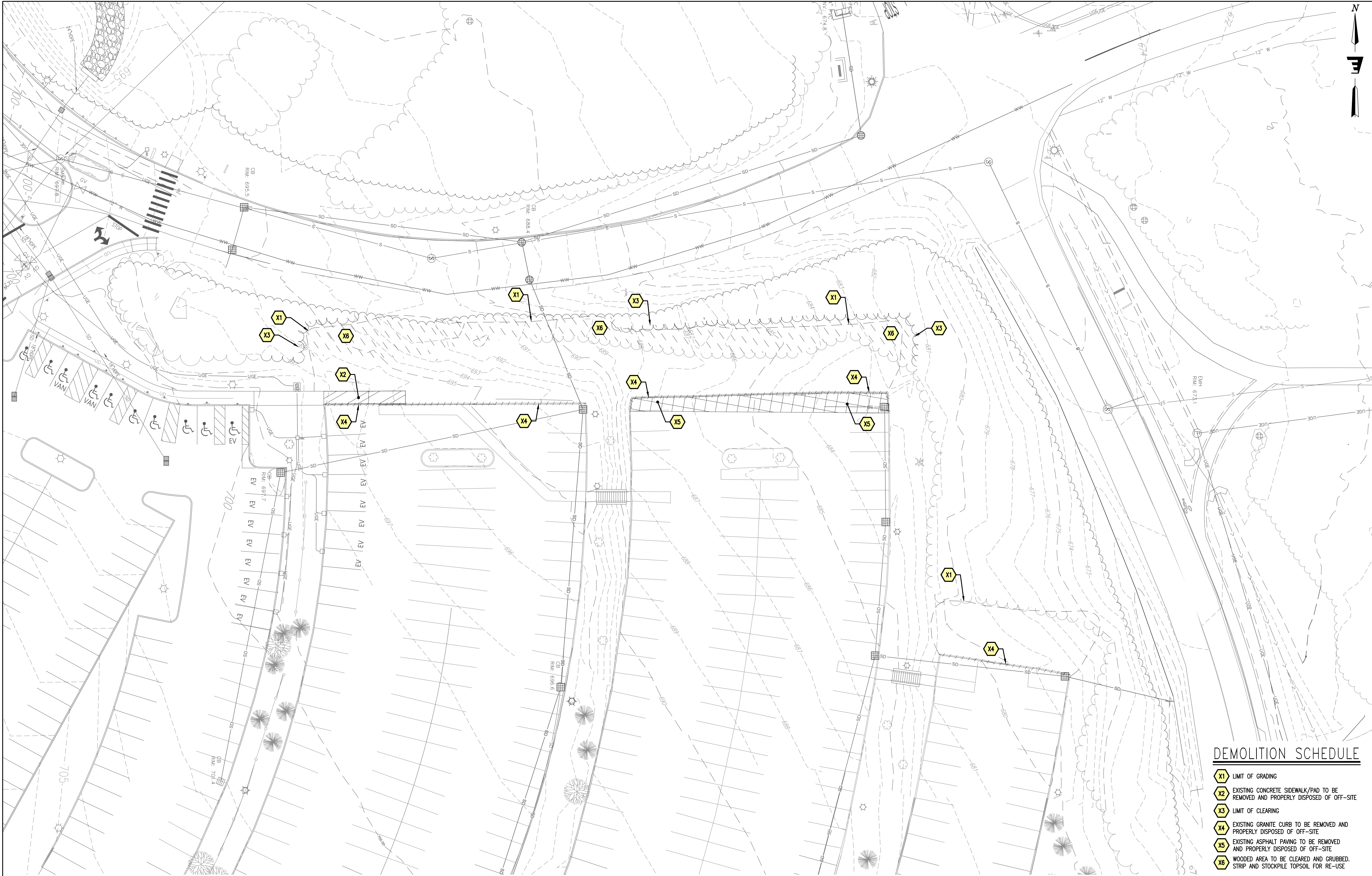


EXISTING CONDITIONS – PARKING AREA "E"

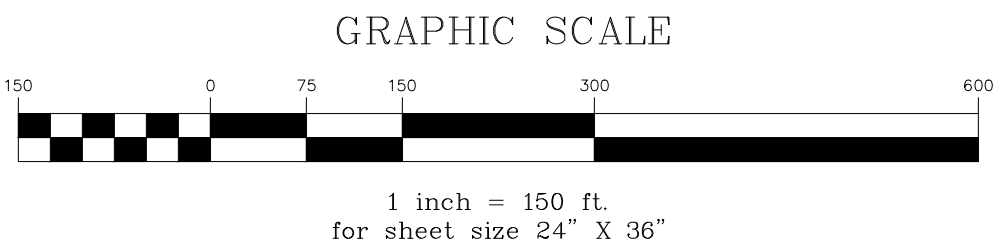
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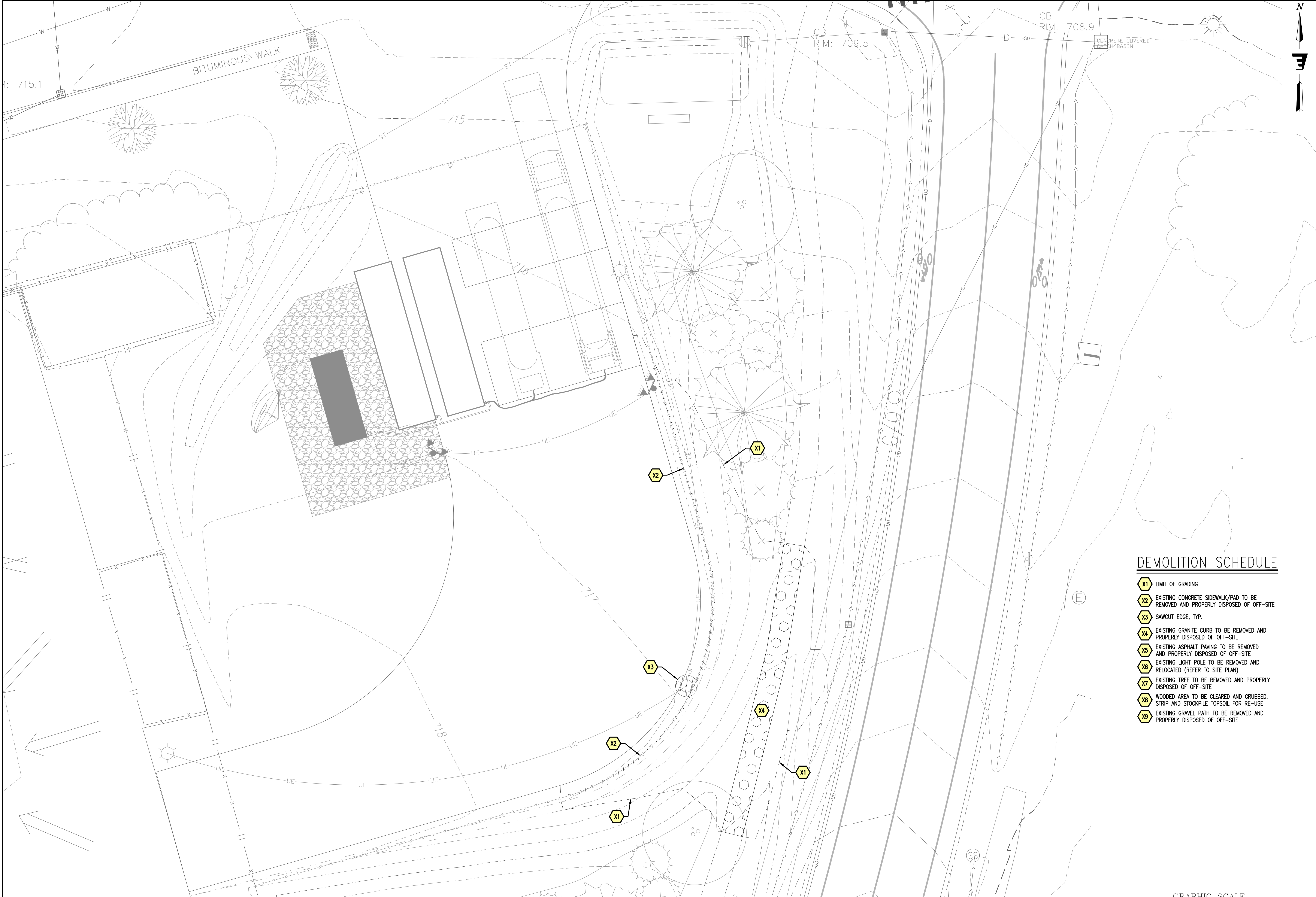
EXISTING CONDITIONS – PARKING AREA "2"
SCALE: 1" = 20'



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DARTMOUTH - HITCHCOCK MEDICAL CENTER 1 MEDICAL CENTER DRIVE LEBANON, NEW HAMPSHIRE 03766	
EXISTING CONDITIONS PARKING AREA "2" MAIN CAMPUS PARKING EXPANSION LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE	
EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 20'
Date:	03/11/2024
C103 Page 7 of 27	

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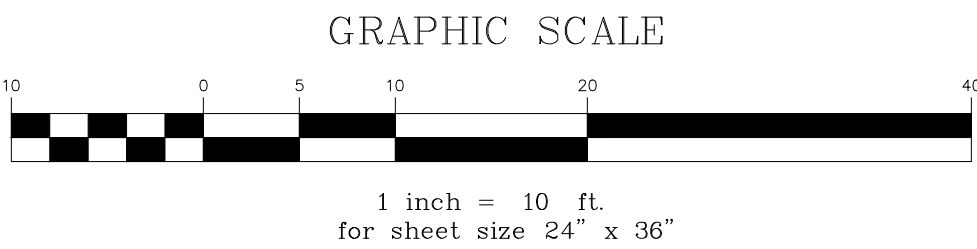


EXISTING CONDITIONS – CNG FACILITY

SCALE: 1" = 10'

DEMOLITION SCHEDULE

- X1 LIMIT OF GRADING
- X2 EXISTING CONCRETE SIDEWALK/PAD TO BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE
- X3 SAWCUT EDGE, TYP.
- X4 EXISTING GRANITE CURB TO BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE
- X5 EXISTING ASPHALT PAVING TO BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE
- X6 EXISTING LIGHT POLE TO BE REMOVED AND RELOCATED (REFER TO SITE PLAN)
- X7 EXISTING TREE TO BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE
- X8 WOODED AREA TO BE CLEARED AND GRUBBED. STRIP AND STOCKPILE TOPSOIL FOR RE-USE
- X9 EXISTING GRAVEL PATH TO BE REMOVED AND PROPERLY DISPOSED OF OFF-SITE



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EXISTING CONDITIONS
 CNG FACILITY

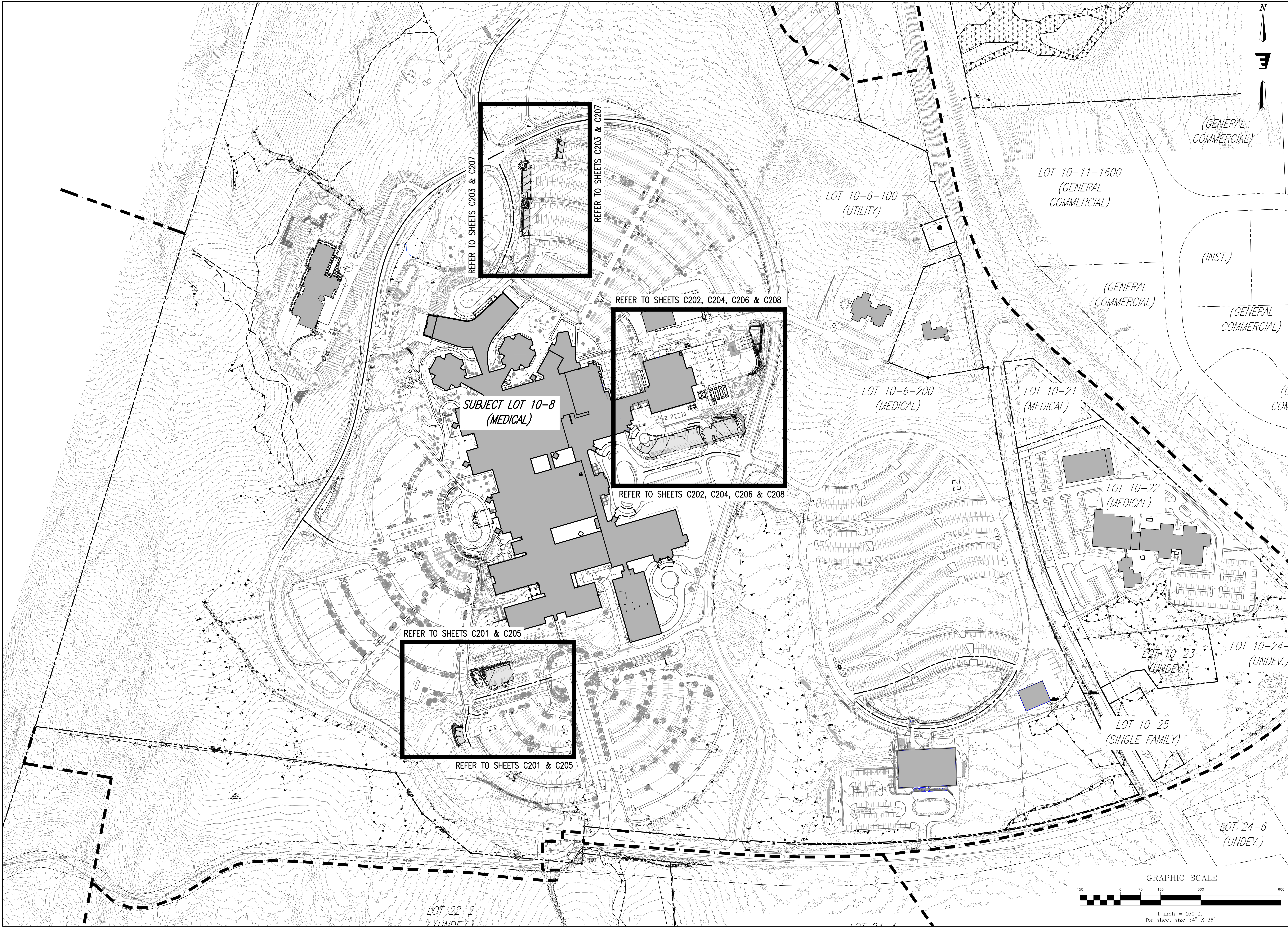
Sheet Title:

MAIN CAMPUS
 PARKING EXPANSION

Project Title:

EV Project #	23310
Drawn By:	JWF
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Date:	03/11/2024

C104
 Page 8 of 27



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OVERALL SITE LAYOUT PLAN

MAIN CAMPUS

PARKING EXPANSION

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

Sheet Title:

EV Project #

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Scale:

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23310

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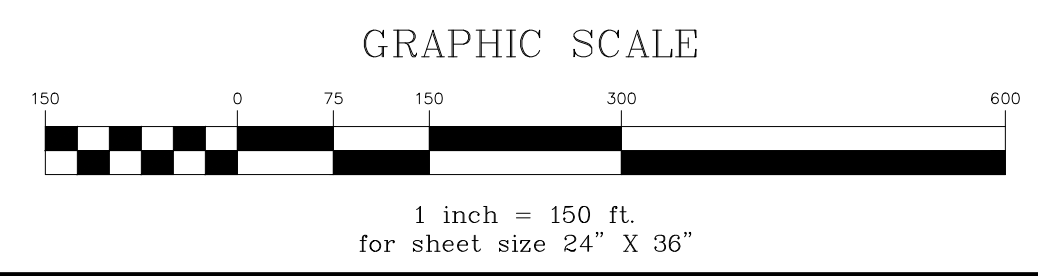
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1" = 150'

03/11/2024

C200

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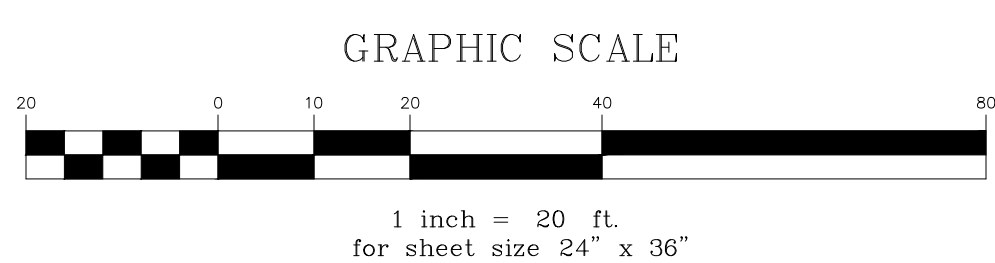


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SITE PLAN – PARKING AREAS "4" AND "8"
SCALE: 1" = 20'

PARKING NOTE
PROPOSED PARKING SHOWN HERE DEPICTS 6 NEW PARKING SPACES AT LOT 4 AND 16 NEW PARKING SPACES AT LOT 8 FOR A NET GAIN IN PARKING OF 22 SPACES.



SITE SCHEDULE

- C1 ASPHALT PAVING
- C2 VERTICAL GRANITE CURB
- C3 FLUSH GRANITE CURB
- C4 ASPHALT SIDEWALK
- C5 CONCRETE SIDEWALK
- C6 LIGHT POLE
- C7 STOP SIGN

STORMWATER SCHEDULE

- D1 2' WIDE OPENING IN CURB
ELEV.: 761.98
- D2 SEDIMENT FOREBAY
BOTTOM ELEV.: 759.00
OVERFLOW WEIR: 761.90
TOP BERM: 762.00
- D3 RAIN GARDEN
FINISHED GRADE: 757.00
TOP OF MEDIA: 756.75
BOTTOM OF MEDIA: 754.75
BOTTOM OF PEA GRAVEL: 754.58
UNDERDRAIN INV.: 753.75
BOTTOM OF UNDERDRAIN GRAVEL: 753.75
- D4 OUTLET STRUCTURE
18" DIA. NYLOPLAST BASIN, WITH CONE STYLE
REDUCE AND 12" DIA. GRATE
RIM: 760.50
2" DIA. ORIFICE EVEL.: 759.60
OUTLET INV. (18" DIA): 755.50
- D5 FLARED END SECTION
INV. ELEV.: 755.00

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SITE PLANS - PARKING
AREAS "4" AND "8"

MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 20'
Date: 03/11/2024

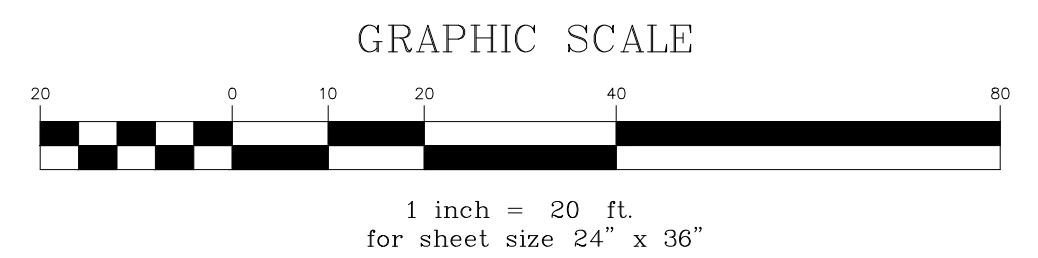
C201
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SCALE: 1" = 20'

PROPOSED PARKING SHOWN HERE DEPICTS 52 PARKING SPACES, OF WHICH 28 ARE EXISTING, SO THE NET GAIN IN PARKING IS 24 SPACES.





SITE PLAN – PARKING AREA “2”
SCALE: 1" = 20'

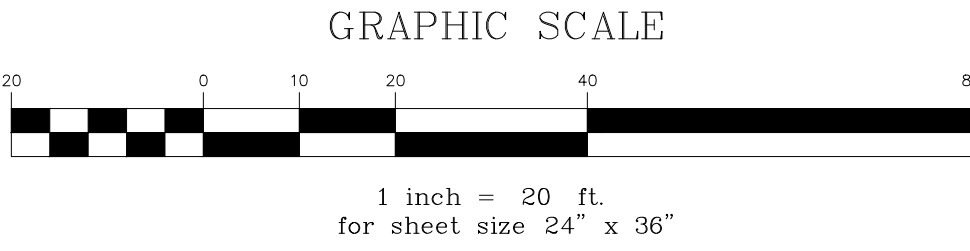
PARKING NOTE
PROPOSED PARKING SHOWN HERE DEPICTS 26 NEW PARKING SPACES AND THE RE-PAVING OF TWO EXISTING PARKING SPACES ("E1" AND "E2"), SO THE NET GAIN IN PARKING IS 26 SPACES.

SITE SCHEDULE

- C1 ASPHALT PAVING
- C2 VERTICAL GRANITE CURB
- C3 LIGHT POLE

STORMWATER SCHEDULE

- D1 2' WIDE OPENING IN CURB
ELEV.: 693.61
- D2 2' WIDE OPENING IN CURB
ELEV.: 693.34
- D3 2' WIDE OPENING IN CURB
ELEV.: 682.85
- D4 2' WIDE OPENING IN CURB
ELEV.: 681.99
- D5 SEDIMENT FOREBAY
BOTTOM ELEV.: 690.00
OVERFLOW WEIR: 691.90
TOP BERM: 692.00
- D6 RAIN GARDEN
FINISHED GRADE: 691.00
TOP OF MEDIA: 690.75
BOTTOM OF MEDIA: 688.75
BOTTOM OF PEA GRAVEL: 688.58
UNDERDRAIN INV.: 687.75
BOTTOM OF UNDERDRAIN GRAVEL: 687.75
- D7 OUTLET STRUCTURE
12" DIA., NYLOPLAST BASIN, WITH DOMED GRATE
RIM: 691.75
1" DIA. ORIFICE INV: 687.75
OUTLET INV. (12" DIA.): 683.24
- D8 6 LF OF 12" PVC PIPE, S=0.010 FT/FT
- D9 PROVIDE FITTINGS AND ADAPTERS, AS NEEDED,
TO TIE TO EXISTING PVC DRAIN LINE, INV.
ELEV.: 683.18
- D10 GRASS LINED SWALE
- D11 SEDIMENT FOREBAY
BOTTOM ELEV.: 679.50
OVERFLOW WEIR: 781.40
TOP BERM: 781.50
- D12 RAIN GARDEN
FINISHED GRADE: 680.50
TOP OF MEDIA: 680.25
BOTTOM OF MEDIA: 678.25
BOTTOM OF PEA GRAVEL: 678.08
UNDERDRAIN INV.: 677.25
BOTTOM OF UNDERDRAIN GRAVEL: 677.25
- D13 OUTLET STRUCTURE
12" DIA., NYLOPLAST BASIN, WITH DOMED GRATE
RIM: 681.33
2" DIA. ORIFICE INV: 681.00
1" DIA. ORIFICE INV: 677.25
OUTLET INV. (12" DIA.): 677.00
- D14 44 LF OF 12" PVC PIPE, S=0.045 FT/FT
- D15 FLARED END SECTION
INV. ELEV.: 675.00



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NICHOLAS FIORE
No. 13286
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SITE PLAN - PARKING AREA "2"

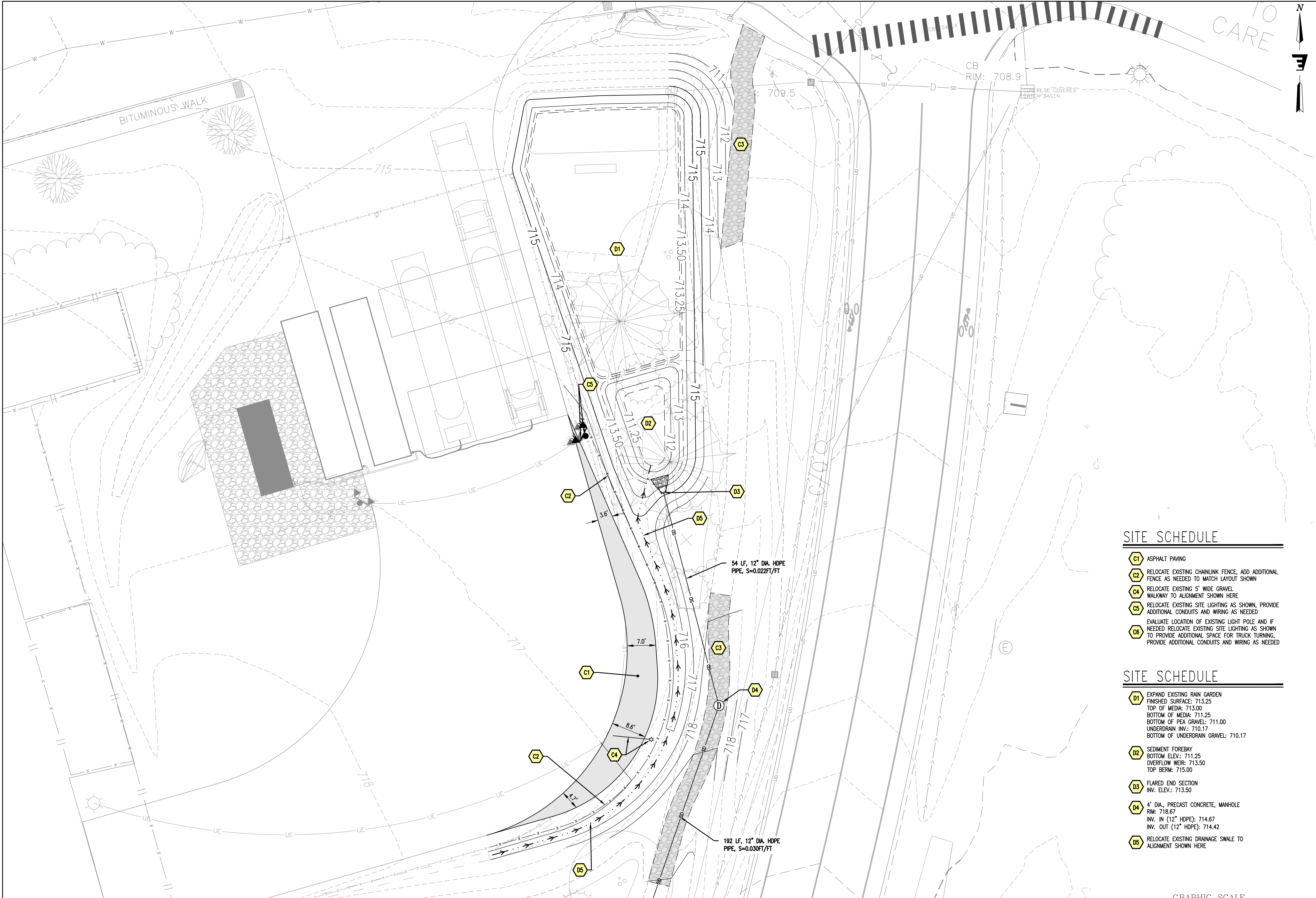
MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 10'
Date: 03/11/2024

C203

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SITE PLAN - CNG FACILITY

SCALE: 1" = 10'

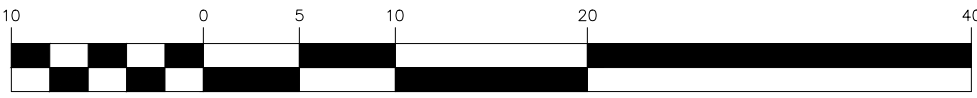
SITE SCHEDULE

- C1** ASPHALT PAVING
- C2** RELOCATE EXISTING CHAINLINK FENCE, ADD ADDITIONAL FENCE AS NEEDED TO MATCH LAYOUT SHOWN
- C4** RELOCATE EXISTING 5' WIDE GRAVEL WALKWAY TO ALIGNMENT SHOWN HERE
- C5** RELOCATE EXISTING SITE LIGHTING AS SHOWN, PROVIDE ADDITIONAL CONDUITS AND WIRING AS NEEDED
- C6** EVALUATE LOCATION OF EXISTING LIGHT POLE AND IF NEEDED RELOCATE EXISTING SITE LIGHTING AS SHOWN TO PROVIDE ADDITIONAL SPACE FOR TRUCK TURNING, PROVIDE ADDITIONAL CONDUITS AND WIRING AS NEEDED

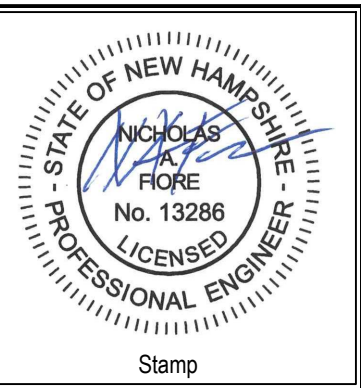
SITE SCHEDULE

- D1** EXPAND EXISTING RAIN GARDEN
FINISHED SURFACE: 713.25
TOP OF MEDIA: 713.00
BOTTOM OF MEDIA: 711.25
BOTTOM OF PEA GRAVEL: 711.00
UNDERDRAIN INV.: 710.17
BOTTOM OF UNDERDRAIN GRAVEL: 710.17
- D2** SEDIMENT FOREBAY
BOTTOM ELEV.: 711.25
OVERFLOW WEIR: 713.50
TOP BERM: 715.00
- D3** FLARED END SECTION
INV. ELEV.: 713.50
- D4** 4' DIA. PRECAST CONCRETE, MANHOLE
RIM: 718.67
INV. IN (12" HDPE): 714.67
INV. OUT (12" HDPE): 714.42
- D5** RELOCATE EXISTING DRAINAGE SWALE TO ALIGNMENT SHOWN HERE

GRAPHIC SCALE



1 inch = 10 ft.
for sheet size 24" x 36"



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SITE PLAN - CNG FACILITY

MAIN CAMPUS
 PARKING EXPANSION

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 10'
Date:	03/11/2024

EROSION CONTROL LEGEND

EROSION PREVENTION AND SEDIMENT CONTROL STRATEGY
THE FOLLOWING TECHNIQUES WILL BE UTILIZED AS PART OF A SEDIMENT AND EROSION CONTROL PROGRAM. THE SEDIMENT AND EROSION CONTROL PROGRAM WILL BE IMPLEMENTED IN STAGES. CERTAIN ITEMS FROM ONE STAGE WILL LIKELY OVERLAP OR TAKE PLACE CONCURRENTLY WITH ITEMS FROM OTHER STAGES.

TEMPORARY INLET PROTECTION — INSTALL AS INDICATED ON PLANS. STONE TO BE REMOVED AND REPLACED WITH CLEAN STONE WHEN SEDIMENT IS $\leq 1/2$ DEPTH OF STONE. REMOVE ALL SEDIMENT IF COLLECTED IN STRUCTURE AS SOON AS POSSIBLE.

PERMANENT EROSION CONTROL NETTING
THIS STRUCTURAL MEASURE IS INSTALLED IN AREAS THAT HAVE SLOPES 3:1 AND GREATER AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. THE NETTING IS TYPICALLY IMPREGNATED WITH GRASS SEED AND SOMETIMES STAPLED TO THE EXPOSED SOIL. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

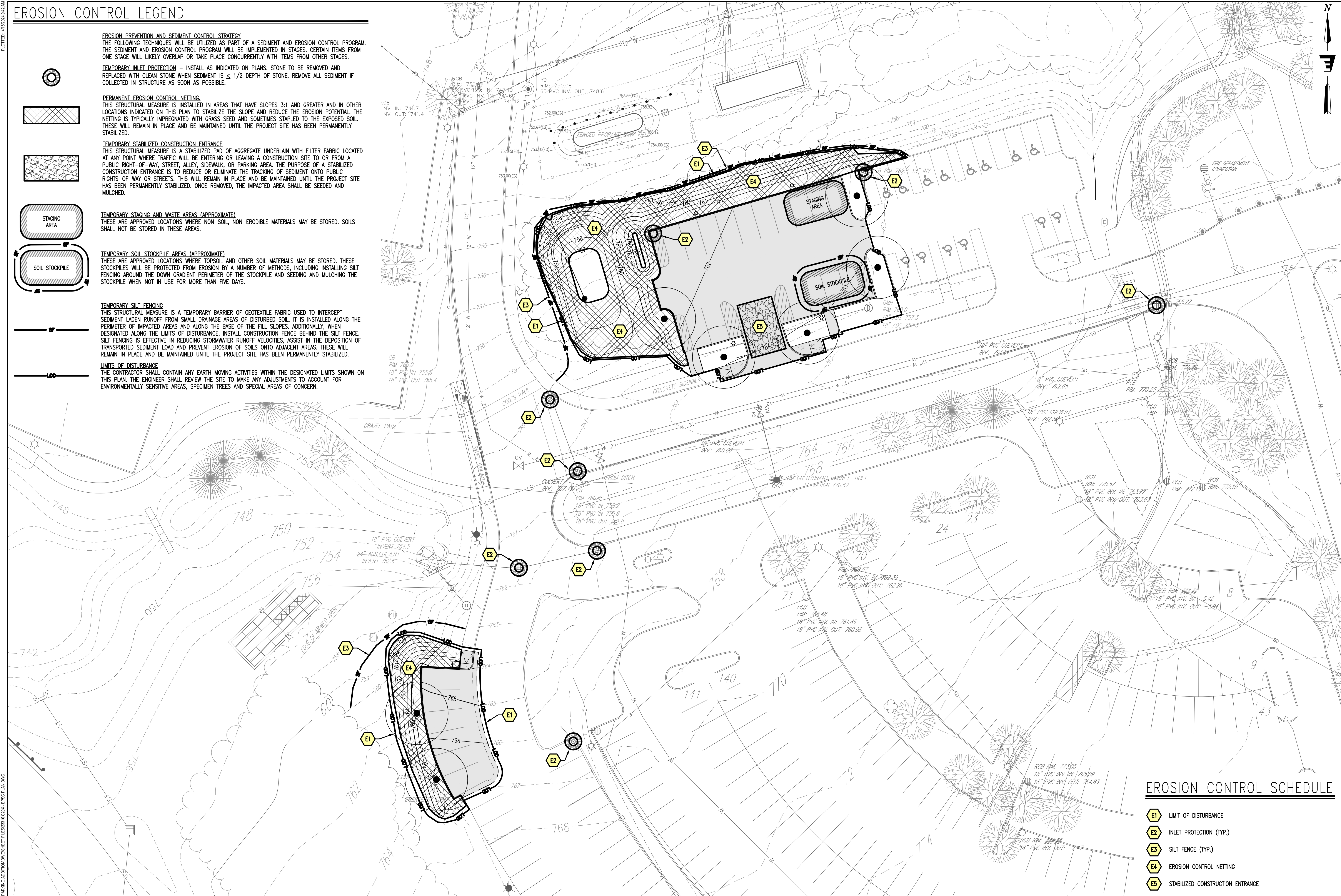
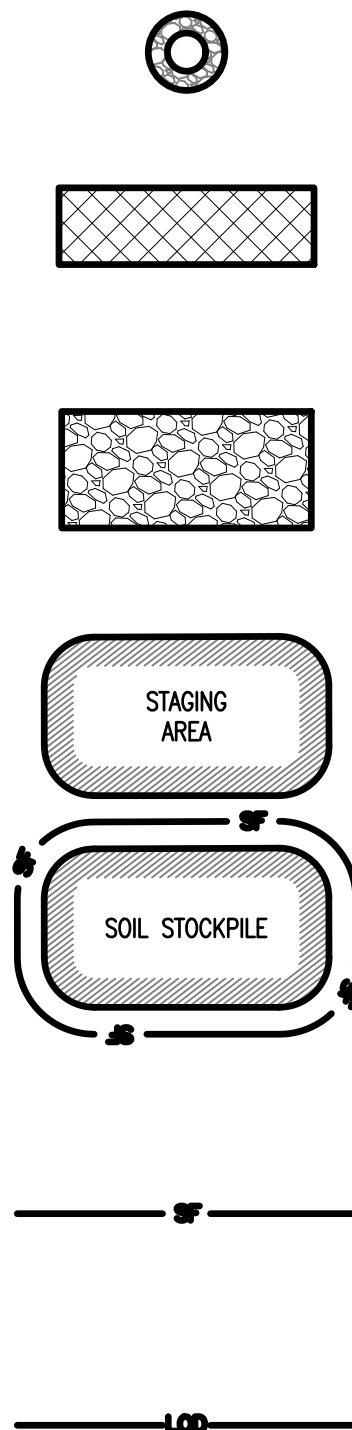
TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE SEEDED AND MULCHED.

TEMPORARY STAGING AND WASTE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE NON-SOIL, NON-ERODIBLE MATERIALS MAY BE STORED. SOILS SHALL NOT BE STORED IN THESE AREAS.

TEMPORARY SOIL STOCKPILE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS.

TEMPORARY SILT FENCING
THIS STRUCTURAL MEASURE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. IT IS INSTALLED ALONG THE PERIMETER OF IMPACTED AREAS AND ALONG THE BASE OF THE FILL SLOPES. ADDITIONALLY, WHEN DESIGNATED ALONG THE LIMITS OF DISTURBANCE, INSTALL CONSTRUCTION FENCE BEHIND THE SILT FENCE. SILT FENCING IS EFFECTIVE IN REDUCING STORMWATER RUNOFF VELOCITIES, ASSIST IN THE DEPOSITION OF TRANSPORTED SEDIMENT LOAD AND PREVENT EROSION OF SOILS ONTO ADJACENT AREAS. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

LIMITS OF DISTURBANCE
THE CONTRACTOR SHALL CONTAIN ANY EARTH MOVING ACTIVITIES WITHIN THE DESIGNATED LIMITS SHOWN ON THIS PLAN. THE ENGINEER SHALL REVIEW THE SITE TO MAKE ANY ADJUSTMENTS TO ACCOUNT FOR ENVIRONMENTALLY SENSITIVE AREAS, SPECIMEN TREES AND SPECIAL AREAS OF CONCERN.



SITE PLAN - PARKING AREAS "4" AND "8"

SCALE: 1" = 20'

EROSION CONTROL SCHEDULE

- E1 LIMIT OF DISTURBANCE
- E2 INLET PROTECTION (TYP.)
- E3 SILT FENCE (TYP.)
- E4 EROSION CONTROL NETTING
- E5 STABILIZED CONSTRUCTION ENTRANCE

GRAPHIC SCALE



1 inch = 20 ft.
for sheet size 24" x 36"

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FILE NO. 13286

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EROSION PREVENTION AND SEDIMENT CONTROL PLAN - AREAS "4" AND "8"

MAIN CAMPUS PARKING EXPANSION

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

Sheet Title:

EV Project #

23310

Drawn By:

JWF

Checked By:

NAF

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1" = 20'

Date:

03/11/2024

C205

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S:\PROJECTS\2022\2310 NH DMAC PARKING ADDITION\DWG\SHEET FILES\23310 C205 - EROSION PLAN.DWG

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S:\PROJECTS\2022\20221010 NH DMAC PARKING ADDITION\DWGSHEET FILES\20221010 C206 - EPSG PLAN.DWG
PLOTTED: 4/10/2024 9:43 AM

EROSION CONTROL LEGEND

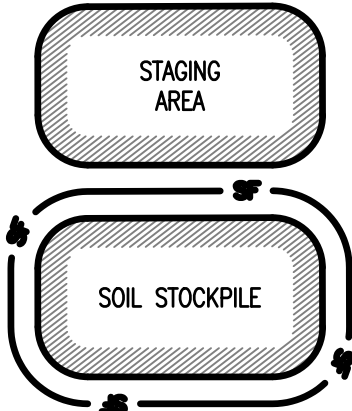
EROSION PREVENTION AND SEDIMENT CONTROL STRATEGY
THE FOLLOWING TECHNIQUES WILL BE UTILIZED AS PART OF A SEDIMENT AND EROSION CONTROL PROGRAM. THE SEDIMENT AND EROSION CONTROL PROGRAM WILL BE IMPLEMENTED IN STAGES. CERTAIN ITEMS FROM ONE STAGE WILL LIKELY OVERLAP OR TAKE PLACE CONCURRENTLY WITH ITEMS FROM OTHER STAGES.

TEMPORARY INLET PROTECTION – INSTALL AS INDICATED ON PLANS. STONE TO BE REMOVED AND REPLACED WITH CLEAN STONE WHEN SEDIMENT IS $\leq 1/2$ DEPTH OF STONE. REMOVE ALL SEDIMENT IF COLLECTED IN STRUCTURE AS SOON AS POSSIBLE.

STONE CHECK DAM
THIS STRUCTURAL MEASURE IS ALONG DITCHES/ SWALES AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO SLOW STORMWATER RUNOFF AND TRAP SEDIMENT PARTICLES. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

PERMANENT EROSION CONTROL NETTING
THIS STRUCTURAL MEASURE IS INSTALLED IN AREAS THAT HAVE SLOPES 3:1 AND GREATER AND IN OTHER LOCATIONS INDICATED ON THIS PLAN TO STABILIZE THE SLOPE AND REDUCE THE EROSION POTENTIAL. THE NETTING IS TYPICALLY IMPREGNATED WITH GRASS SEED AND SOMETIMES STAPLED TO THE EXPOSED SOIL. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
THIS STRUCTURAL MEASURE IS A STABILIZED PAD OF AGGREGATE UNDERLAIN WITH FILTER FABRIC LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA. THE PURPOSE OF A STABILIZED CONSTRUCTION ENTRANCE IS TO REDUCE OR ELIMINATE THE TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. THIS WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED. ONCE REMOVED, THE IMPACTED AREA SHALL BE SEEDED AND MULCHED.



TEMPORARY STAGING AND WASTE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE NON-SOIL, NON-ERODIBLE MATERIALS MAY BE STORED. SOILS SHALL NOT BE STORED IN THESE AREAS.

TEMPORARY SOIL STOCKPILE AREAS (APPROXIMATE)
THESE ARE APPROVED LOCATIONS WHERE TOPSOIL AND OTHER SOIL MATERIALS MAY BE STORED. THESE STOCKPILES WILL BE PROTECTED FROM EROSION BY A NUMBER OF METHODS, INCLUDING INSTALLING SILT FENCING AROUND THE DOWN GRADIENT PERIMETER OF THE STOCKPILE AND SEEDING AND MULCHING THE STOCKPILE WHEN NOT IN USE FOR MORE THAN FIVE DAYS.

TEMPORARY SILT FENCING
THIS STRUCTURAL MEASURE IS A TEMPORARY BARRIER OF GEOTEXTILE FABRIC USED TO INTERCEPT SEDIMENT LADEN RUNOFF FROM SMALL DRAINAGE AREAS OF DISTURBED SOIL. IT IS INSTALLED ALONG THE PERIMETER OF IMPACTED AREAS AND ALONG THE BASE OF THE FILL SLOPES. ADDITIONALLY, WHEN DESIGNATED ALONG THE LIMITS OF DISTURBANCE, INSTALL CONSTRUCTION FENCE BEHIND THE SILT FENCE. SILT FENCING IS EFFECTIVE IN REDUCING STORMWATER RUNOFF VELOCITIES, ASSIST IN THE DEPOSITION OF TRANSPORTED SEDIMENT LOAD AND PREVENT EROSION OF SOILS ONTO ADJACENT AREAS. THESE WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN PERMANENTLY STABILIZED.

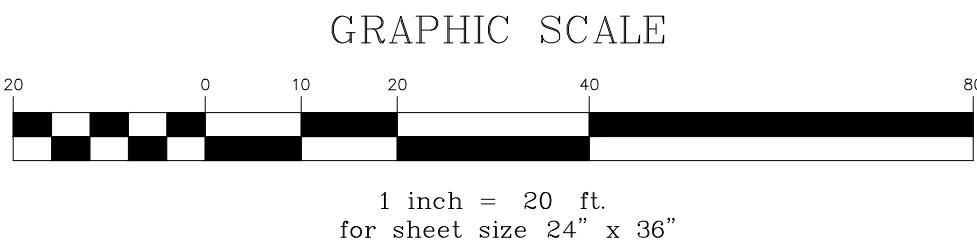
LIMITS OF DISTURBANCE
THE CONTRACTOR SHALL CONTAIN ANY EARTH MOVING ACTIVITIES WITHIN THE DESIGNATED LIMITS SHOWN ON THIS PLAN. THE ENGINEER SHALL REVIEW THE SITE TO MAKE ANY ADJUSTMENTS TO ACCOUNT FOR ENVIRONMENTALLY SENSITIVE AREAS, SPECIMEN TREES AND SPECIAL AREAS OF CONCERN.



SITE PLAN – PARKING AREA “E”
SCALE: 1" = 20'

EROSION CONTROL SCHEDULE

- E1 LIMIT OF DISTURBANCE
- E2 INLET PROTECTION (TYP.)
- E3 SILT FENCE (TYP.)
- E4 EROSION CONTROL NETTING
- E5 STABILIZED CONSTRUCTION ENTRANCE
- E6 CHECK DAM (TYP.)



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414 Union Street, Schenectady, NY 12305 • 518-630-9614
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EROSION PREVENTION AND SEDIMENT
CONTROL PLAN - PARKING AREA "E"

MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

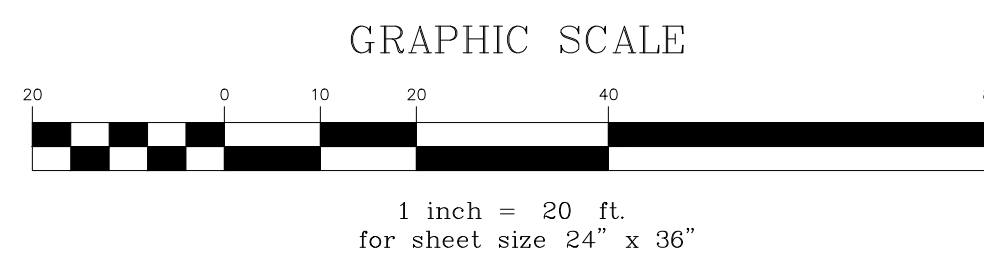
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EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 20'
Date: 03/11/2024

C206

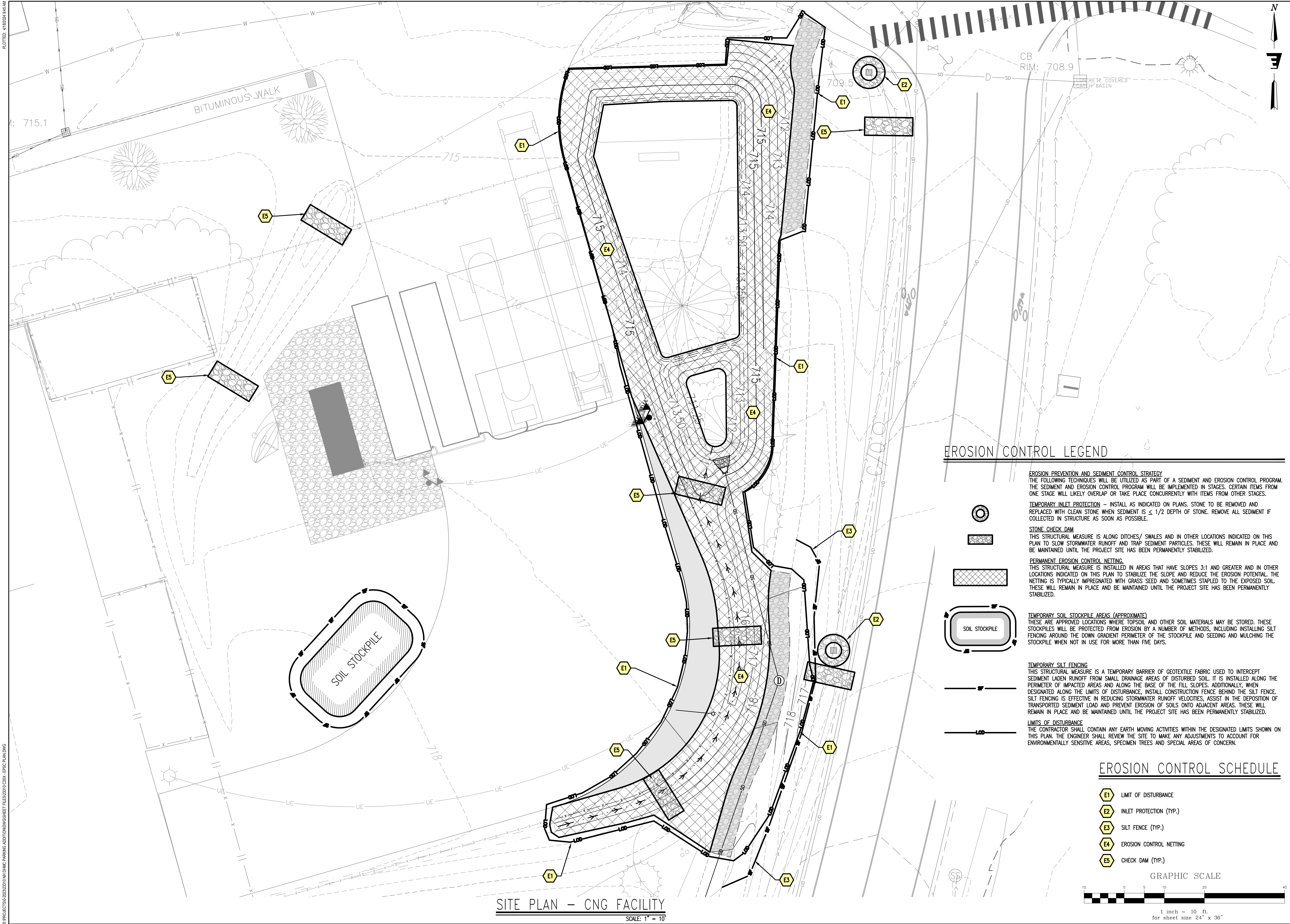
Page 15 of 27

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PLOTTED: 4/10/2024 9:45 AM

S:\PROJECTS\2022\2310 NH DMAC PARKING ADDITION\DWGSHEET FILES\2310 C208 - EPSF PLAN.DWG

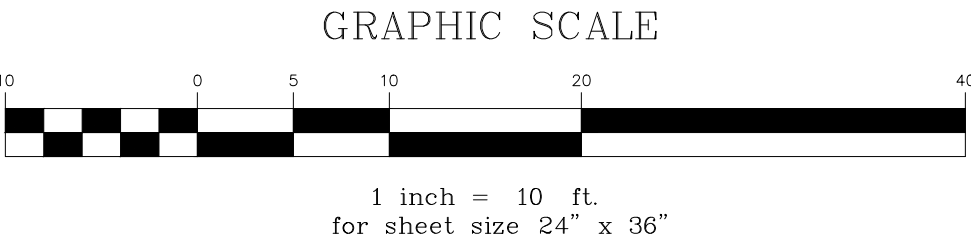


EROSION CONTROL LEGEND

- EROSION PREVENTION AND SEDIMENT CONTROL STRATEGY**
THE FOLLOWING TECHNIQUES WILL BE UTILIZED AS PART OF A SEDIMENT AND EROSION CONTROL PROGRAM. THE SEDIMENT AND EROSION CONTROL PROGRAM WILL BE IMPLEMENTED IN STAGES. CERTAIN ITEMS FROM ONE STAGE WILL LIKELY OVERLAP OR TAKE PLACE CONCURRENTLY WITH ITEMS FROM OTHER STAGES.
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- STONE CHECK DAM**
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EROSION CONTROL SCHEDULE

- E1 LIMIT OF DISTURBANCE
- E2 INLET PROTECTION (TYP.)
- E3 SILT FENCE (TYP.)
- E4 EROSION CONTROL NETTING
- E5 CHECK DAM (TYP.)



STATE OF NEW HAMPSHIRE
NOTARIAL PUBLIC
No. 13286
LICENSED
PROFESSIONAL ENGINEER
Stamp

Date

No.

Description

ENGINEERING
VENTURES PC

208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
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MEDICAL CENTER
1 MEDICAL CENTER DRIVE
LEBANON, NEW HAMPSHIRE 03766

EROSION PREVENTION AND SEDIMENT
CONTROL PLAN - CNG FACILITY

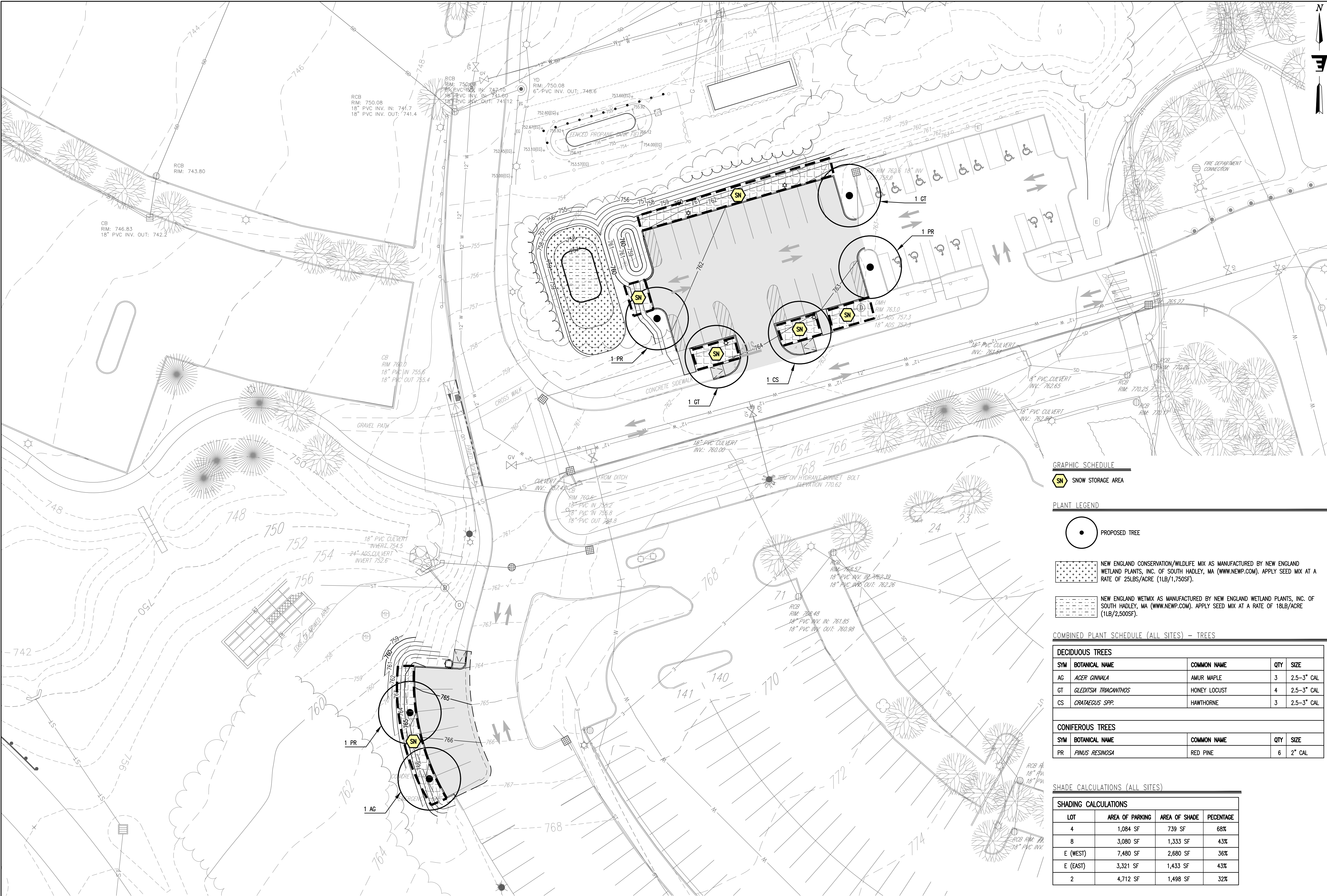
MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

Sheet Title:
EV Project #
Drawn By:
Checked By:
Scale:
Date:

23310
JWF
NAF
1" = 10'
03/11/2024

C208
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SITE PLAN – PARKING AREAS "4" AND "8"

SCALE: 1" = 20'

GRAPHIC SCHEDULE

SN SNOW STORAGE AREA

PLANT LEGEND

PROPOSED TREE

NEW ENGLAND CONSERVATION/WILDLIFE MIX AS MANUFACTURED BY NEW ENGLAND WETLAND PLANTS, INC. OF SOUTH HADLEY, MA (WWW.NEWP.COM). APPLY SEED MIX AT A RATE OF 25LBS/ACRE (1LB/1,750SF).

NEW ENGLAND WETMIX AS MANUFACTURED BY NEW ENGLAND WETLAND PLANTS, INC. OF SOUTH HADLEY, MA (WWW.NEWP.COM). APPLY SEED MIX AT A RATE OF 18LB/ACRE (1LB/2,500SF).

COMBINED PLANT SCHEDULE (ALL SITES) – TREES

DECIDUOUS TREES				
SYM	BOTANICAL NAME	COMMON NAME	QTY	SIZE
AG	ACER GINNALA	AMUR MAPLE	3	2.5–3" CAL
GT	GLEDISIA TRICANTHOS	HONEY LOCUST	4	2.5–3" CAL
CS	CRATAEGUS SPP.	HAWTHORNE	3	2.5–3" CAL
CONIFEROUS TREES				
SYM	BOTANICAL NAME	COMMON NAME	QTY	SIZE
PR	PINUS RESINOSA	RED PINE	6	2" CAL

SHADE CALCULATIONS (ALL SITES)

SHADING CALCULATIONS			
LOT	AREA OF PARKING	AREA OF SHADE	PERCENTAGE
4	1,084 SF	739 SF	68%
8	3,080 SF	1,333 SF	43%
E (WEST)	7,480 SF	2,680 SF	36%
E (EAST)	3,321 SF	1,433 SF	43%
2	4,712 SF	1,498 SF	32%

GRAPHIC SCALE



1 inch = 20 ft.
for sheet size 24" x 36"

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LANDSCAPE PLAN - PARKING
AREAS "4" AND "8"

MAIN CAMPUS
PARKING EXPANSION

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

Sheet Title:

Project Title:

EV Project # 23310

Drawn By: JWF

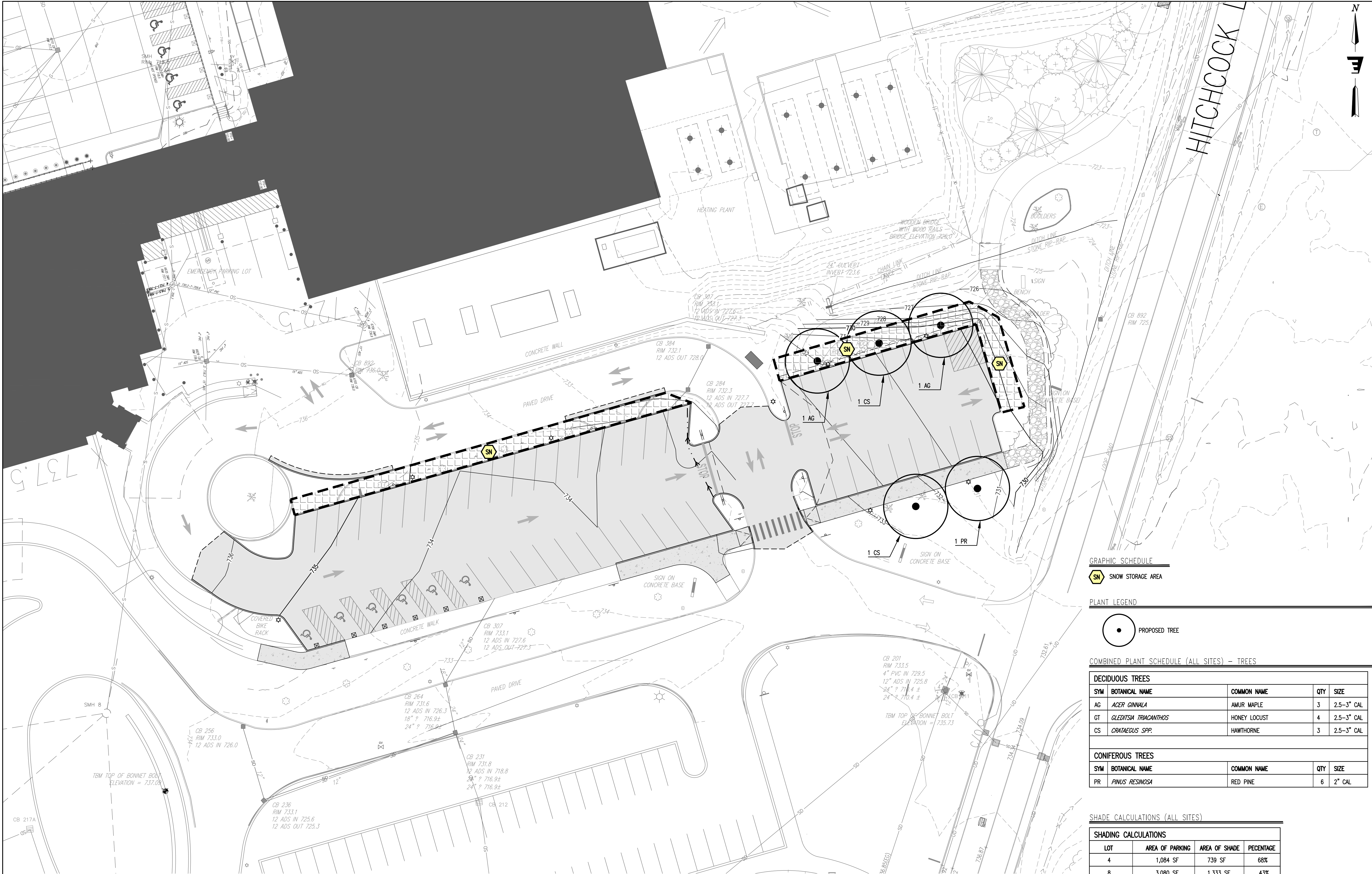
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Date: 03/11/2024

C209

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SITE PLAN – PARKING AREA "E"
SCALE: 1" = 20'

GRAPHIC SCHEDULE

SN SNOW STORAGE AREA

PLANT LEGEND

PROPOSED TREE

COMBINED PLANT SCHEDULE (ALL SITES) – TREES

DECIDUOUS TREES				
SYM	BOTANICAL NAME	COMMON NAME	QTY	SIZE
AG	ACER GINNALA	AMUR MAPLE	3	2.5–3" CAL
GT	GLEDITSIA TRIACANTHOS	HONEY LOCUST	4	2.5–3" CAL
CS	CRATAEGUS SPP.	HAWTHORNE	3	2.5–3" CAL

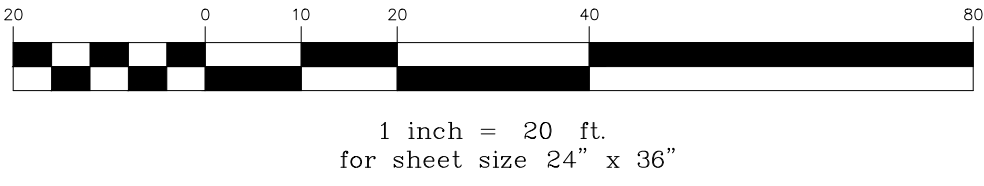
CONIFEROUS TREES

SYM	BOTANICAL NAME	COMMON NAME	QTY	SIZE
PR	PINUS RESINOSA	RED PINE	6	2" CAL

SHADE CALCULATIONS (ALL SITES)

SHADING CALCULATIONS			
LOT	AREA OF PARKING	AREA OF SHADE	PERCENTAGE
4	1,084 SF	739 SF	68%
8	3,080 SF	1,333 SF	43%
E (WEST)	7,480 SF	2,680 SF	36%
E (EAST)	3,321 SF	1,433 SF	43%
2	4,712 SF	1,498 SF	32%

GRAPHIC SCALE



STATE OF NEW HAMPSHIRE
NICHOLAS
FIGURE
No. 13286
LICENSED PROFESSIONAL ENGINEER
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LANDSCAPE PLAN - PARKING AREA "E"

MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 20'
Date: 03/11/2024

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Page 19 of 27

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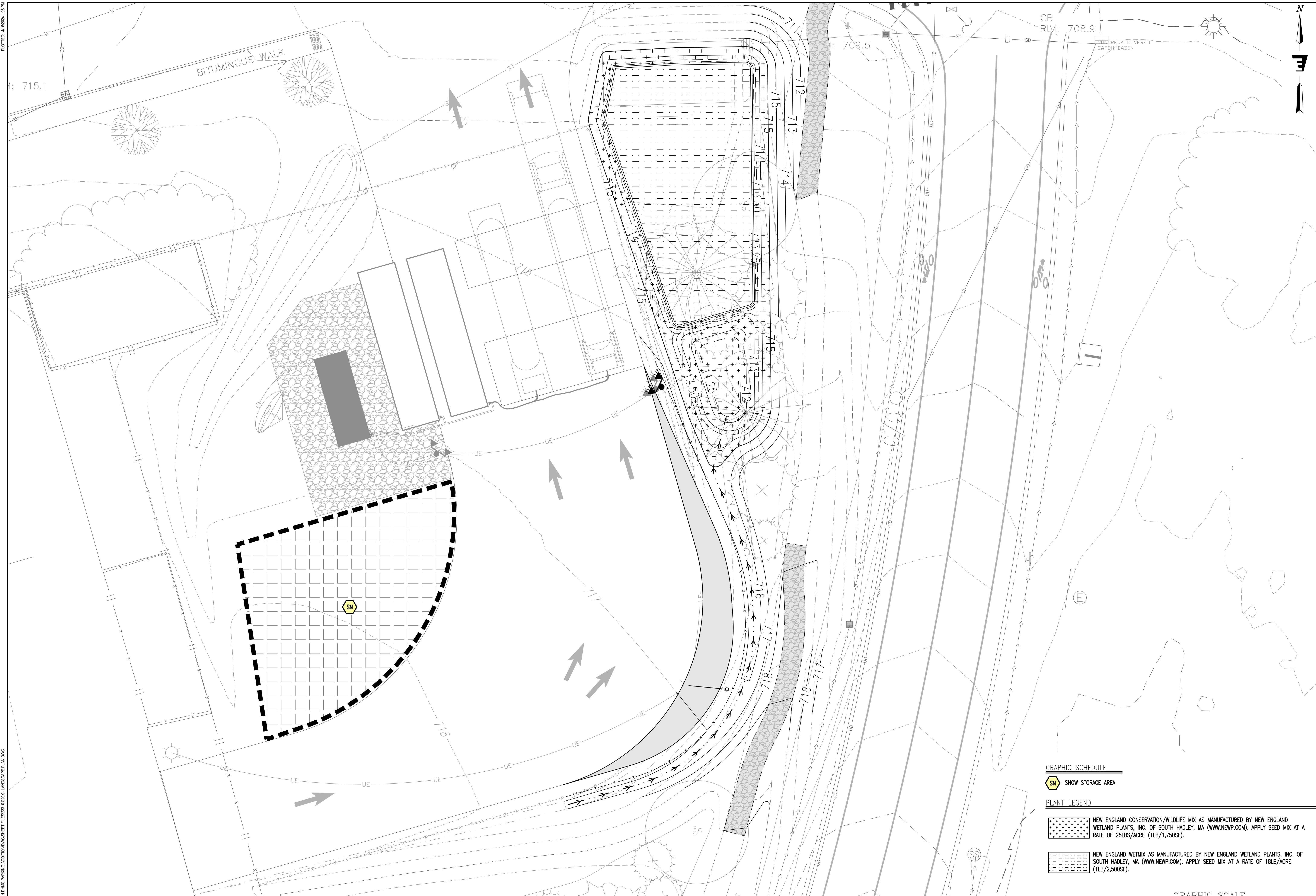


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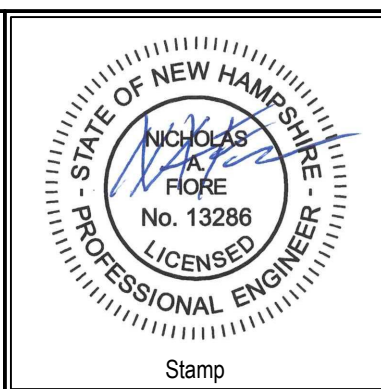
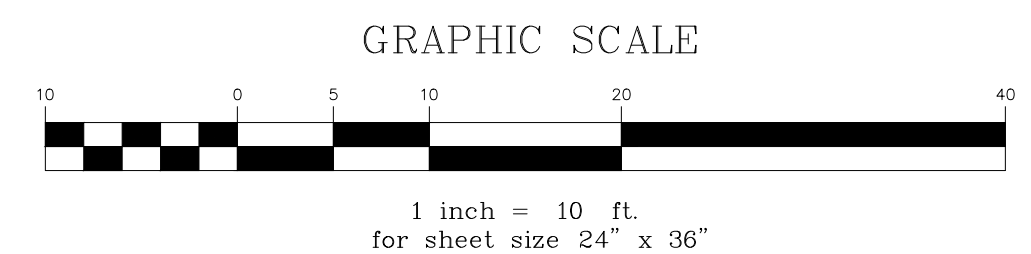
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1 inch = 20 ft.
for sheet size 24" x 36"



SITE PLAN - CNG FACILITY
SCALE: 1" = 10'

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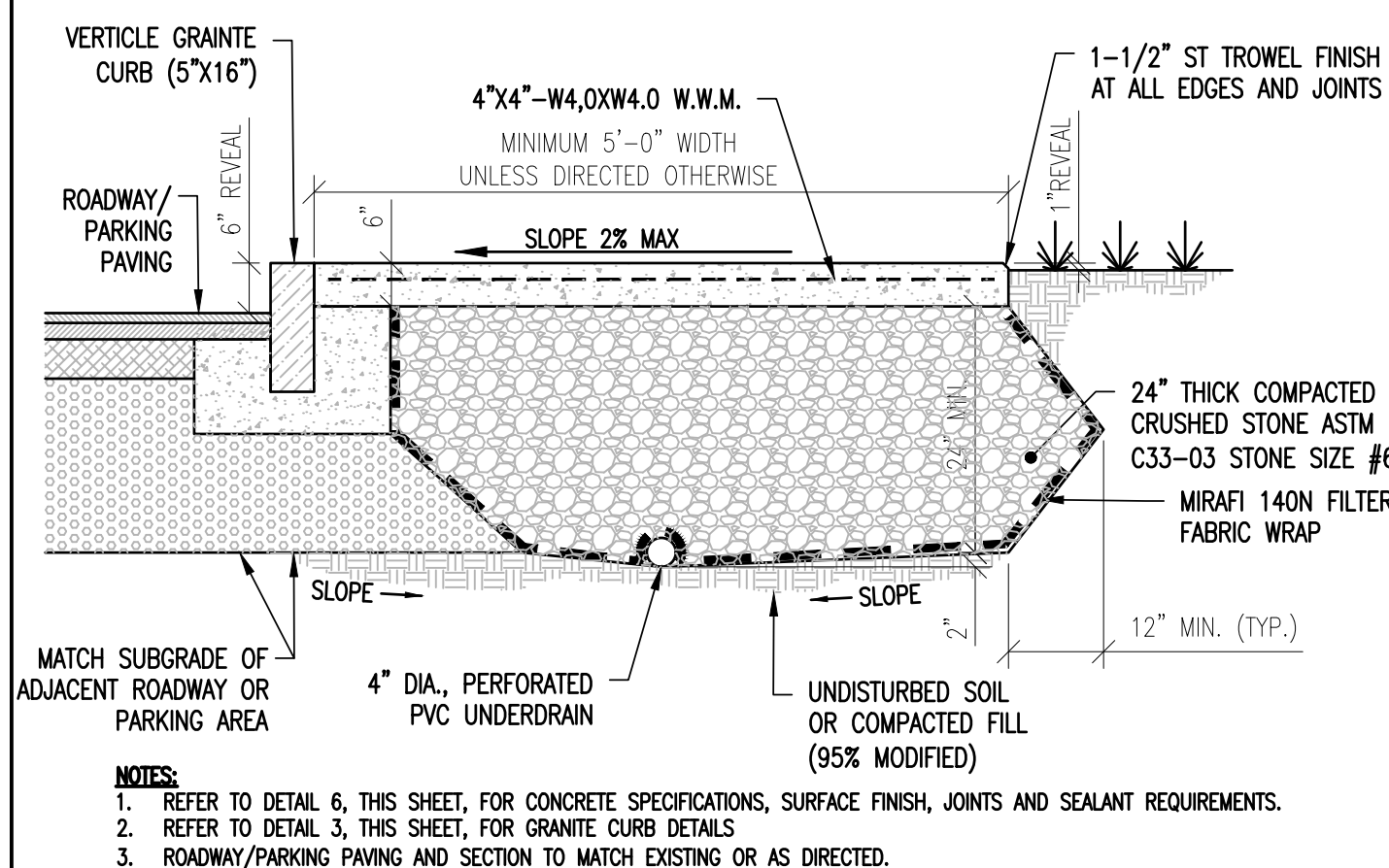
LANDSCAPE PLAN - CNG FACILITY

**MAIN CAMPUS
PARKING EXPANSION**

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

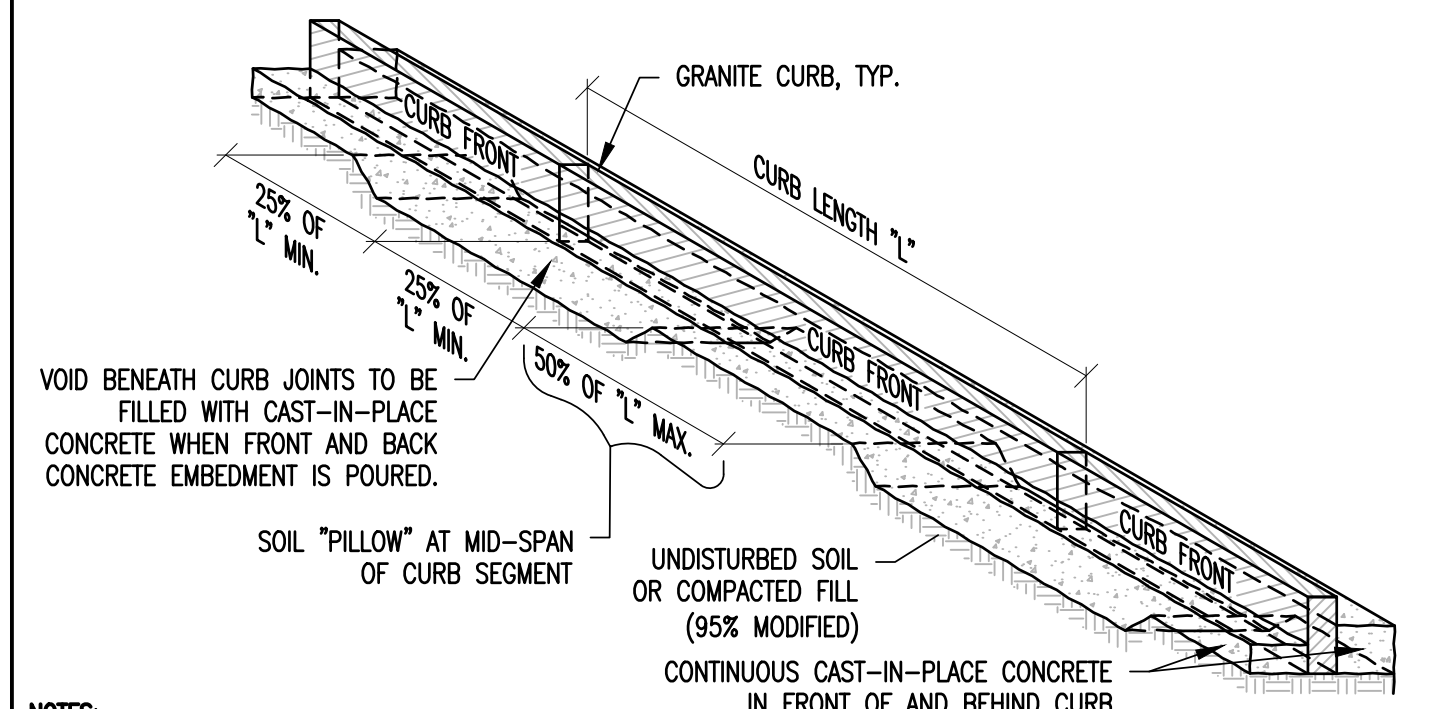
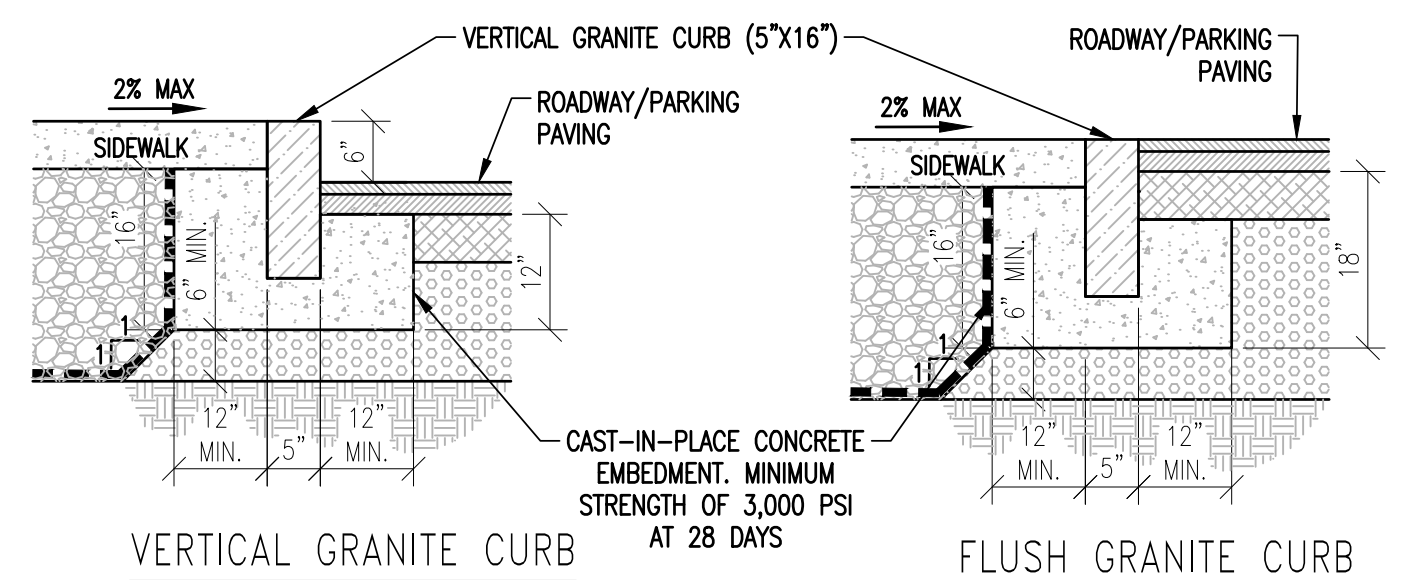
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EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 10'
Date:	03/11/2024

C212
Page 21 of 27



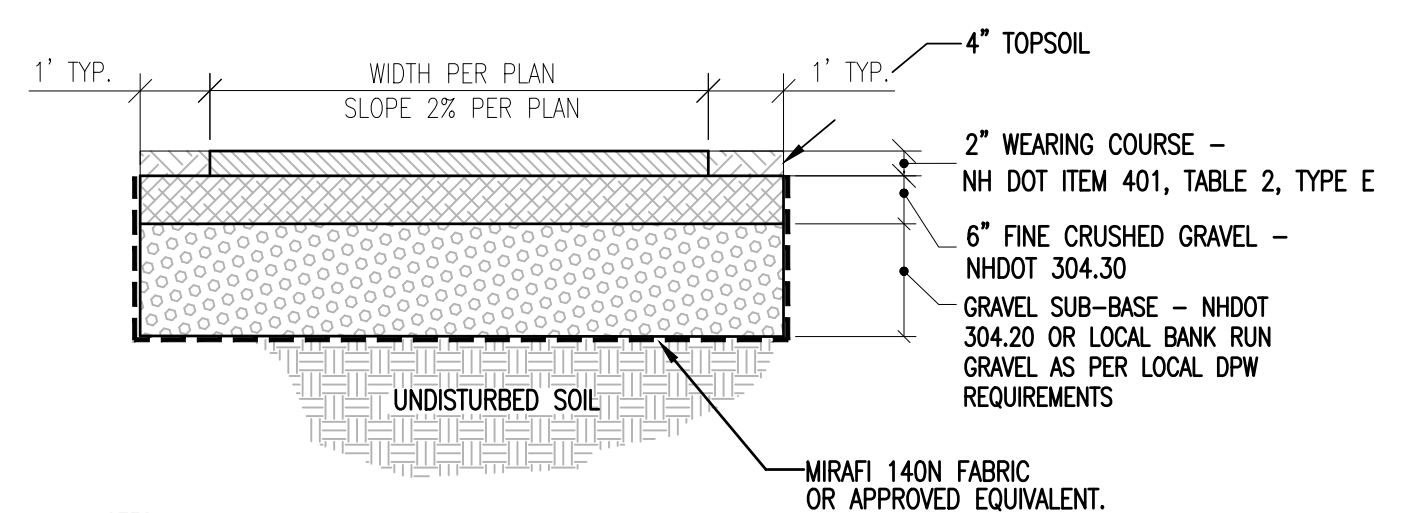
CONCRETE SIDEWALK WITH GRANITE CURB

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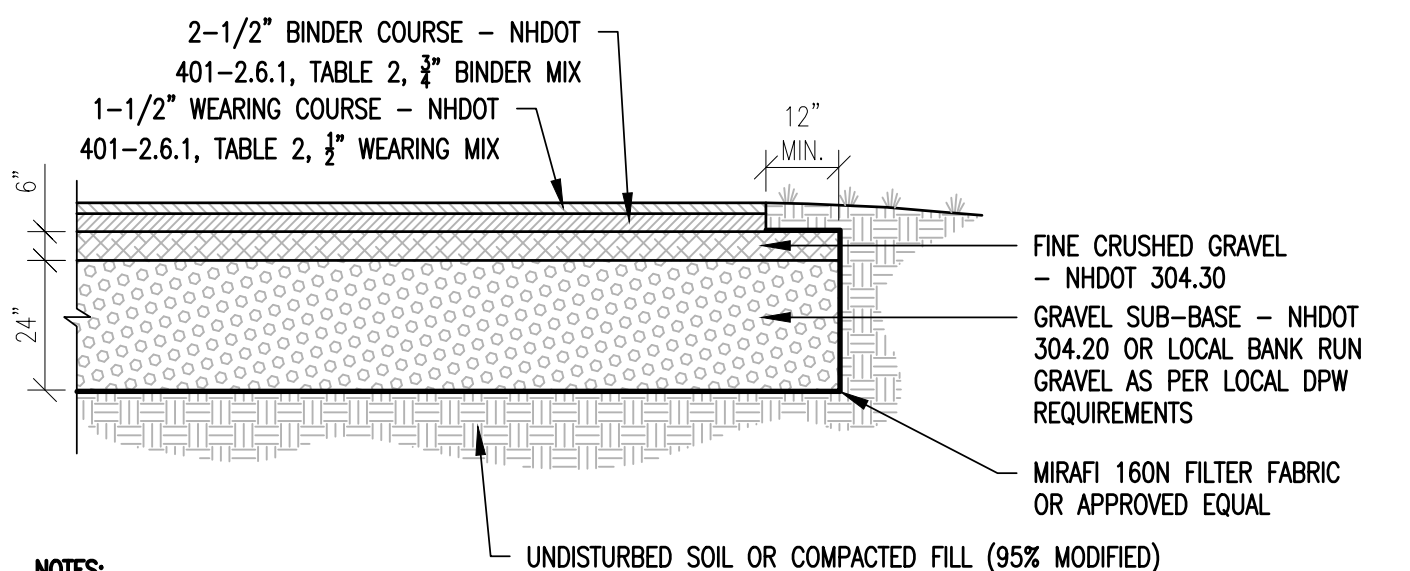
GRANITE CURB DETAILS

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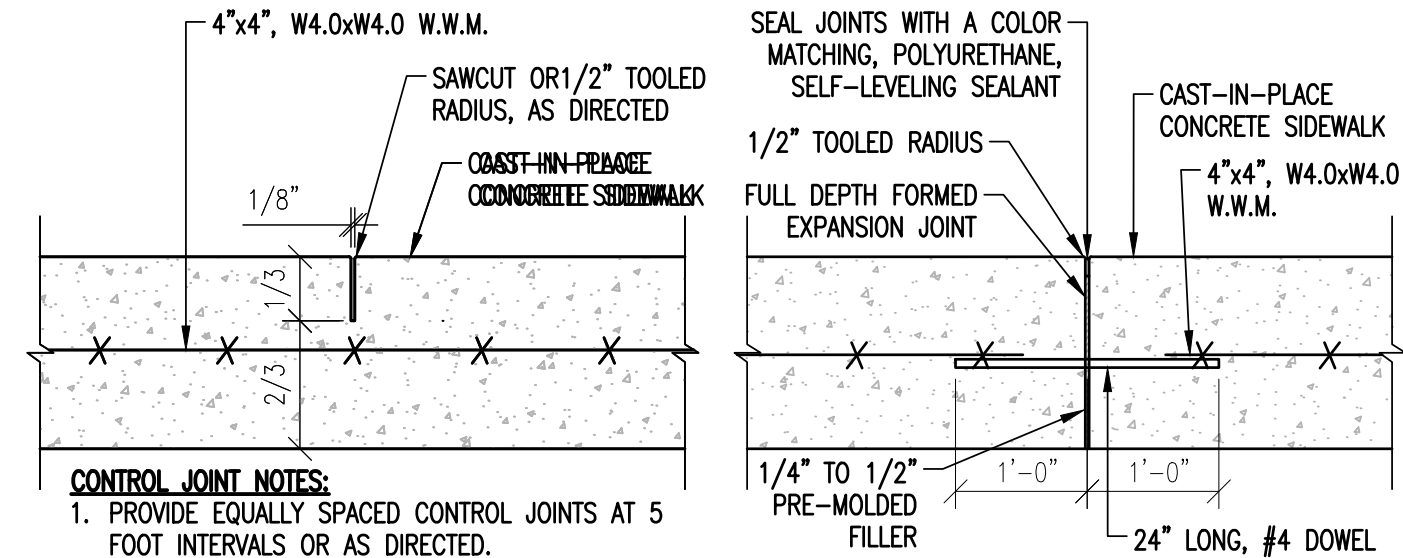
BITUMINOUS PAVED PATH DETAIL

NOT TO SCALE (3)



PARKING PAVEMENT DETAIL

NOT TO SCALE 4

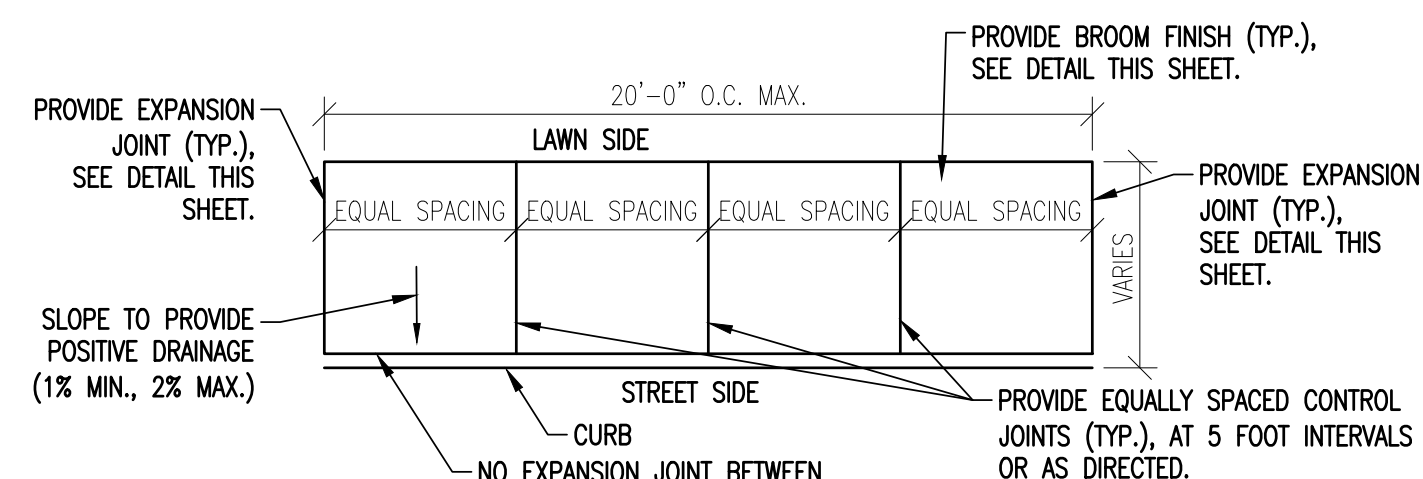


CONTROL JOINT

CONCRETE NOTES:

1. CLASS B MINOR CRACK SHALL HAVE:
 - a. MIN. COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
 - b. AIR ENTRAPMENT OF 5% TO 7% BY VOLUME.
 - c. MAXIMUM WATER/CEMENT RATIO = 0.60.
 - d. SLUMP: 2-4 INCHES BEFORE ADDITION OF WATER REDUCER, 6-8 INCHES AFTER THE ADDITION OF WATER REDUCER.
 2. PLACE NO CONCRETE WHEN AMBIENT TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT OR MORE THAN 90 DEGREES FAHRENHEIT.
 3. NO CONCRETE SHALL BE DROPPED MORE THAN SIX FEET INSIDE A FORM.
 4. FORMS SHALL BE SET TRUE TO GRADE AND SHALL BE 2"x6" FORM BOARD OR APPROVED ALIKE.
 5. FORMS SHALL BE SET UP SO THAT NO CONCRETE MAY FLOW UNDER THEM.
 6. WELDED WIRE MESH SHALL BE GALVANIZED, ASTM DESIGNATION A164, W4X4W4 AT 4"x4" SPACING, WITH A MINIMUM YIELD STRENGTH OF 65,000 PSI.
 7. MAINTAIN TEMPERATURE OF CONCRETE SURFACE AT MINIMUM 50 DEGREES FAHRENHEIT FOR 72 HOURS AFTER PLACING CONCRETE. PREHEAT ALL ENCLOSURE FOR A MINIMUM OF 2 HOURS TO PROVIDE A MIN. SURFACE TEMPERATURE OF 45 DEGREES FAHRENHEIT.
 8. CONCRETE SHALL BE FINISHED BY MEANS OF A FLOAT, STEEL TROWEL AND BROOMED WITH A MEDIUM BROOM. EDGES SHALL BE 1-1/2" SMOOTH TROWEL WITH A 1/2" RADIUS.
 9. TREAT WITH SILANE-SILOXANE OR EQUIVALENT.
3. OTHER HARD FEATURES, INSTALL 1/2" EXPANSION MATERIAL (FULL DEPTH OF SIDEWALK), BETWEEN ENTRY AND SIDEWALK.
4. WHERE SIDEWALK IS ADJACENT TO ENTRY/EXIT DOOR PADS WITH FROST LIFT FOUNDATIONS, SIDEWALK SHALL BE DOWNSTEP TO PAD WITH 24" LONG #4 DOWELS (CENTERED) AT 1'-6" OC (PORTION OF DOWEL IN SIDEWALK TO BE GREASED).
5. CALLU# ALL EXPANSION JOINTS WITH A COLOR MATCHING POLYURETHANE, SELF-LEVELING, SEALANT.
- EXPANSION JOINT**
-
- SIDEWALK FINISH NOTES:**
1. TREAT WITH SILANE-SILOXANE OR EQUIVALENT.

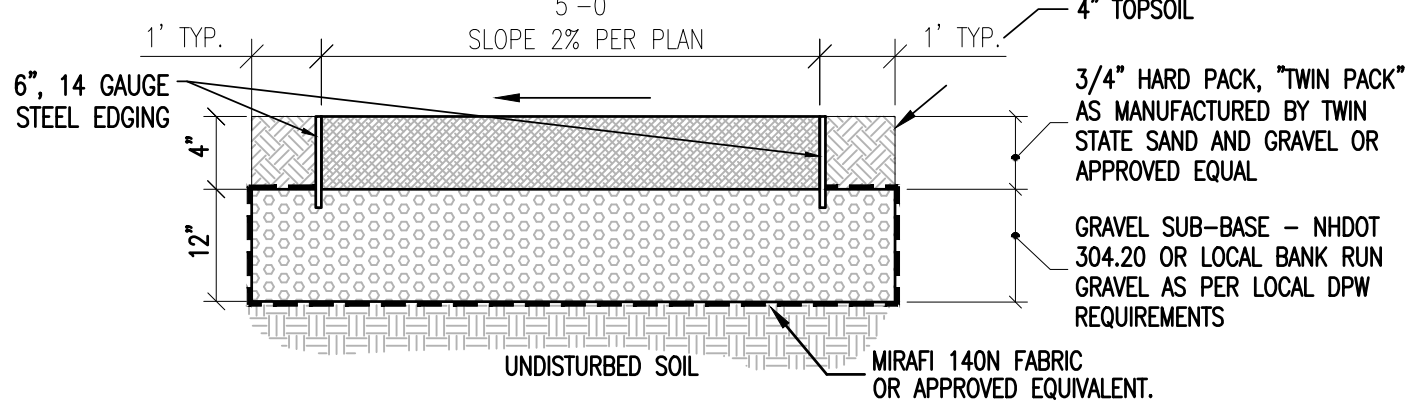
CONCRETE FINISH



JOINT SPACING AND LAYOUT

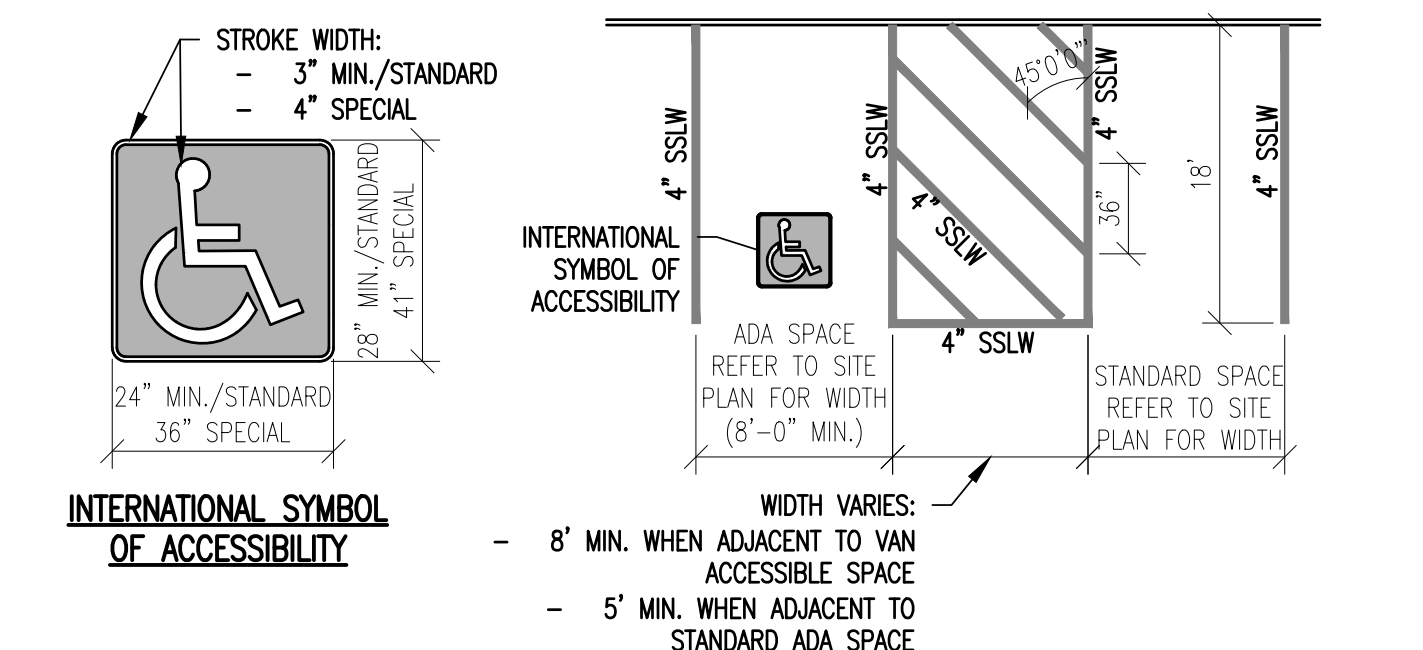
CONC. SIDEWALK JOINTS, FINISH, AND NOTES

NOT TO SCALE

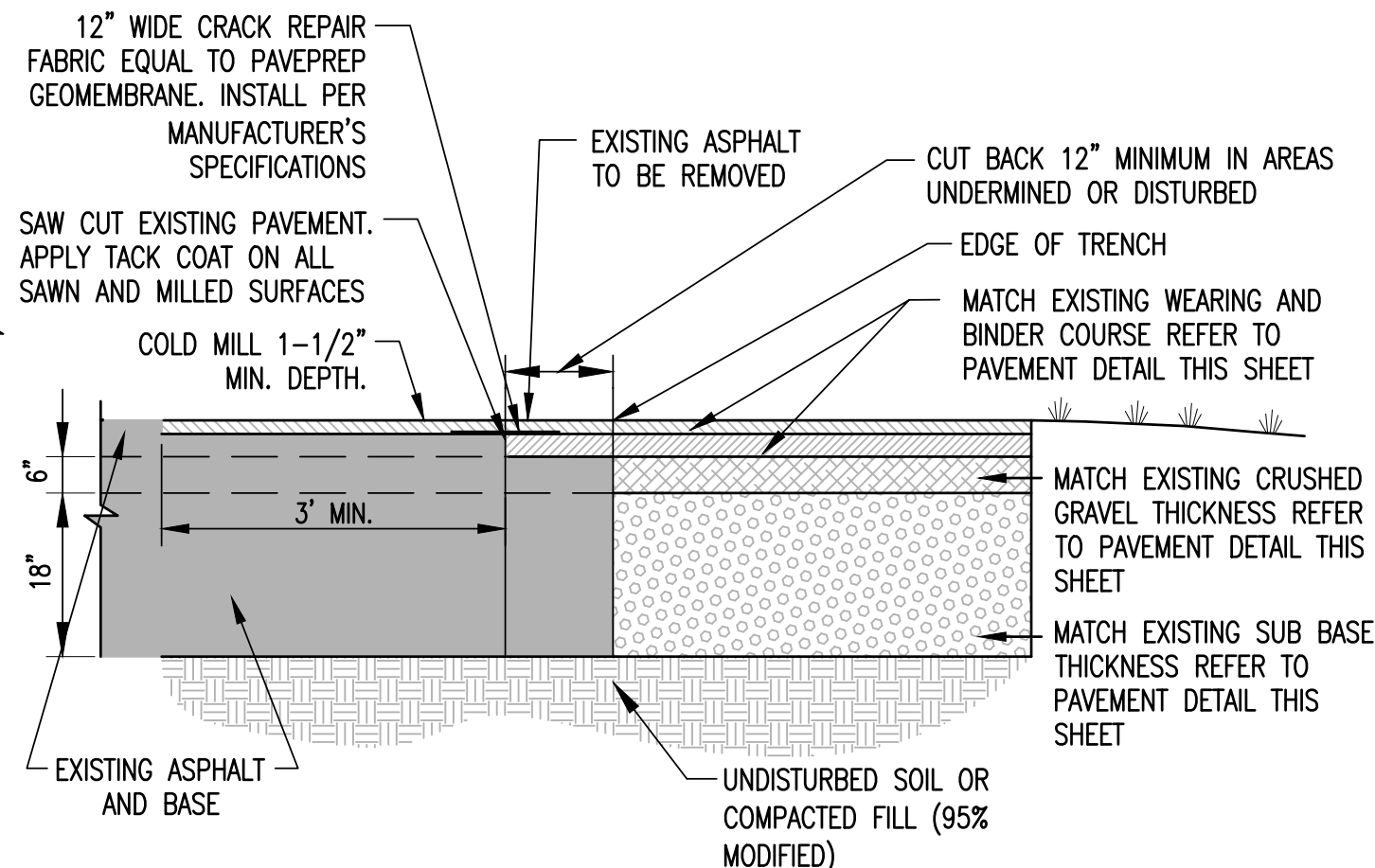


GRAVEL WALKWAY DETAIL

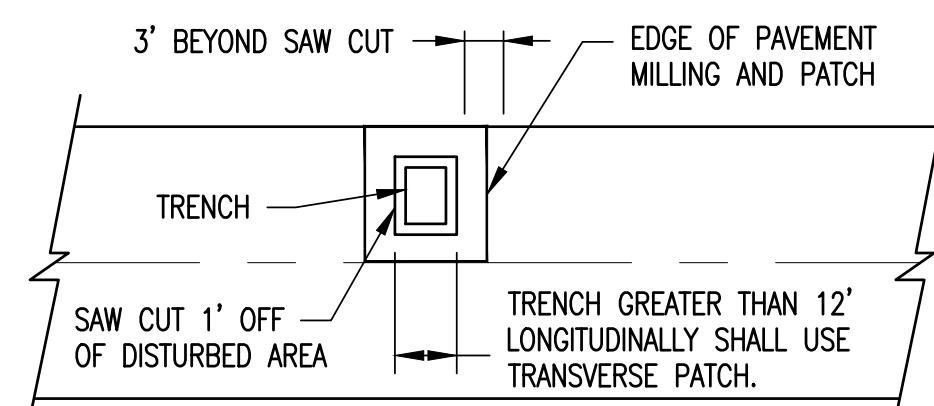
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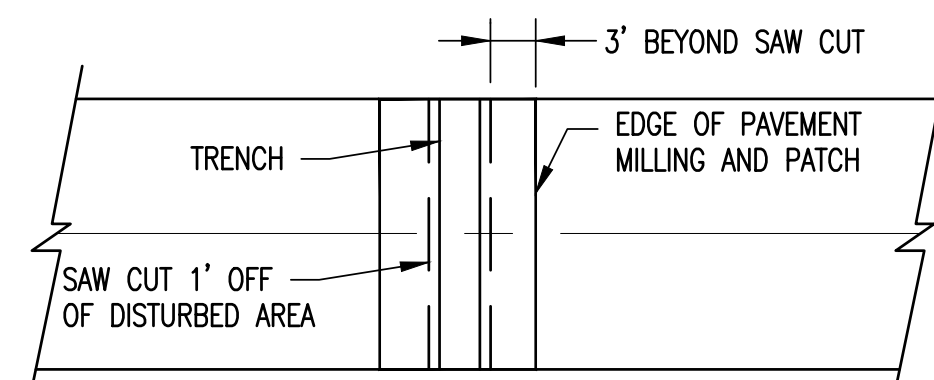
PARKING LOT STRIPING



TRENCH CROSS SECTION DETAIL



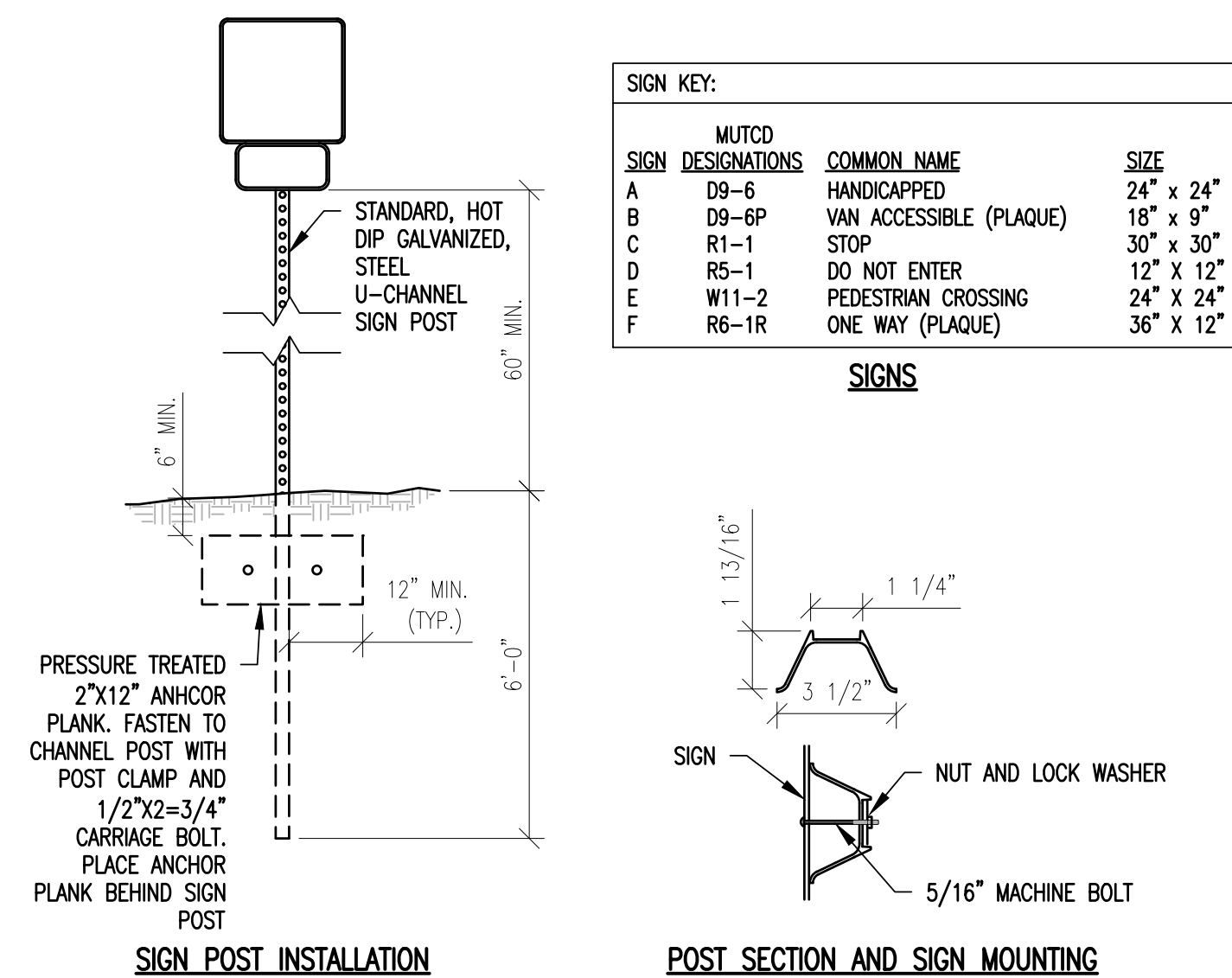
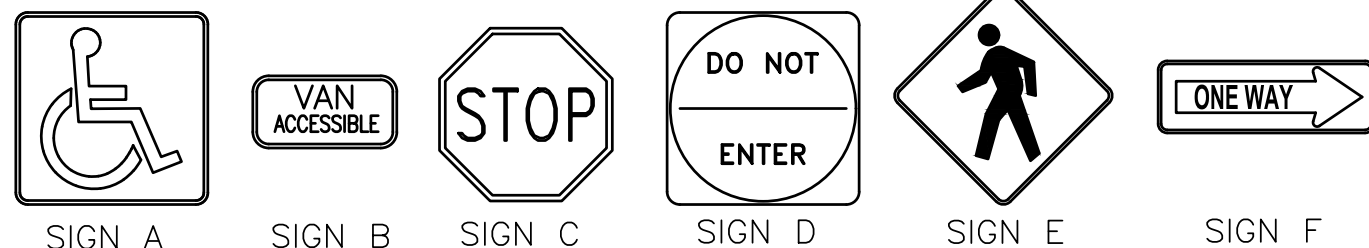
SINGLE LANE TRENCH PATCH



TRANSVERSE TRENCH PATCH

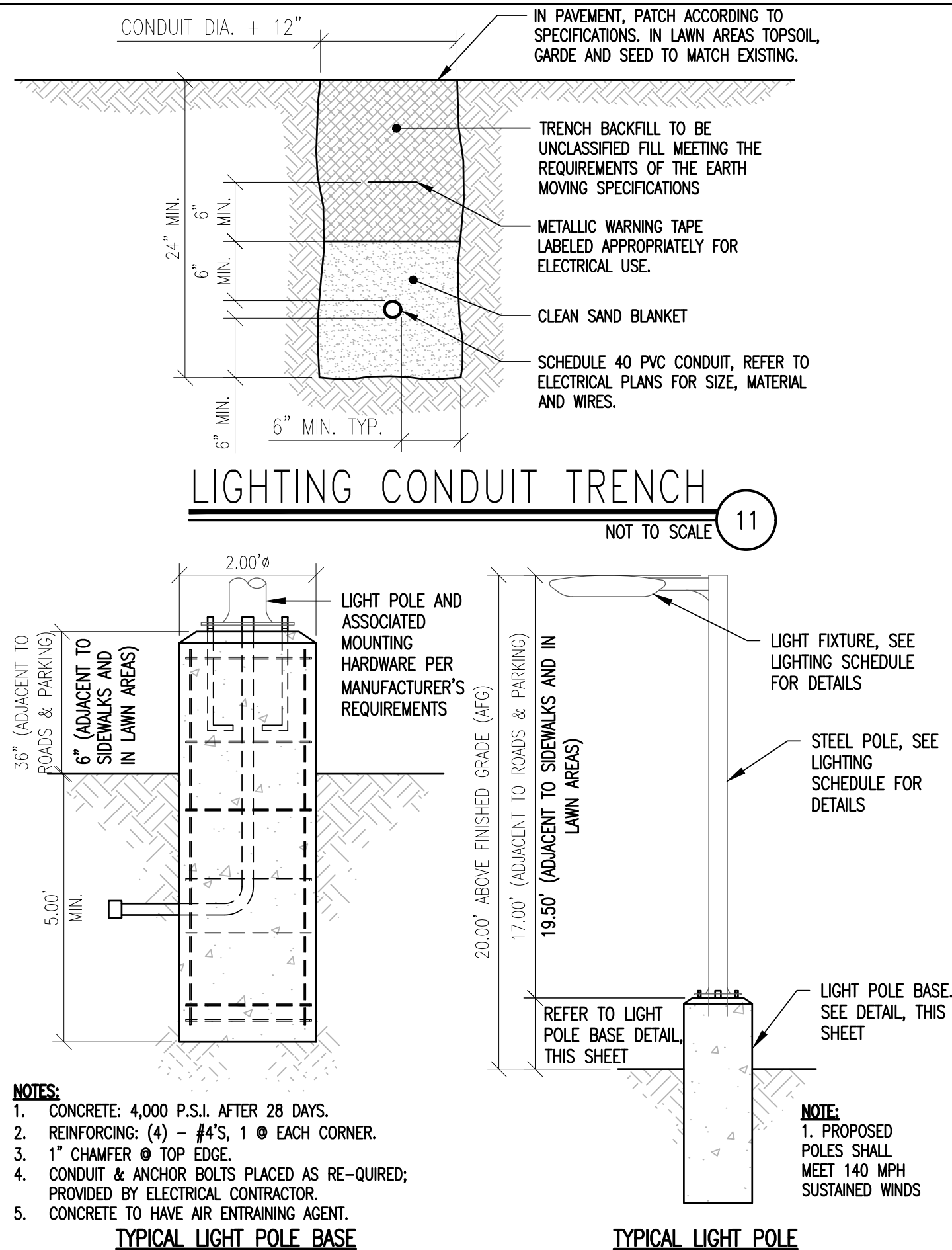
ASPHALT PAVEMENT TRENCH PATCH DETAIL

NOT TO SCALE



SIGN AND POST DETAILS

NOT TO SCALE 10



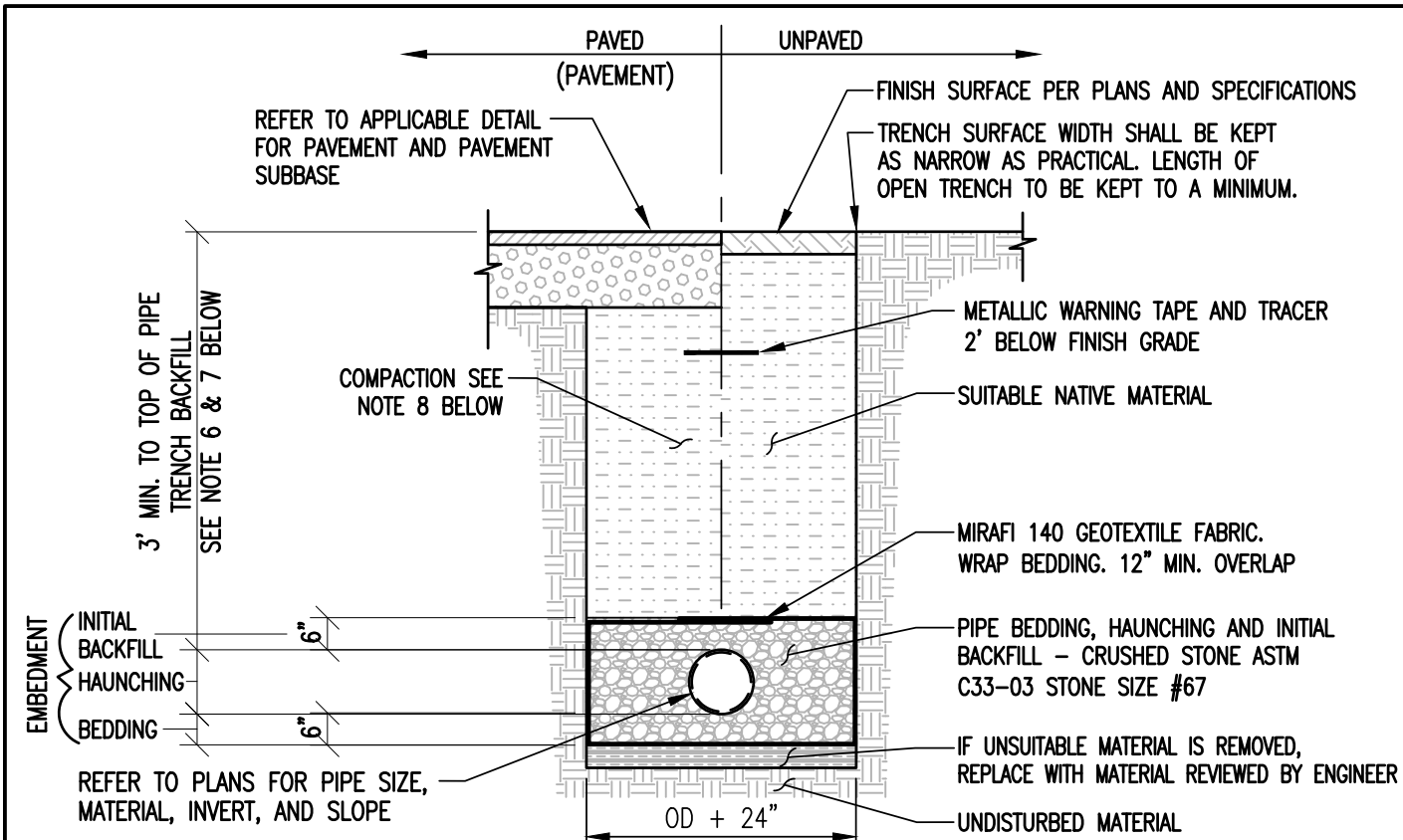
LIGHTING CONDUIT TRENCH

NOT TO SCALE

LIGHT POLE

NOT TO SCALE

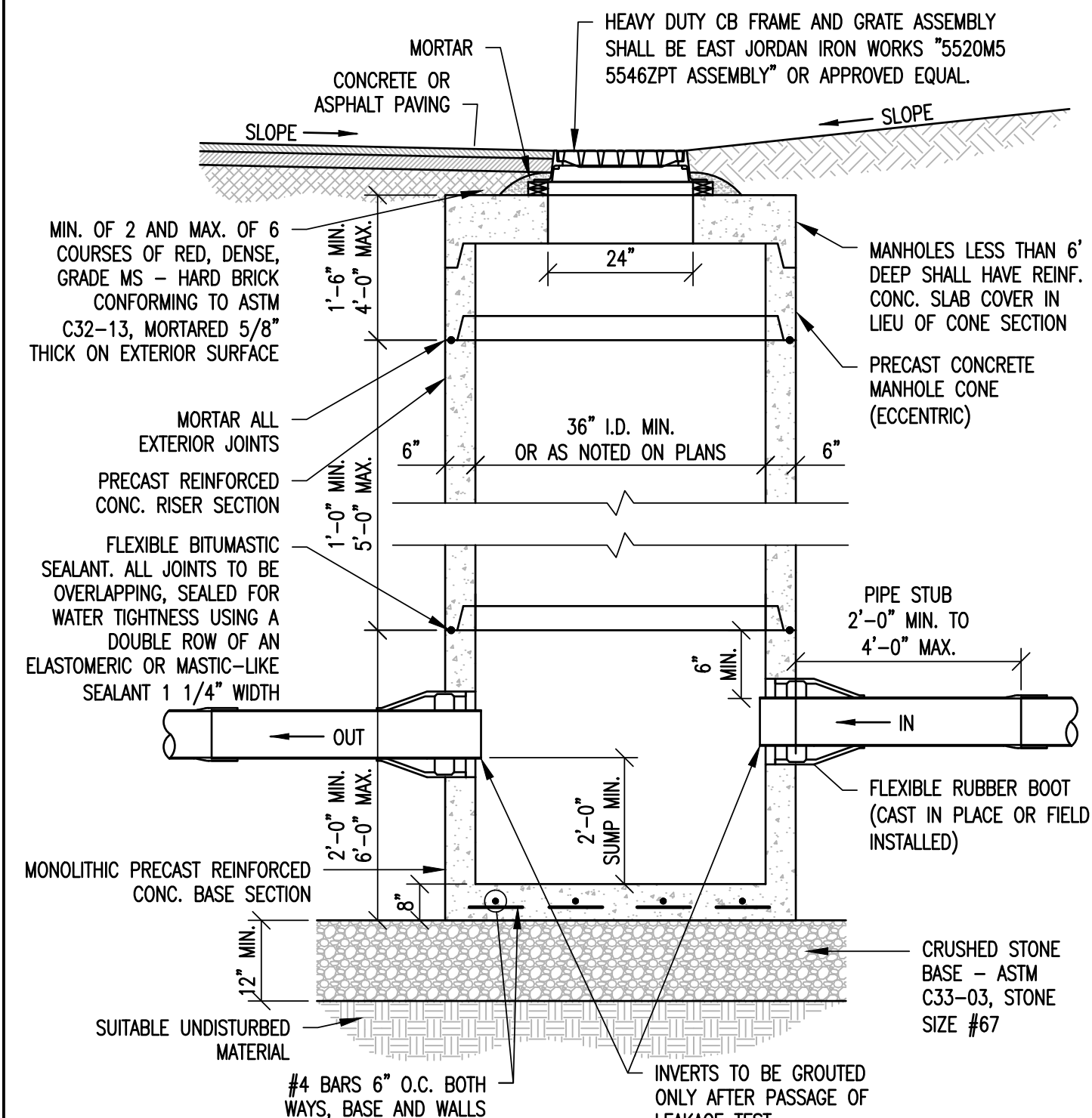
SIGN KEY:			
	MUTCD		
SIGN	<u>DESIGNATIONS</u>	<u>COMMON NAME</u>	<u>SIZE</u>
A	D9-6	HANDICAPPED	24" x 24"
B	D9-6P	VAN ACCESSIBLE (PLAQUE)	18" x 9"
C	R1-1	STOP	30" x 30"
D	R5-1	DO NOT ENTER	12" x 12"
E	W11-2	PEDESTRIAN CROSSING	24" x 24"
F	R6-1R	ONE WAY (PLAQUE)	36" x 12"



- NOTES:**
1. UNLESS OTHERWISE NOTED, ASSUME CLASS "C" SOILS. PERFORM ALL EXCAVATIONS TO OSHA REQUIREMENTS.
 2. BEDDING TO PROVIDE A FIRM, STABLE, CONTINUOUS AND UNIFORM SUPPORT FOR THE FULL LENGTH OF PIPE.
 3. PROVIDE 6" OF COVER OVER DRAIN PIPE IN PAVED AREAS AND 5" OF COVER OVER PIPE IN UNPAVED AREAS. OTHERWISE, REFER TO INSULATION OVER SHALLOW DRAIN LINE DETAIL.
 4. WHEN APPLICABLE INSTALL PIPE WITH BELL ENDS DOWN SLOPE. PREVENT SEDIMENT FROM ENTERING NEW STORM DRAIN SYSTEM DURING CONSTRUCTION.
 5. NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
 6. TRENCH BACKFILL MATERIAL, INCLUDING ROADWAY LOCATIONS, SHALL BE NATURAL MATERIALS EXCAVATED FROM THE TRENCH DURING CONSTRUCTION AND FREE OF UNSUITABLE MATERIALS AS DEFINED BY NHDOT 203.2.7, WWW-WQ-704.09(1), AND THE EARTHWORK SPECIFICATIONS INCLUDED ON THESE PLANS.
 7. LEDGE, ROCK, Boulders AND LARGE STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX INCHES BELOW AND ON EACH SIDE OF ALL PIPES.
 8. BACKFILL MATERIALS SHALL BE COMPACTED, IN 12" LAYERS, TO 92% OF MODIFIED PROCTOR (ASTM 1557) TO WITHIN 3 FEET OF FINISHED GRADE. IN AREAS UNDER ROADWAYS, DRIVES, AND PARKING THE UPPER 3 FEET SHALL BE COMPACTED, IN 6" LAYERS, TO 95% MODIFIED PROCTOR (ASTM 1557) AND IN LAWN OR OTHER UNDEVELOPED SPACE THE UPPER 3 FEET SHALL BE COMPACTED TO 92% MODIFIED PROCTOR.

TYPICAL STORM DRAIN TRENCH

NOT TO SCALE 1

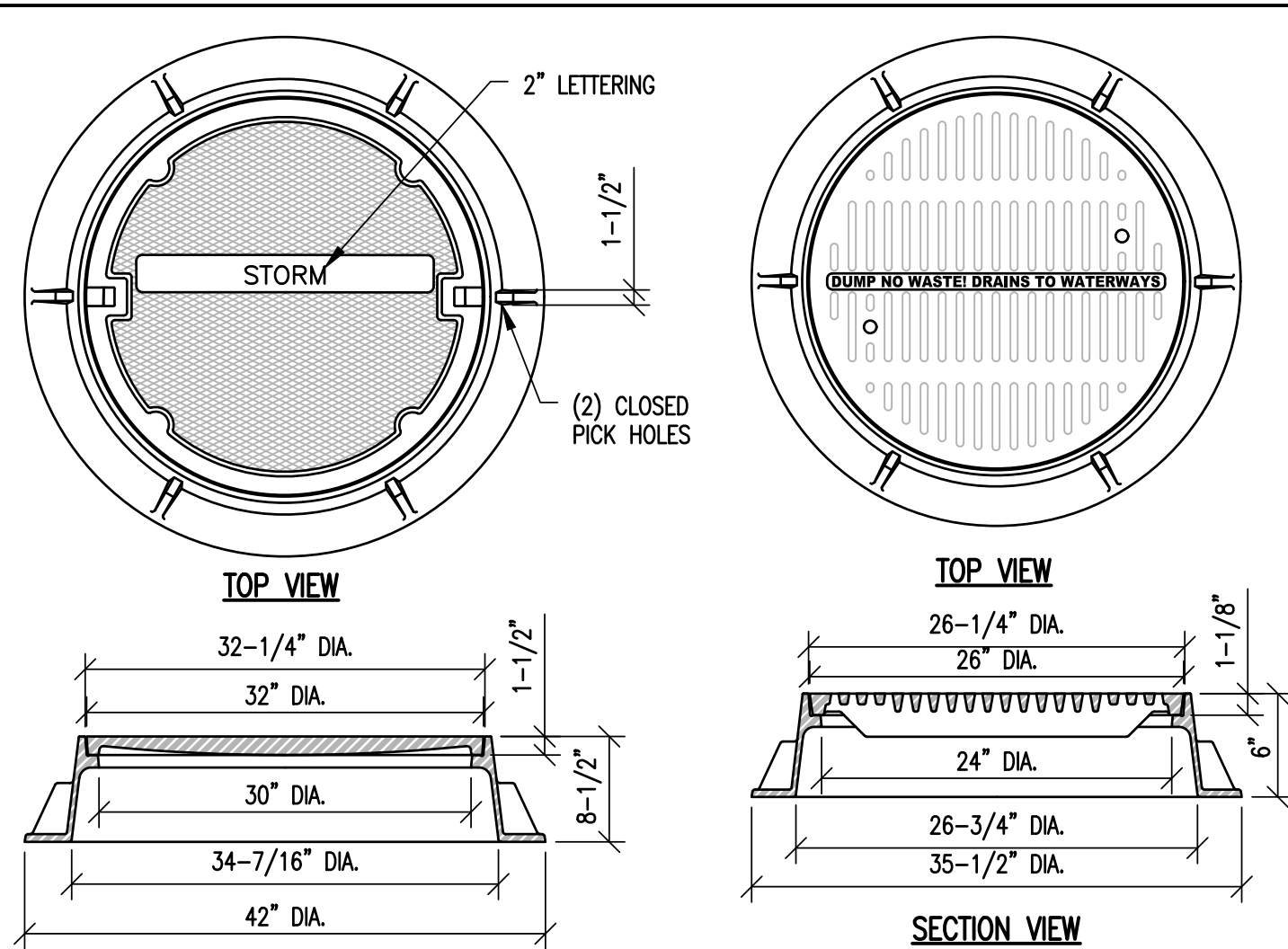


- NOTES:**
1. IF DEPTH OF MANHOLE IS 6 FT. OR LESS FROM RIM TO CENTERLINE INVERT, THEN A FLAT TOP WILL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO CENTERLINE INVERT IS MORE THAN 6 FT., THEN AN ECCENTRIC CONICAL TOP WILL BE INSTALLED.
 2. CATCH BASIN AND GRATE SHALL BE DESIGNED FOR H2O LOADING.

CATCH BASIN

NOT TO SCALE

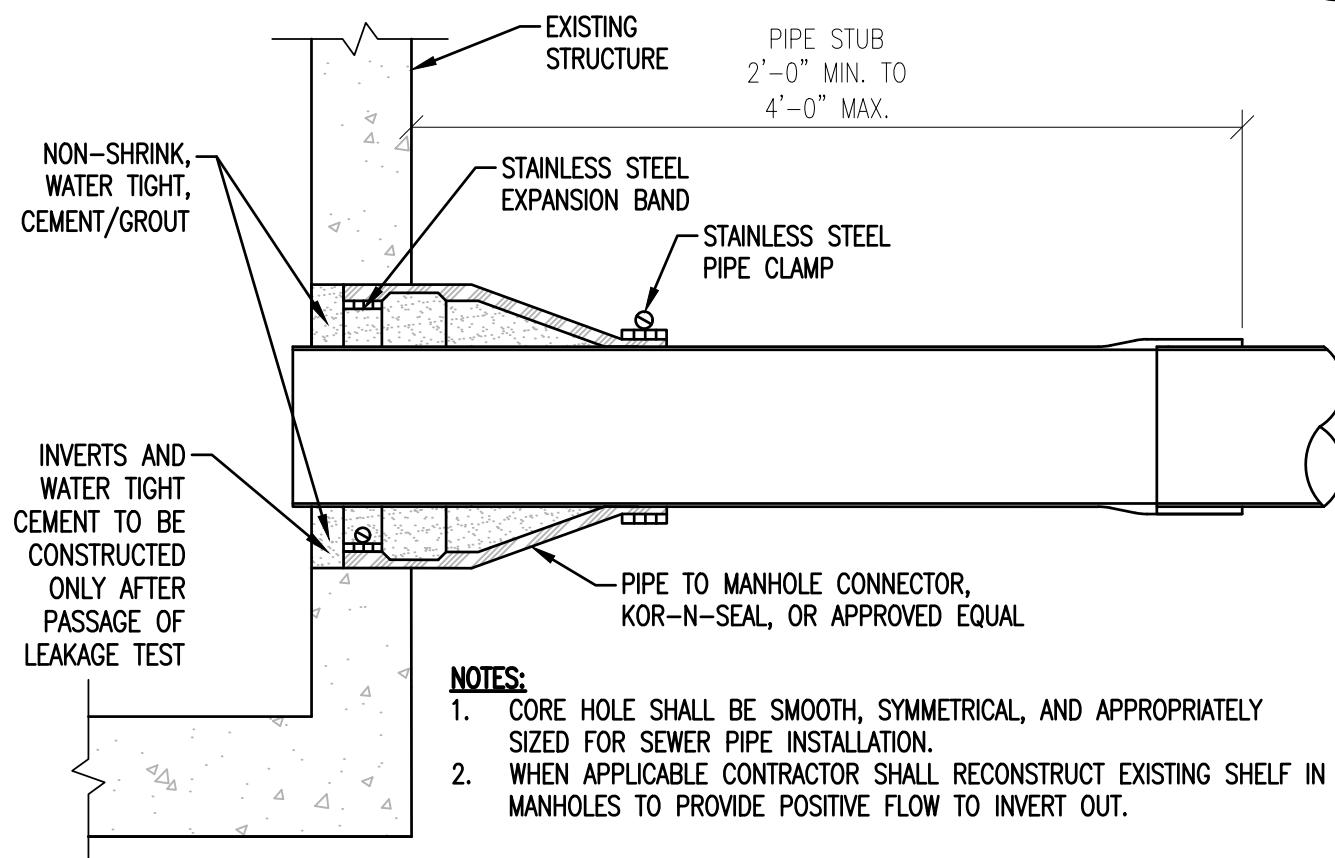
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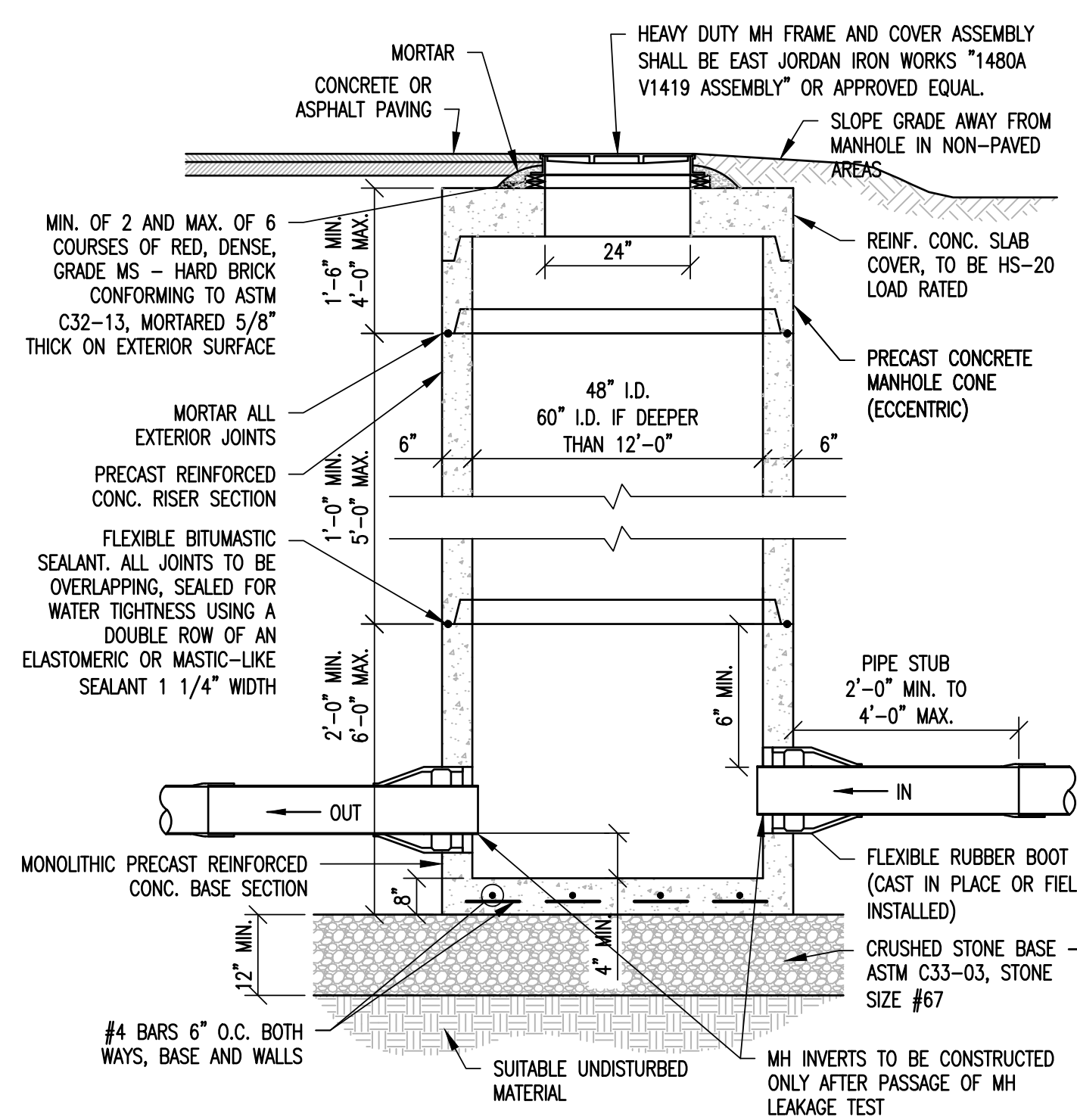
SECTION VIEW
MANHOLE

- NOTES:**
1. ALL DIMENSIONS SHOWN HERE ARE NOMINAL.
 2. COVER SHALL BE HEAVY DUTY (H-20) LOAD RATED.
 3. CATCH BASIN (ROUND) FRAME AND GRATE ASSEMBLY SHALL BE EAST JORDAN IRON WORKS "2266Z 1040M3 SET" (PRODUCT NUMBER 00211033205) OR APPROVED EQUAL.
 4. MANHOLE (MH) FRAME AND COVER ASSEMBLY SHALL BE EAST JORDAN IRON WORKS "1480A V1419 ASSEMBLY" OR APPROVED EQUAL.

STORMWATER MH COVERS AND CB GRATES

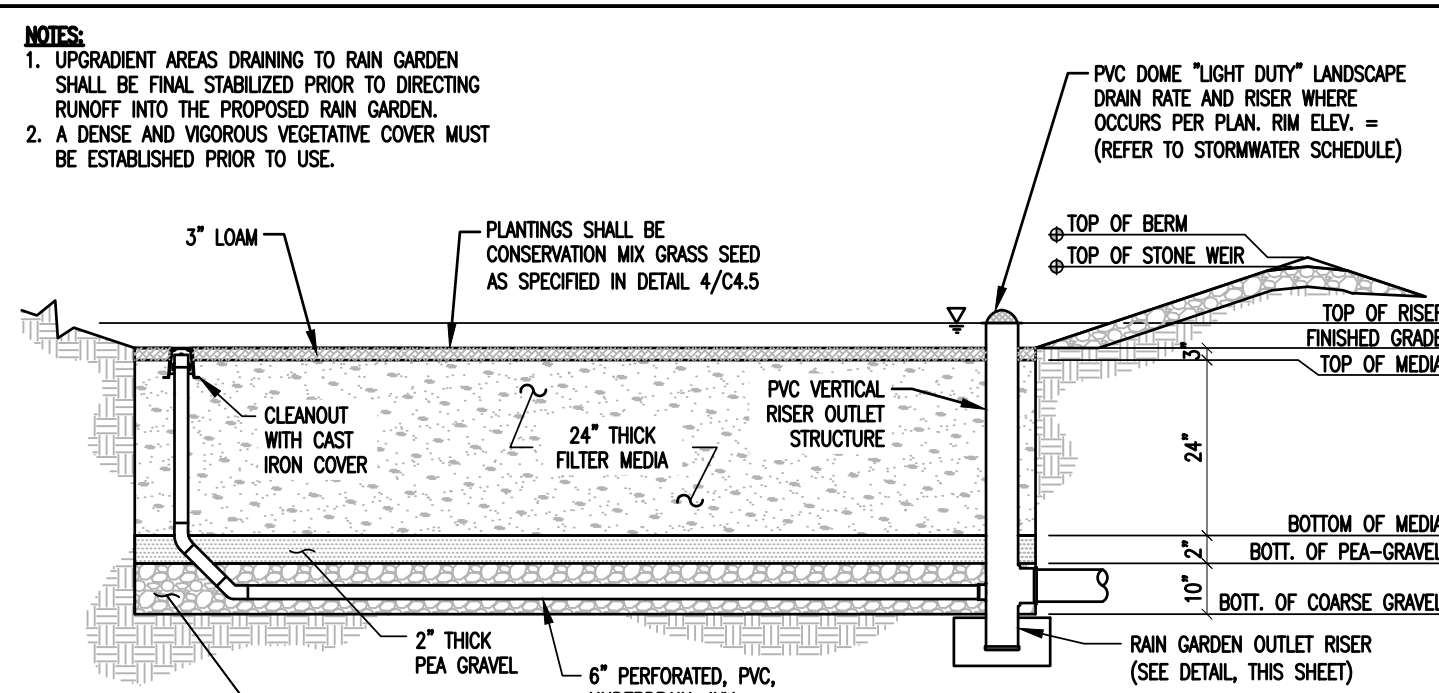


STRUCTURE PIPE CONNECTION



- NOTES:**
1. PROVIDE SMOOTH SWEEPING TRANSITIONS BETWEEN INVERTS OF INTERSECTING PIPE.
 2. IF DEPTH OF MANHOLE IS 6 FT. OR LESS FROM RIM TO CENTERLINE INVERT, THEN A FLAT TOP WILL BE INSTALLED. IF DEPTH OF MANHOLE FROM RIM TO CENTERLINE INVERT IS MORE THAN 6 FT., THEN AN E/C CONICAL TOP WILL BE INSTALLED.
 3. INVERTS AND SHELVES SHALL BE PLACED AFTER TESTING.
 4. MANHOLE AND COVER SHALL BE DESIGNED FOR H2O LOADING.

DRAINAGE MANHOLE DETAIL (FLAT TOP)



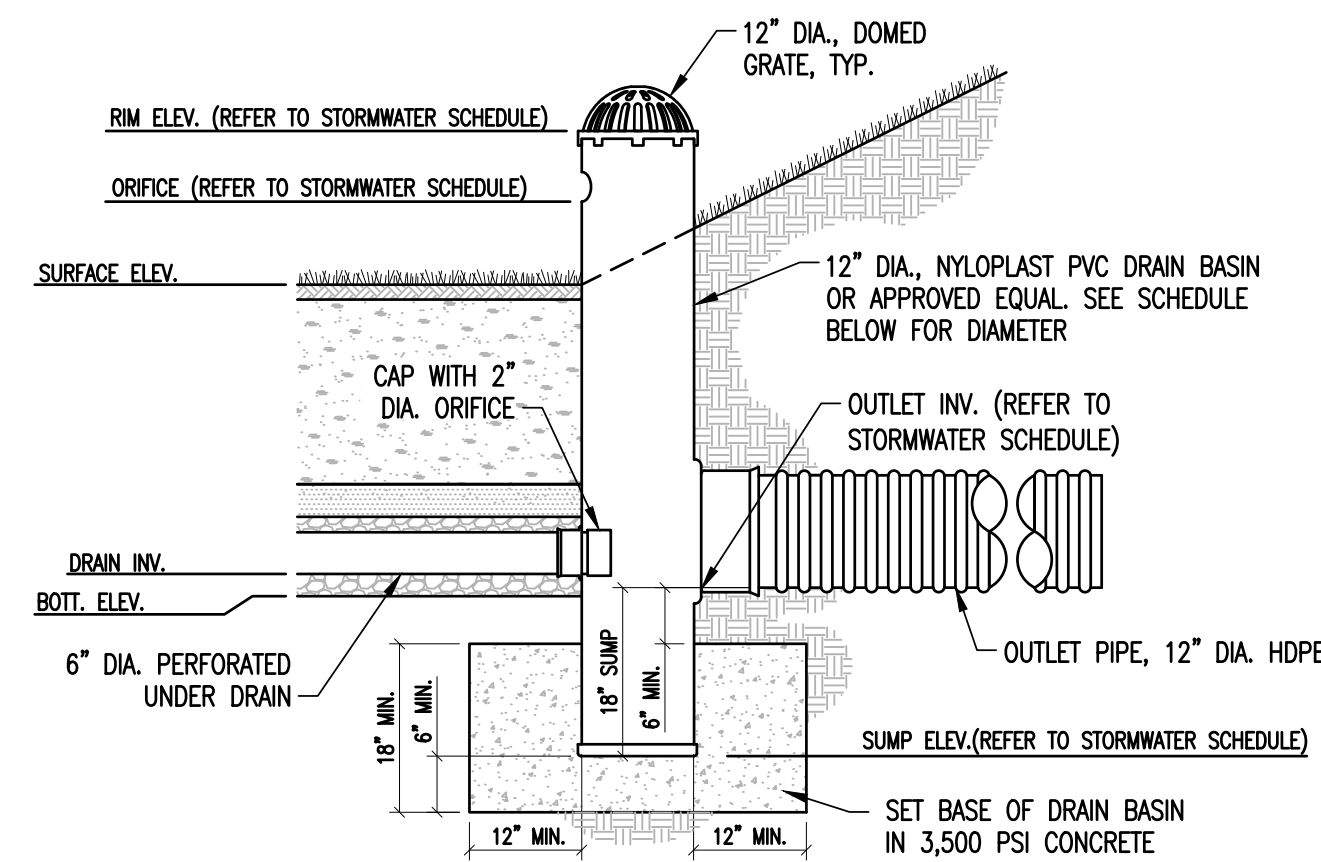
- | UNDERPANEL GRAVEL | | FILLER MEDIA | |
|-------------------|---|--------------|---|
| 1. | DO NOT PLACE THE BOREHOLE SYSTEM INTO SERVICE UNTIL THE BMP HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED. | 1. | THE SOIL SHOULD BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTRATES SHOULD BE MIXED OR PLACED WITHIN THE BOREHOLE AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE FASTER MEDIA SHOULD BE FREE OF NOXIOUS WEEDS. |
| 2. | DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM CONSTRUCTION ACTIVITIES (E.G. DREDGING FROM EXCAVATIONS) TO THE BOREHOLE AREA DURING ANY PHASE OF CONSTRUCTION. | 2. | THE FILTER MEDIA SHOULD BE TESTED AND SHOULD MEET THE FOLLOWING CRITERIA:
PH: RANGE 5.2 – 7.0
ORGANIC MATTER: 1.5 – 4%
MAGNESIUM: 35 LB./AC.
PHOSPHORUS: P205: 75 LB./AC.
POTASSIUM: K2O: 85 LB./AC.
SOLUBLE SALTS: NOT TO EXCEED 500 PPM |
| 3. | DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT IF FEASIBLE. PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION PORTIONS OF THE SYSTEM. | | |

PARAMETER		MATERIAL SPECIFICATIONS			NOTES
SPECIFICATION		SIZE			
FLUX MEDIA [2" DEEP]		PERCENT OF MATERIAL BY VOLUME	GRADATION OF MATERIAL NO. 10 PASSING		
COMPONENT MATERIAL BARK MULCH		20% TO 30%	<5		BARK MULCH SHALL BE MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH, WITH FINES AS INDICATED.
LOAMY COARSE SAND		70% TO 80%	10 85 to 100 20 70 to 100 60 15 to 40 200 8 to 15		USDA SOIL TYPE FOR LOAMY COARSE SAND
PEA GRAVEL	ASTM C33-03		NO. 8 (3/8" TO #8)		
CORR. GRAVEL	ASTM C33-03		NO. 6 (3/4" TO 3/8")		

TYPICAL RAIN GARDEN

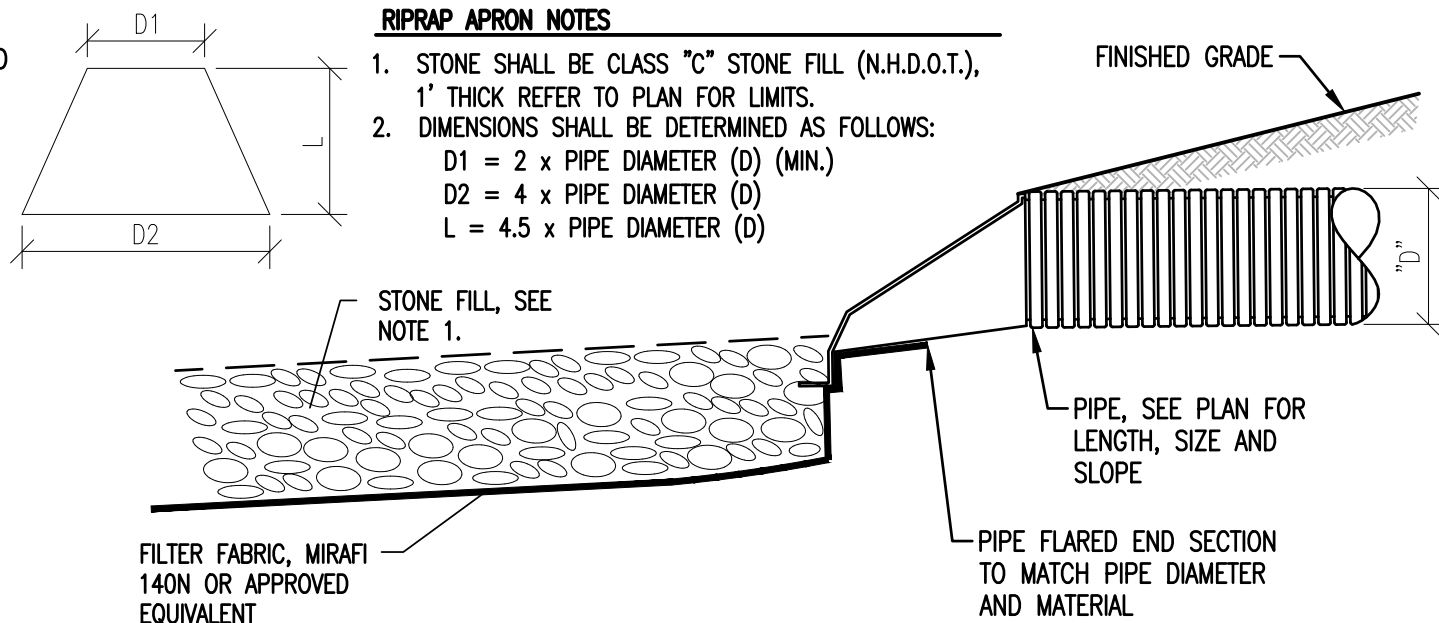
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1

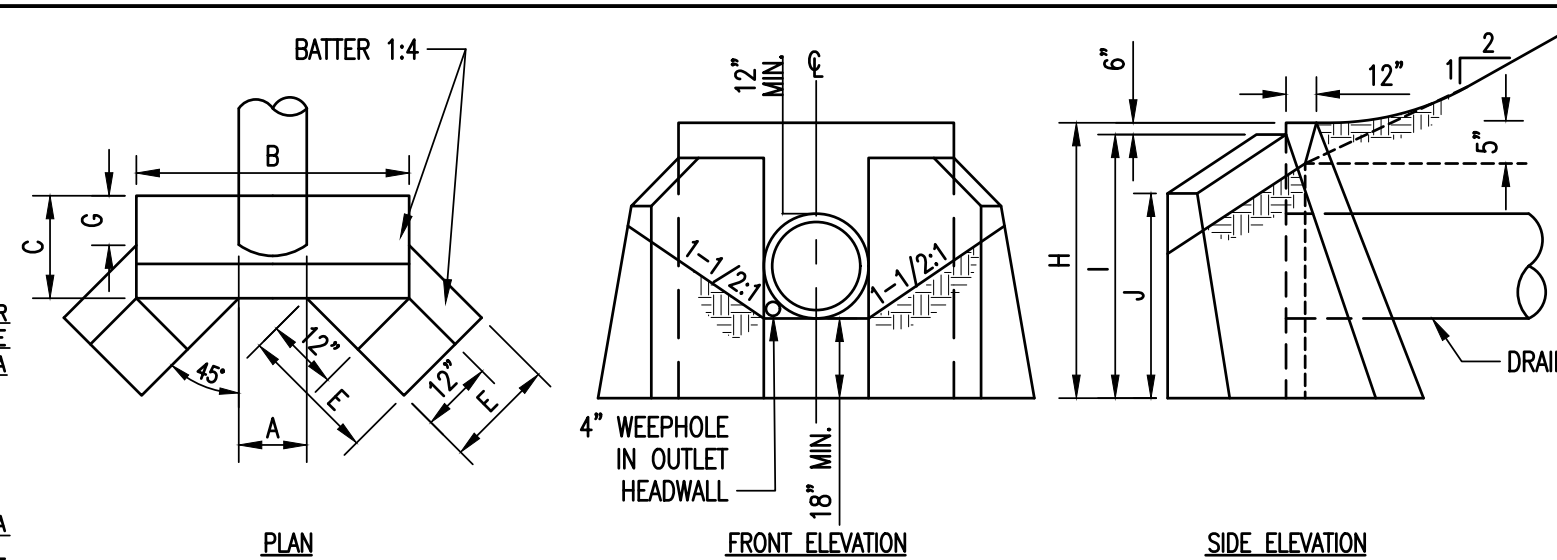


RAIN GARDEN OUTLET RISER

- RIPRAP APRON NOTES**
1. STONE SHALL BE CLASS "C" STONE FILL (N.H.D.O.T.), 1' THICK REFER TO PLAN FOR LIMITS.
2. DIMENSIONS SHALL BE DETERMINED AS FOLLOWS:
- D1 = 2 x PIPE DIAMETER (D) (MIN.)
- D2 = 4 x PIPE DIAMETER (D)
- L = 4.5 x PIPE DIAMETER (D)



FLARED END SECTION W/STONE APRON



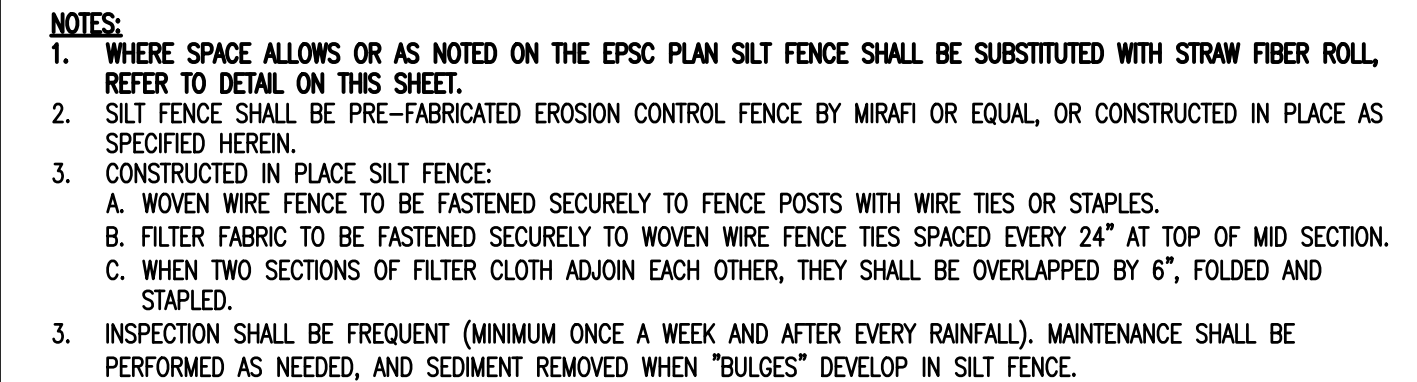
NO. OF JOINTS	A	B	C	F	F	G	H	I	J
12	1	2	1	1	1	1	3	0	3
15	1	6	4	1	6	9	3	0	1
18	1	9	4	1	9	11	4	1	3
25	2	3	5	2	2	4	6	4	3
30	2	9	5	7	2	11	6	5	10
36	3	3	6	2	5	3	6	5	4

STONE MASONRY HEADWALL NOTES

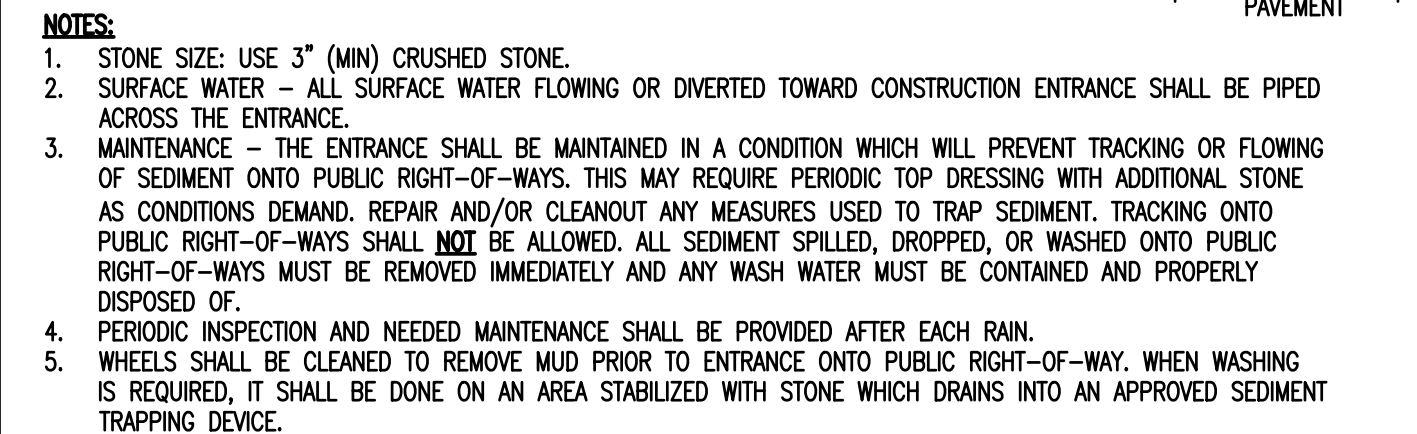
1. STONE MATERIALS TO MATCH COLOR, SHAPE SIZE AND TYPE OF ANY EXISTING HEADWALLS ON SITE.
2. MASONRY WORK TO MATCH EXISTING HEADWALLS ON SITE.

STONE MASONRY HEADWALL

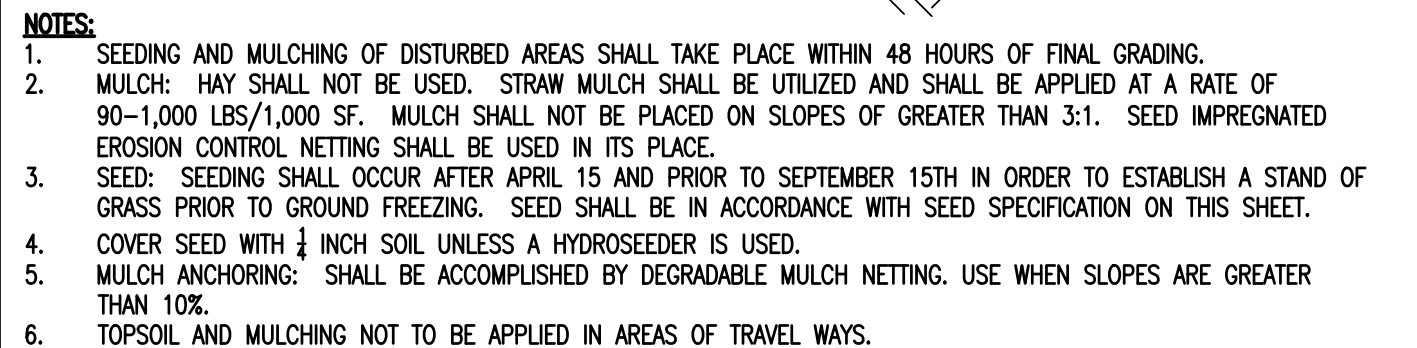
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NOT TO SCALE



NOT TO SCALE (2)



NOT TO SCALE (3)

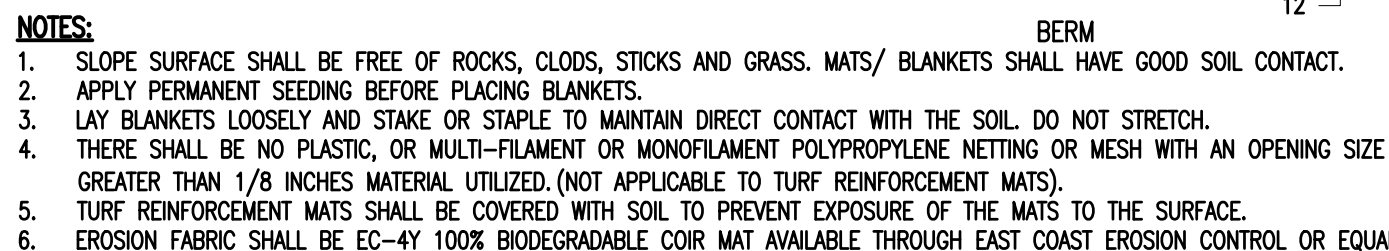
FERTILIZER- 10 LBS. PER 1000S.F.
SPRING SEEDING
FALL SEEDING

LIME- 90 LBS. PER 1000S.F.
DOLOMITIC GROUND LIMESTONE
NOT LESS THAN 85% OF THE TOTAL
CARBONATE

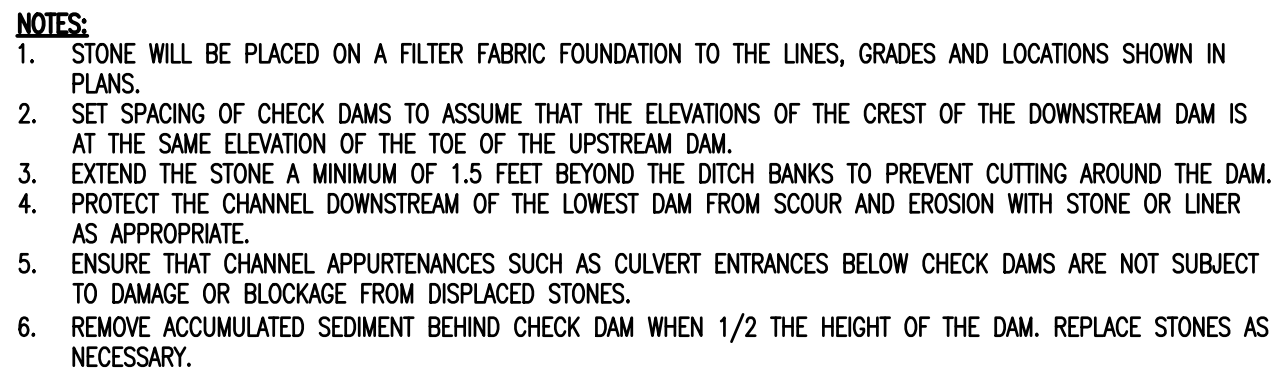
TOP SOIL
4" MINIMUM APPROVED TOPSOIL

STRAW MULCH- 2 BALES PER 1000S.F.
APPLY BINDER OR NETTING AS NEEDED

NOT TO SCALE (4)



NOT TO SCALE (6)



NOT TO SCALE



3. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE THE GENERAL CONTRACTOR, THIS INDIVIDUAL SHALL BE PRESENT ON-SITE FROM DAY-TO-END, SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ON-SITE AT ALL TIMES.
4. THE SMALLEST PRACTICAL AREA OF LAND SHALL BE DISTURBED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS DISTURBED, THE DISTURBANCE SHALL BE KEPT TO THE SHORTEST PRACTICAL DURATION AS APPROVED BY THE OWNER'S REP.
5. DUST SHALL BE CONTROLLED WITH WATER DISTRIBUTED BY A TRUCK MOUNTED SPRAY BAR. CALCIUM CHLORIDE (AASHTO M 144) OR SODIUM CHLORIDE (AASHTO M 43) SHALL BE USED AS DIRECTED BY THE OWNER'S REP.
6. ALL EROSION AND STORMWATER CONTROL SYSTEMS SHALL BE INSPECTED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF THE OCCURRENCE OF A STORM EVENT OF 0.5" OR GREATER. NEEDED REPAIRS SHALL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE REMOVED AS THEY ACCUMULATE AND PLACED IN AREAS WHERE FURTHER EROSION IS UNLIKELY.
7. A WRITTEN REPORT, STAMPED BY A QUALIFIED ENGINEER OR A CPESC SPECIALIST, SHALL BE SUBMITTED TO THE NHDES WITHIN 24 HOURS OF EACH INSPECTION THAT:
 - A) DESCRIBES THE PROGRESS OF THE PROJECT, INCLUDING WHETHER ALL CONDITIONS OF THE PERMIT ARE BEING MET AND, IF NOT, WHICH REQUIREMENTS ARE NOT BEING MET;
 - B) IF ANY REQUIREMENTS ARE NOT BEING MET, AN EXPLANATION OF THE CORRECTIVE ACTION(S) THAT WILL BE OR ARE BEING TAKEN TO BRING THE PROJECT INTO COMPLIANCE WITH APPLICABLE REQUIREMENTS AND THE DEADLINE BY WHICH SUCH ACTIONS WILL BE COMPLETED; AND
 - C) INCLUDES PHOTOGRAPHS OF THE SITE THAT ARE REPRESENTATIVE OF THE PROJECT; AND
8. RETAIN A COPY OF THE REPORT PREPARED PURSUANT TO (5), ABOVE, ON-SITE FOR REVIEW DURING SITE INSPECTIONS BY FEDERAL, STATE, AND LOCAL OFFICIALS
9. ALL PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS.
10. DETENTION BASINS AND SWALES SHALL BE INSTALLED PRIOR TO ROUGH GRADING THE SITE.
11. ALL DITCHES AND SWALES SHALL BE STABLED PRIOR TO DIRECTING RUNOFF TO THEM.
12. ALL ROADWAYS AND PARKING LOTS SHALL BE STABLED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
13. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
14. AN AREA SHALL BE CONSIDERED 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 RIPRAP HAS BEEN INSTALLED; OR
 - EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.
15. APPROPRIATE SILTATION/EROSION/TURBIDITY CONTROLS SHALL BE IN PLACE PRIOR TO CONSTRUCTION, SHALL BE MAINTAINED DURING CONSTRUCTION, AND REMAIN IN PLACE UNTIL THE AREA IS STABILIZED. SILT FENCE(S) MUST BE REMOVED ONCE THE AREA IS STABILIZED.
16. DISCHARGE FROM Dewatering of WORK AREAS SHALL BE TO SEDIMENT BASINS THAT ARE:
 - A) LOCATED IN UPLANDS;
 - B) LINED WITH HAY BALES OR OTHER ACCEPTABLE SEDIMENT TRAPPING LINERS;
 - C) SET BACK AS FAR AS POSSIBLE FROM WETLANDS AND SURFACE WATERS, IN ALL CASES WITH A MINIMUM OF 20 FEET OF UNDISTURBED VEGETATED BUFFER.
17. WITHIN THREE DAYS OF FINAL GRADING, ALL EXPOSED SOIL AREAS SHALL BE STABILIZED BY SEEDING AND MULCHING DURING THE GROWING SEASON, OR IF NOT WITHIN THE GROWING SEASON, BY MULCHING WITH TACK OR NETTING AND PINNING ON SLOPES STEEPER THAN 3:1.
18. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED WITHIN THE GROWING SEASON, ALL EXPOSED SOIL AREAS SHALL BE STABILIZED WITHIN 14 DAYS BY SEEDING AND MULCHING.
19. WHERE CONSTRUCTION ACTIVITIES HAVE BEEN TEMPORARILY SUSPENDED OUTSIDE THE GROWING SEASON, ALL EXPOSED AREAS SHALL BE STABILIZED WITHIN 14 DAYS BY MULCHING AND TACK. SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED BY MATTING AND PINNING.
20. PROPER HEADWALLS SHALL BE CONSTRUCTED WITHIN SEVEN DAYS OF CULVERT INSTALLATION.
21. CULVERT OUTFALLS SHALL BE PROTECTED IN ACCORDANCE WITH THE DES BEST MANAGEMENT PRACTICES FOR URBAN STORMWATER RUNOFF MANUAL (JANUARY 1996) AND THE STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE (AUGUST 1992).
22. THE CONTRACTOR RESPONSIBLE FOR COMPLETION OF THE WORK SHALL UTILIZE TECHNIQUES DESCRIBED IN THE NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION (DECEMBER 2008).
23. NO FOOT PANE BIORETENTION SYSTEM INTO SERVICE UNTIL ALL BMPs HAVE BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
24. DO NOT DISCHARGE SEDIMENT-LADEN WATERS FROM THE CONSTRUCTION ACTIVITIES (RUNOFF, WATER FROM EXCAVATIONS) TO BIORETENTION AREA DURING ANY STAGE OF CONSTRUCTION.
25. DO NOT TRAFFIC EXPOSED SOIL SURFACE WITH CONSTRUCTION EQUIPMENT. IF FEASIBLE, PERFORM EXCAVATIONS WITH EQUIPMENT POSITIONED OUTSIDE THE LIMITS OF THE INFILTRATION COMPONENTS OF THE SYSTEM.

EROSION CONTROL CONSTRUCTION SEQUENCE

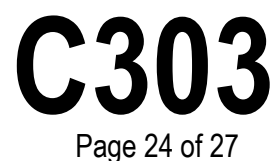
1. THE "ON-SITE EROSION CONTROL PLAN COORDINATOR" SHALL BE THE GENERAL CONTRACTOR, THIS INDIVIDUAL SHALL BE PRESENT ON SITE FROM DAY TO DAY, AND SHALL BE RESPONSIBLE FOR ENSURING THAT THE EROSION CONTROL MEASURES REQUIRED BY THE EROSION CONTROL PLAN, DETAILS AND NOTES, ARE PROPERLY INSTALLED AND MAINTAINED. THE ONSITE EROSION CONTROL PLAN COORDINATOR SHALL KEEP A WRITTEN RECORD OF INSPECTIONS AND MAINTENANCE OF EROSION CONTROL FEATURES. A COPY OF THESE PLANS AND INSPECTION/MAINTENANCE RECORDS SHALL BE KEPT ON-SITE AT ALL TIMES.
2. HOLD PRE-CONSTRUCTION CONFERENCE AT LEAST ONE WEEK PRIOR TO STARTING CONSTRUCTION, WITH THE CONTRACTOR, OWNER, AND ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING ALL EROSION CONTROL MEASURES DELINEATED ON THE PLANS AND ANY ADDITIONAL MEASURES THAT ARE NECESSARY TO MINIMIZE EROSION. THE CONTRACTOR SHALL HAVE EROSION CONTROL MATERIALS AND INSTALLATION EQUIPMENT ON SITE AT ALL TIMES.
3. IF POSSIBLE, ALL TEMPORARY EROSION CONTROL MEASURES REQUIRED FOR WORK PROPOSED DURING THE WINTER (BETWEEN OCTOBER 15 AND MAY 1), SHALL BE INSTALLED PRIOR TO OCTOBER 1.
4. PRIOR TO ANY OTHER WORK, SILT FENCES SHALL BE INSTALLED GENERALLY 10 FEET FROM THE BASE OF THE FILL SLOPES, OR AS SHOWN ON THE EROSION CONTROL PLAN. THESE SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT BECOMES 6 INCHES DEEP AT THE FENCE. THE SILT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
5. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT.
6. INSTALL INLET PROTECTION ON EXISTING AND NEW CHUTE BASINS.
7. ROUGH GRADE AND STOCKPILE TOPSOIL SURROUNDED BY SILT FENCE.
8. STABILIZE EXPOSED SLOPES AND SOILS AS SOON AS GRADED, AND MAINTAIN UNTIL ADEQUATELY VEGETATED.
9. COMPLETE FINAL GRADING OF SITE. PLACE TOPSOIL AND PERMANENTLY VEGETATE, LANDSCAPE, AND MULCH.
10. AFTER THE SITE IS APPROVED BY THE ENGINEER AS ADEQUATELY STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.

TEMPORARY/CONSTRUCTION EROSION CONTROL MEASURES:

1. LIMIT LENGTH OF EXPOSURE OF UNSTABILIZED SOIL TO 45 DAYS OR LESS.
2. HAY SHALL NOT BE USED.
3. DOUBLE ROW OF STRAW WATTLES SHALL BE INSTALLED ALONG THE WETLAND BOUNDARY. THESE SHALL REMAIN IN PLACE UNTIL THE PROJECT SITE HAS BEEN STABILIZED. SEDIMENT SHALL BE REMOVED FROM BEHIND THE STRAW WATTLES WHEN IT BECOMES 6 INCHES DEEP. THE PERIMETER CONTROL WILL BE PREPARED AS NECESSARY TO MAINTAIN A PROPER SEDIMENT BARRIER.
4. INSTALL STONE CHECK DAMS IN GRASS-LINED SWALES 50 FEET ON CENTER TO PREVENT SILT FROM WASHING INTO THE DRAINAGE SYSTEM DURING CONSTRUCTION. SEDIMENT SHALL BE REMOVED FROM BEHIND THE DAMS WHEN IT BECOMES 6 INCHES DEEP. STONE CHECK DAMS SHALL BE REMOVED WHEN VEGETATION IS ESTABLISHED.
5. DROPPLET PROTECTION SHALL BE PROVIDED AROUND ALL EXISTING AND PROPOSED CATCH BASINS. PROTECTION SHALL REMAIN UNTIL ALL DISTURBED AREAS ARE STABILIZED. SEDIMENT SHALL BE REMOVED FROM DROP INLET PROTECTION WHEN THE STORAGE CAPACITY HAS BEEN APPROXIMATELY 50% FILLED. GRAVEL WILL BE CLEANED OR REPLACED WHEN IT NO LONGER DRAINS PROPERLY.
6. EXCAVATED MATERIAL FROM EARTH EXCAVATION AND DITCH DIGGING SHALL BE DISPOSED OF OFFSITE OR USED FOR PROJECT FILL MATERIAL IF DETERMINED SUITABLE BY THE OWNER'S REPRESENTATIVE.
7. STOCKPILED MATERIAL (TOPSOIL, BORROW, ETC.) SHALL HAVE SILT FENCE CONSTRUCTED AROUND THE PERIMETER. THE STOCKPILED MATERIAL SHALL BE SEEDED AND MULCHED AS SOON AS POSSIBLE TO PREVENT SOIL EROSION AND SEDIMENTATION OFF SITE. LOCATE STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, IF POSSIBLE. DURING WINDY CONDITIONS, STOCKPILED MATERIAL SHALL BE COVERED OR WATERED APPROPRIATELY TO PREVENT WIND EROSION.

PERMANENT EROSION CONTROL MEASURES:

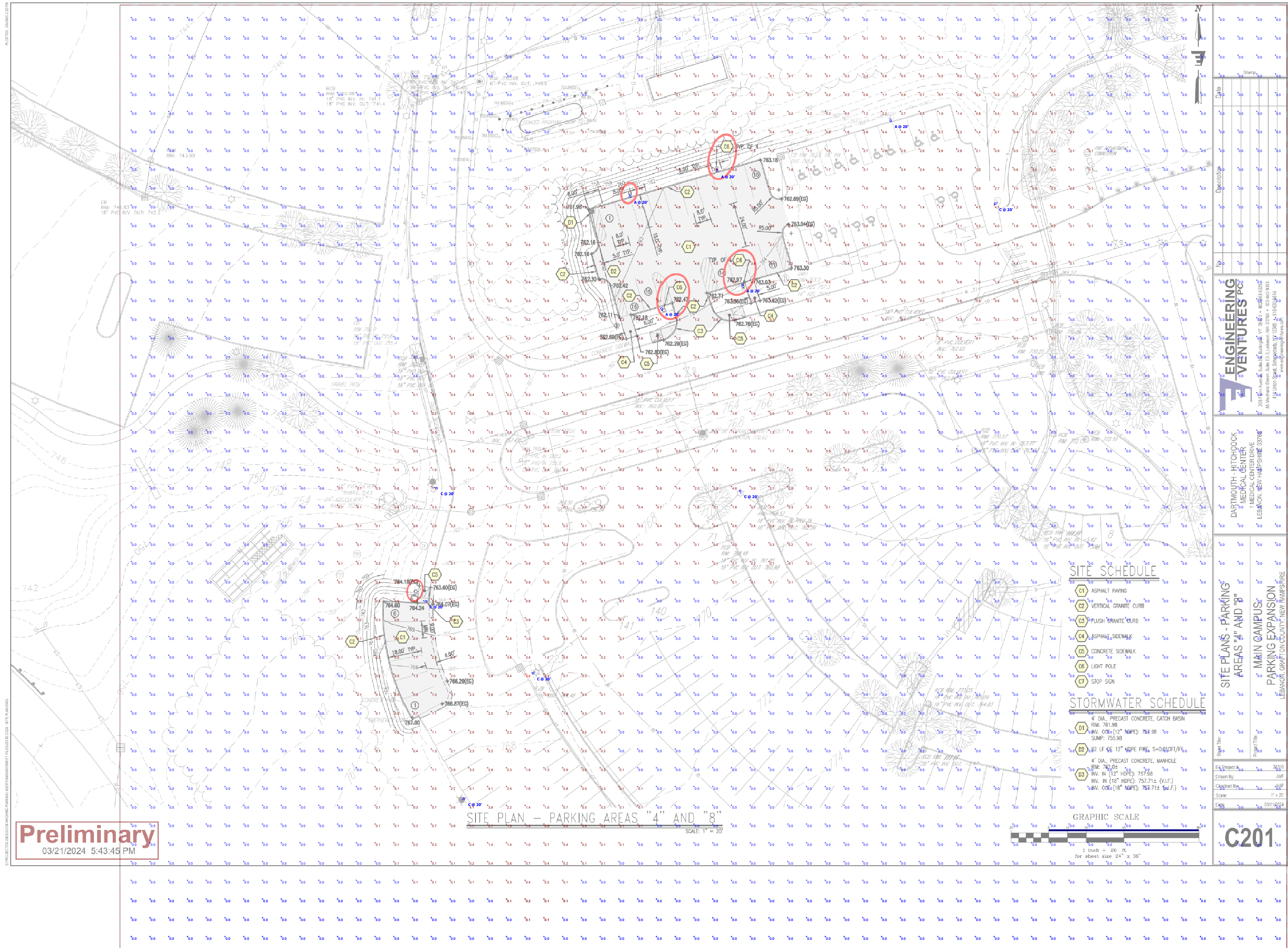
1. GRASS LINED SWALES SHALL BE TOP SOILED, SODDED AND FERTILIZED AREAS WHICH EXHIBIT SIGNS OF EROSION SHALL BE RE-SODDED IMMEDIATELY AND MAINTAINED UNTIL SOIL HAS PERMANENT HOLD AND IS HEALTHY.
2. WHEN CONSTRUCTION IS COMPLETED IN AN AREA, IT SHALL BE IMMEDIATELY TOP SOILED, SEEDED, FERTILIZED AND MULCHED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE Ongoing MAINTENANCE OF ALL DISTURBED AREAS, INCLUDING WATERING, UNTIL THE AREA IS INSPECTED AND ACCEPTED BY THE OWNER OR ENGINEER.
4. AFTER THE SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
5. RE-SEEDING SHALL BE DONE UNTIL ALL AREAS ARE COMPLETELY COVERED WITH A MATURE STRAND OF GRASS. AN AREA SHALL BE CONSIDERED COVERED WHEN THE ENTIRE SURFACE CONTAINS A VERGEOUS STRAND OF GRASS. AREAS THAT, IN THE OPINION OF THE ENGINEER, ARE NOT SUFFICIENTLY WEEDY SHALL BE RE-SOILED, RE-FERTILIZED AND RE-SEEDED IN THE MANNER SPECIFIED PREVIOUSLY, EXERCISING CAUTION NOT TO CAUSE DAMAGE TO NEW OR EXISTING PLANT MATERIAL.



Schedule									
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage	Notes
	A	5 4 PROPOSED 1 EXISTING	Lithonia Lighting	RSX2 LED P1 40K R3	RSX Area Fixture Size 2 P1 Lumen Package 4000K CCT Type R3 Distribution	10991	0.9	72.06	
	C	6 1 PROPOSED 5 EXISTING	Lithonia Lighting	RSX2 LED P1 40K R4	RSX Area Fixture Size 2 P1 Lumen Package 4000K CCT Type R4 Distribution	11135	0.9	72.06	

Light Level Illuminance Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	0.3 fc	5.4 fc	0.0 fc	N/A	N/A



Plan View
Scale: 1" = 20ft
SCALE REDUCED: 1"=30'+/-

DISCLAIMER:
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DHMC - Areas 4&8
REV 1
4-8-24

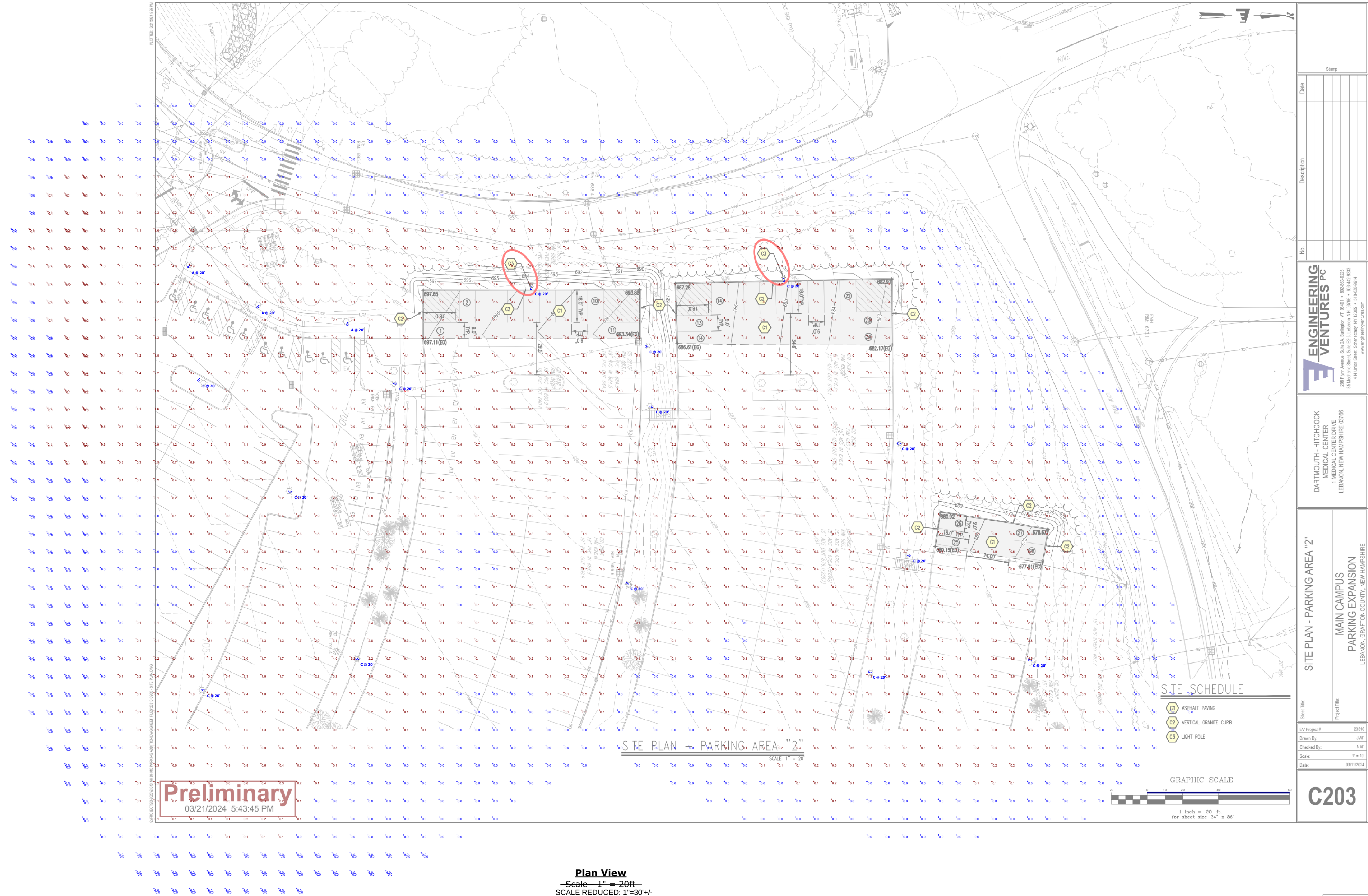
SL101

Designer
LAG3
Date
04/08/2024
Scale
PER PLAN
Drawing No.
5 of 27
Summary

Schedule									
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage	Notes
	A	3 3 EXISTING	Lithonia Lighting	RSX2 LED P1 40K R3	RSX Area Fixture Size 2 P1 Lumen Package 4000K CCT Type R3 Distribution	10991	0.9	72.06	
	C	14 2 PROPOSED 12 EXISTING	Lithonia Lighting	RSX2 LED P1 40K R4	RSX Area Fixture Size 2 P1 Lumen Package 4000K CCT Type R4 Distribution	11135	0.9	72.06	

Light Level Illuminance Statistics

Description	Symbol	Avg	Max	Max/Min	Avg/Min	Min
Calc Zone #2	+	0.7 fc	5.9 fc	N/A	N/A	0.0 fc



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PARKING LOT EXPANSION
DARTMOUTH-HITCHCOCK MEDICAL CENTER
CITY OF LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

DRAINAGE ANALYSIS
APRIL 30, 2024

Prepared For:

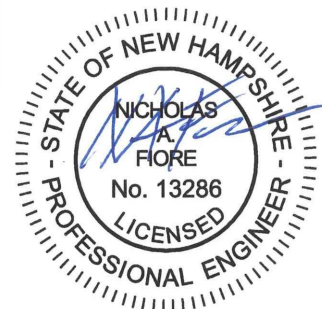
DARTMOUTH-HITCHCOCK MEDICAL CENTER
One Medical Center Drive
Lebanon, NH 03756
Tel: 603-644-3657

Prepared By:



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EV Project # 21147



PARKING LOT EXPANSION DARTMOUTH-HITCHCOCK MEDICAL CENTER

DRAINAGE ANALYSIS

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DHMC Parking Lot Expansions

Lebanon, NH

Stormwater Narrative

EV Project # 23310

April 30, 2024

The DHMC Parking Lot Expansions project at Dartmouth-Hitchcock Medical Center (Tax Map 10 Lot 8) includes adding parking spaces to four (4) of DHMC's parking lots. Three of the lot expansions will better meet staff parking needs, and the fourth will provide needed additional parking for the hospital's emergency department. Additionally, the project includes a slight widening of the driveway in the compressed natural gas (CNG) area to better accommodate access for the delivery vehicles.

The parking revisions to each lot, the stormwater controls to be provided for each lot, and the results of the stormwater modeling are presented in the following paragraphs. Stormwater analysis was conducted using HydroCAD Version 10.20-5a to compare the existing and post-construction conditions for the 2-year, 10-year, and 50-year 24-hour storms. This program uses the TR-20 stormwater calculation method.

Lot 2

Located north of the new patient towers at the hospital's north end, Lot 2 has three tiers of parking. Tier A and B have four rows of parking. The eastern half of Tier C has four rows, and the western half has two rows. This project will expand the western edge of all three tiers with Tier A gaining 11 spaces and 2,333± square feet of impervious area, Tier B gaining 11 spaces and 2,610± square feet of impervious area, and Tier C adding 4 space and 1,185± square feet of impervious area, for a total of 26 additional spaces and 6,128± additional square feet of impervious area. These expansions are into areas that are a mix of grassed and wooded spaces.

Lot 2 Tier A

The project adds a 94± square foot rain garden at this expansion's northwest corner. This rain garden, referred to as Rain Garden 2A in the stormwater modeling reports, is sized to treat the Water Quality Volume of the runoff generated by the expansion's added asphalt. An underdrain routes treated water from the bottom of the rain garden to an existing stormwater pipe and an overflow pipe will convey excess runoff from very large storms to the same existing pipe. The existing pipe routes stormwater north along the hospital's North Entrance driveway, which then empties into a swale along Hitchcock Loop Road. The swale is routed to a stormwater detention area adjacent to Hitchcock Loop Road. The outlet control structure of the detention area was modified during the recent patient tower project to control flow.

Based on EV's experience with the soils around the DHMC campus and the Site Specific Soil Mapping completed for the patient tower project, the Rain Garden 2A design does not account for infiltration from the system. Infiltration testing will be conducted at the rain garden's location prior to installation and the design will be modified if it can be improved upon.

DHMC Parking Lot Expansions

Stormwater Narrative

April 30, 2024

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Table 1 shows the results of stormwater modeling on the outlet control structure of the existing detention area.

Table 1

Pond 3P: Existing Basin-mod	2-yr Storm		10-yr Storm		50-yr Storm	
	cfs	af	cfs	af	cfs	af
VHB Design - Existing	8.08	1.714	14.21	3.239	20.32	5.787
EV Design - Post	8.09	1.732	14.25	3.260	20.33	5.810
Δ	0.01	0.018	0.04	0.021	0.01	0.023

These results show very minor increases in the system's discharges. It is my professional opinion that these increases will be imperceptible and are attributed to the limitation of the HydroCAD software.

Lot 2 Tier B & C

The project adds a 205± square foot rain garden at this Tier B expansion's northwest corner. This rain garden, referred to as Rain Garden 2B in the stormwater modeling reports, is sized to treat the Water Quality Volume of the runoff generated by the added asphalt of both the Tier B and Tier C expansions. The Tier C expansion abuts some steeper slopes near Hitchcock Loop Road so its location is not well suited to also including a stormwater treatment area, hence over sizing Rain Garden 2B. An underdrain will collect treated water from the bottom of the rain garden and an overflow pipe will collect excess runoff from very large storms. Runoff will then be routed to a drainage swale adjacent to Hitchcock Loop Road, from which it will follow the campus's stormwater conveyances to the pond at the north end of the property.

Based on EV's experience with the soils around the DHMC campus and the Site Specific Soil Mapping completed for the patient tower project, the Rain Garden 2B design does not account for infiltration from the system. Infiltration testing will be conducted at the rain garden's location prior to installation and the design will be modified if it can be improved upon.

Table 2 shows the results of stormwater modeling at the discharge point of Rain Garden 2B.

Table 2

PR2B	2-yr Storm		10-yr Storm		50-yr Storm	
	cfs	af	cfs	af	cfs	af
Existing	0.01	0.001	0.07	0.004	0.21	0.010
Rain Garden 2B Post	0.05	0.018	0.09	0.027	0.44	0.040
Δ	0.04	0.02	0.02	0.02	0.23	0.03

As stated above, discharge from Rain Garden 2B eventually flows to the pond at the north end of the property. That pond's catchment area includes 148.5± acres of DHMC land, of which 38.7± acres are impervious. The very minor increases in runoff of clean stormwater will have imperceptible impacts on the campus's larger stormwater system.

DHMC Parking Lot Expansions

Stormwater Narrative

April 30, 2024

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Lot 4

Located south of Borwell Building and north of Lahaye Dr/Hitchcock Loop Rd, Lot 4 will receive a small addition of 6 parking spaces and 1,460± square feet of additional impervious area at its northwestern corner. The expansion is into a grasses area and will also include the relocation of a blue-light emergency call station.

The Lot 4 expansion will rely on existing stormwater controls for treatment and attenuation. Existing stormwater ponds adjacent to Lot 4 have a catchment area of approximately 9.4 acres. Approximately 3.8 acres of that is impervious. The ponds are sized such that the small alterations to their catchment area will have no discernible effect on their performance.

Table 3 shows the results of stormwater modeling at the discharge point of the existing stormwater ponds adjacent to Lot 4.

Table 3

Pond 3P: West Pond #2	2-yr Storm		10-yr Storm		50-yr Storm	
	cfs	af	cfs	af	cfs	af
EV Design - 2013	1.17	0.495	8.16	1.188	20.14	2.297
EV Design - 2024	1.17	0.496	8.17	1.189	20.15	2.298
Δ	0.00	0.001	0.01	0.001	0.01	0.001

Lot 8

Located between Lot 4 and Borwell Building, the Lot 8 expansion will replicate the existing Lot 8 footprint to the west of the existing lot. This expansion will be into a mostly wooded area and will add 16 parking spaces and 6,560± square feet of additional impervious area.

The project adds a 353± square foot rain garden at this expansion's northwest corner. This rain garden, referred to as Rain Garden 8P in the stormwater modeling reports, is sized to treat the Water Quality Volume of the runoff generated by the expansion's added asphalt. An underdrain will collect treated water from the bottom of the rain garden and an overflow pipe will collect excess runoff from very large storms. Runoff will then be discharged to woods north of the rain garden, matching existing drainage patterns.

During design efforts for previous projects in the general area of Lot 8, EV did find soils with a capacity for infiltration at a rate of 0.64 in/hr. The Lot 8 rain garden design uses a slightly more conservative rate of 0.5 in/hr. Infiltration testing will be conducted at the rain garden's location prior to installation and the design will be modified if appropriate.

Table 4 shows the results of stormwater modeling at the discharge point of Rain Garden 8P.

DHMC Parking Lot Expansions

Stormwater Narrative

April 30, 2024

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Table 4

8P	2-yr Storm		10-yr Storm		50-yr Storm	
	cfs	af	cfs	af	cfs	af
Existing	0.01	0.003	0.19	0.011	0.64	0.030
Post Construction	0.01	0.003	0.07	0.021	0.45	0.051
Δ	0.00	0.000	-0.12	0.010	-0.19	0.021

Lot E

The Emergency Department parking lot will receive two improvements. First, the existing lot will be widened by two feet, lengthened to add spaces, configured with angled parking, and made one way. The driveway will be reconfigured to remove a slip lane and reduce conflicting turning movements. Second, an additional 17-space lot will be added east of the main driveway. Additionally, the work will also add sidewalks and realign gravel walking path. In total, the parking area will expand from 28 existing spaces to 52, a 24-space gain, and add 7,865± square feet of additional impervious area.

The stormwater design for Lot E takes advantage of its proximity to the CNG facility which has a rain garden adjacent to it, referred to as Rain Garden RG1 in the stormwater modeling reports. This project will expand that rain garden from 940± square feet to 1,990± square feet. Stormwater from the eastern third of the existing Lot E and the whole of the additional parking area is routed to this expanded rain garden. The surrounding areas maintain existing drainage patterns but with smaller areas resulting in less runoff. The revised Rain Garden RG1 will also accommodate the additional runoff generated by the widening of the CNG driveway.

Table 5 shows the results of stormwater modeling at the discharge point of Rain Garden RG1.

Table 5

RG1	2-yr Storm		10-yr Storm		50-yr Storm	
	cfs	af	cfs	af	cfs	af
Exist (2013 Design)	0.19	0.073	0.91	0.130	2.51	0.221
Post 2024	0.19	0.121	0.48	0.202	2.38	0.326
Δ	0.00	0.05	-0.43	0.07	-0.13	0.11

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	72.268 degrees West
Latitude	43.673 degrees North
Elevation	0 feet
Date/Time	Mon, 23 May 2022 16:40:49 -0400

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.66	0.82	1.02	1yr	0.71	0.93	1.17	1.44	1.76	2.15	2.41	1yr	1.90	2.32	2.69	3.29	3.79	1yr
2yr	0.31	0.48	0.59	0.78	0.98	1.22	2yr	0.85	1.11	1.40	1.71	2.07	2.50	2.80	2yr	2.21	2.70	3.15	3.76	4.31	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.54	5yr	1.06	1.40	1.76	2.14	2.57	3.06	3.47	5yr	2.71	3.33	3.86	4.54	5.17	5yr
10yr	0.41	0.65	0.82	1.12	1.46	1.84	10yr	1.26	1.68	2.10	2.55	3.03	3.58	4.07	10yr	3.17	3.92	4.51	5.24	5.94	10yr
25yr	0.49	0.79	1.00	1.38	1.83	2.31	25yr	1.58	2.12	2.65	3.19	3.77	4.40	5.04	25yr	3.89	4.84	5.54	6.34	7.15	25yr
50yr	0.56	0.91	1.16	1.62	2.18	2.76	50yr	1.88	2.52	3.16	3.79	4.45	5.14	5.92	50yr	4.55	5.69	6.48	7.32	8.22	50yr
100yr	0.64	1.04	1.34	1.90	2.59	3.30	100yr	2.24	3.02	3.78	4.51	5.25	6.01	6.96	100yr	5.32	6.69	7.57	8.45	9.46	100yr
200yr	0.74	1.21	1.57	2.24	3.09	3.93	200yr	2.66	3.61	4.50	5.34	6.19	7.04	8.18	200yr	6.23	7.87	8.86	9.77	10.88	200yr
500yr	0.89	1.47	1.91	2.78	3.89	4.97	500yr	3.35	4.57	5.67	6.70	7.70	8.67	10.15	500yr	7.67	9.76	10.91	11.84	13.11	500yr

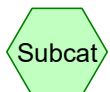
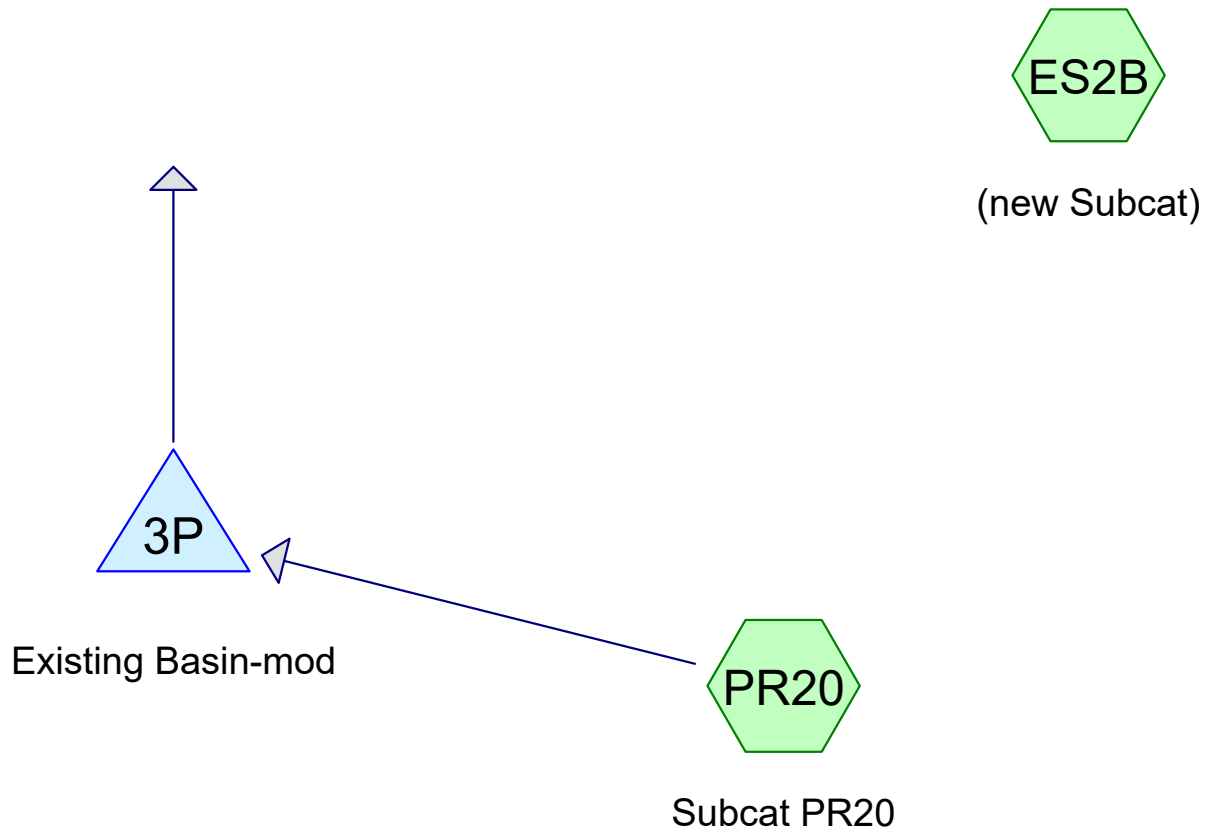
Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.61	0.75	0.83	1yr	0.65	0.81	1.00	1.19	1.58	1.97	2.23	1yr	1.75	2.15	2.49	3.01	3.55	1yr
2yr	0.30	0.46	0.57	0.77	0.94	1.11	2yr	0.82	1.08	1.24	1.61	2.06	2.45	2.75	2yr	2.17	2.65	3.08	3.70	4.23	2yr
5yr	0.34	0.52	0.65	0.89	1.14	1.32	5yr	0.98	1.30	1.49	1.90	2.42	2.92	3.28	5yr	2.58	3.15	3.66	4.30	4.92	5yr
10yr	0.38	0.58	0.72	1.00	1.30	1.51	10yr	1.12	1.47	1.69	2.16	2.70	3.32	3.75	10yr	2.94	3.60	4.16	4.82	5.53	10yr
25yr	0.43	0.66	0.82	1.17	1.54	1.78	25yr	1.33	1.74	1.98	2.52	3.13	3.96	4.48	25yr	3.50	4.31	4.93	5.59	6.43	25yr
50yr	0.48	0.72	0.90	1.30	1.75	2.03	50yr	1.51	1.98	2.22	2.85	3.52	4.51	5.13	50yr	3.99	4.93	5.61	6.24	7.21	50yr
100yr	0.53	0.80	1.01	1.45	1.99	2.29	100yr	1.72	2.24	2.49	3.19	3.96	5.15	5.86	100yr	4.56	5.63	6.38	6.97	8.08	100yr
200yr	0.59	0.89	1.12	1.63	2.27	2.60	200yr	1.96	2.54	2.79	3.60	4.49	5.88	6.70	200yr	5.20	6.44	7.29	7.79	9.06	200yr
500yr	0.68	1.01	1.30	1.89	2.69	3.05	500yr	2.32	2.99	3.21	4.19	5.27	7.02	8.02	500yr	6.21	7.71	8.69	9.01	10.54	500yr

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.73	0.90	1.03	1yr	0.77	1.01	1.19	1.51	1.88	2.29	2.60	1yr	2.03	2.50	2.86	3.49	3.99	1yr
2yr	0.32	0.49	0.61	0.82	1.01	1.19	2yr	0.87	1.17	1.36	1.73	2.17	2.56	2.87	2yr	2.26	2.76	3.22	3.86	4.40	2yr
5yr	0.40	0.62	0.76	1.05	1.33	1.57	5yr	1.15	1.53	1.73	2.16	2.70	3.22	3.65	5yr	2.85	3.51	4.06	4.76	5.42	5yr
10yr	0.48	0.74	0.92	1.28	1.65	1.95	10yr	1.43	1.91	2.14	2.60	3.20	3.85	4.39	10yr	3.41	4.22	4.86	5.61	6.36	10yr
25yr	0.62	0.94	1.16	1.66	2.19	2.62	25yr	1.89	2.57	2.86	3.33	4.01	4.87	5.62	25yr	4.31	5.40	6.14	6.97	7.86	25yr
50yr	0.74	1.13	1.40	2.01	2.71	3.28	50yr	2.34	3.21	3.56	4.00	4.76	5.81	6.76	50yr	5.15	6.50	7.34	8.23	9.25	50yr
100yr	0.90	1.35	1.70	2.45	3.36	4.11	100yr	2.90	4.02	4.45	4.82	5.67	6.95	8.17	100yr	6.15	7.85	8.77	9.74	10.88	100yr
200yr	1.08	1.63	2.07	2.99	4.17	5.16	200yr	3.60	5.04	5.57	5.82	6.74	8.30	9.84	200yr	7.34	9.46	10.51	11.52	12.81	200yr
500yr	1.40	2.09	2.69	3.91	5.56	6.99	500yr	4.79	6.83	7.51	7.44	8.44	10.51	12.62	500yr	9.31	12.14	13.32	14.41	15.91	500yr

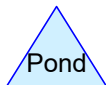
Lot 2 Drainage Analysis



Subcat



Reach



Pond



Link

Routing Diagram for 23310_Lot 2 VHB Design
 Prepared by Engineering Ventures, Inc, Printed 4/30/2024
 HydroCAD® 10.20-5a s/n 02106 © 2023 HydroCAD Software Solutions LLC

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

Printed 4/30/2024

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.451	61	>75% Grass cover, Good, HSG B (ES2B, PR20)
0.019	74	>75% Grass cover, Good, HSG C (PR20)
1.432	98	Paved parking, HSG B (PR20)
0.385	98	Paved parking, HSG C (PR20)
0.062	55	Woods, Good, HSG B (ES2B, PR20)
2.348	90	TOTAL AREA

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.944	HSG B	ES2B, PR20
0.404	HSG C	PR20
0.000	HSG D	
0.000	Other	
2.348		TOTAL AREA

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Lot 2 - Existing
Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES2B: (new Subcat)

Runoff Area=4,242 sf 0.00% Impervious Runoff Depth=0.13"
Tc=5.0 min CN=58 Runoff=0.01 cfs 0.001 af

SubcatchmentPR20: Subcat PR20

Runoff Area=2.251 ac 80.72% Impervious Runoff Depth=1.61"
Tc=6.0 min CN=91 Runoff=6.10 cfs 0.302 af

Pond 3P: Existing Basin-mod

Peak Elev=668.74' Storage=19,500 cf Inflow=33.80 cfs 1.714 af
Outflow=8.08 cfs 1.714 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.303 af Average Runoff Depth = 1.55"
22.63% Pervious = 0.531 ac 77.37% Impervious = 1.817 ac

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Lot 2 - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES2B: (new Subcat)

Runoff Area=4,242 sf 0.00% Impervious Runoff Depth=0.48"
Tc=5.0 min CN=58 Runoff=0.07 cfs 0.004 af

SubcatchmentPR20: Subcat PR20

Runoff Area=2.251 ac 80.72% Impervious Runoff Depth=2.62"
Tc=6.0 min CN=91 Runoff=9.67 cfs 0.491 af

Pond 3P: Existing Basin-mod

Peak Elev=670.01' Storage=42,294 cf Inflow=61.11 cfs 3.239 af
Outflow=14.21 cfs 3.239 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.495 af Average Runoff Depth = 2.53"
22.63% Pervious = 0.531 ac 77.37% Impervious = 1.817 ac

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Lot 2 - Existing

Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES2B: (new Subcat)

Runoff Area=4,242 sf 0.00% Impervious Runoff Depth=1.25"

Tc=5.0 min CN=58 Runoff=0.21 cfs 0.010 af

SubcatchmentPR20: Subcat PR20

Runoff Area=2.251 ac 80.72% Impervious Runoff Depth=4.12"

Tc=6.0 min CN=91 Runoff=14.80 cfs 0.772 af

Pond 3P: Existing Basin-mod

Peak Elev=671.51' Storage=81,395 cf Inflow=104.27 cfs 5.787 af

Outflow=20.32 cfs 5.787 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.783 af Average Runoff Depth = 4.00"
22.63% Pervious = 0.531 ac 77.37% Impervious = 1.817 ac

23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Lot 2 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment ES2B: (new Subcat)

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.07 cfs @ 11.99 hrs, Volume= 0.004 af, Depth= 0.48"

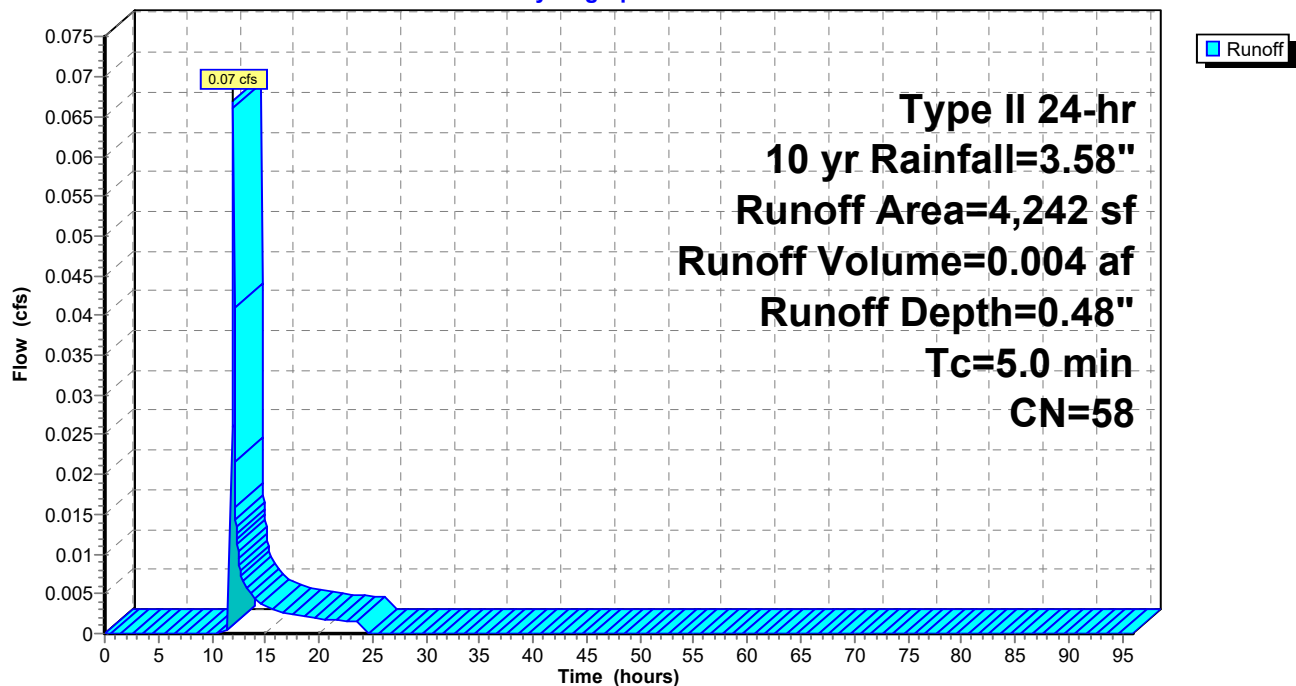
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, $dt=0.05$ hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
2,121	55	Woods, Good, HSG B
2,121	61	>75% Grass cover, Good, HSG B
4,242	58	Weighted Average
4,242		100.00% Pervious Area

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

Subcatchment ES2B: (new Subcat)

Hydrograph



23310_Lot 2 VHB Design

Prepared by Engineering Ventures, Inc

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Lot 2 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PR20: Subcat PR20

Runoff = 9.67 cfs @ 11.97 hrs, Volume= 0.491 af, Depth= 2.62"
Routed to Pond 3P : Existing Basin-mod

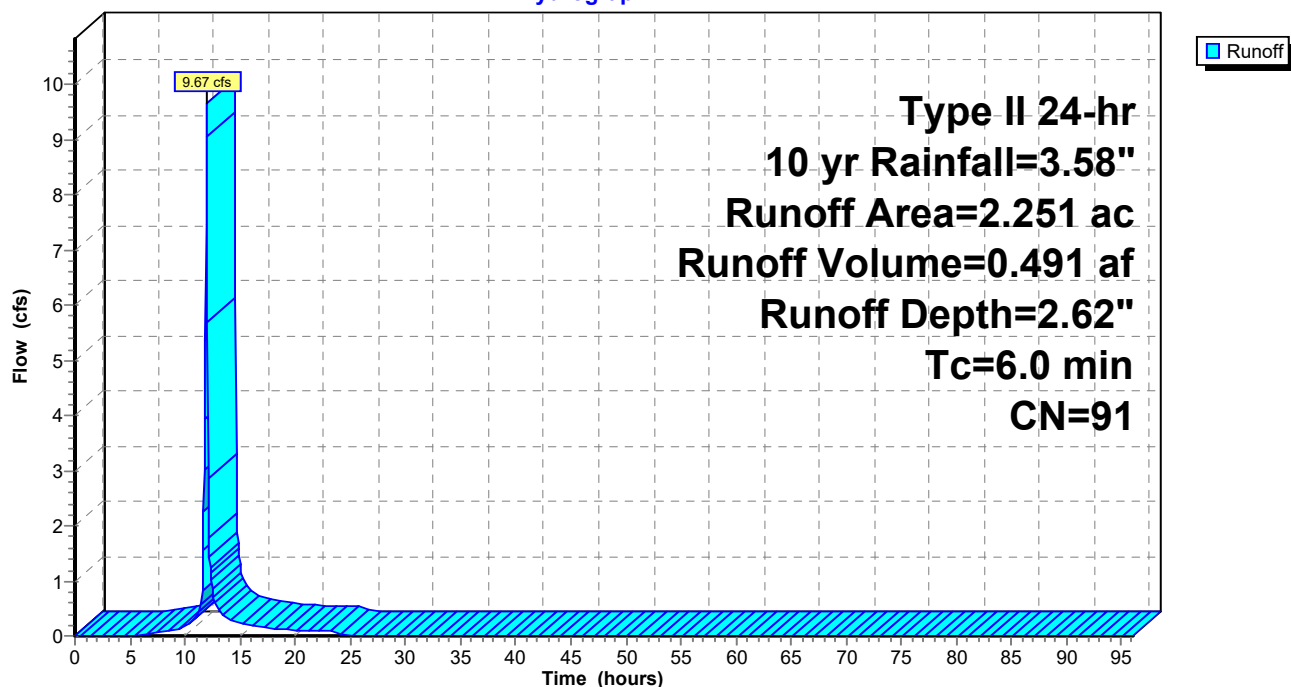
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (ac)	CN	Description
0.402	61	>75% Grass cover, Good, HSG B
0.019	74	>75% Grass cover, Good, HSG C
1.432	98	Paved parking, HSG B
0.385	98	Paved parking, HSG C
0.013	55	Woods, Good, HSG B
2.251	91	Weighted Average
0.434		19.28% Pervious Area
1.817		80.72% Impervious Area

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

Subcatchment PR20: Subcat PR20

Hydrograph



23310_Lot 2 VHB Design

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Lot 2 - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond 3P: Existing Basin-mod

Inflow Area = 22.802 ac, 53.29% Impervious, Inflow Depth = 1.70" for 10 yr event
 Inflow = 61.11 cfs @ 11.98 hrs, Volume= 3.239 af
 Outflow = 14.21 cfs @ 12.17 hrs, Volume= 3.239 af, Atten= 77%, Lag= 11.4 min
 Primary = 14.21 cfs @ 12.17 hrs, Volume= 3.239 af
 Routed to Link 1L : Stormwater Management Area Outlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 670.01' @ 12.17 hrs Surf.Area= 20,787 sf Storage= 42,294 cf

Plug-Flow detention time= 26.9 min calculated for 3.237 af (100% of inflow)
 Center-of-Mass det. time= 26.9 min (852.2 - 825.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	665.10'	140,263 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
665.10	10	15.0	0	0	10
666.00	75	111.0	34	34	974
668.00	12,597	701.0	9,096	9,130	39,107
670.00	20,735	845.0	32,996	42,125	56,890
672.00	35,435	1,425.0	55,517	97,643	161,686
672.16	37,810	1,212.0	5,859	103,501	206,384
673.00	50,000	2,000.0	36,761	140,263	407,804

Device	Routing	Invert	Outlet Devices
#1	Primary	663.90'	24.0" Round Culvert L= 98.4' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 663.90' / 654.20' S= 0.0986 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	665.12'	15.0" Round Culvert L= 12.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 665.12' / 663.95' S= 0.0929 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#3	Device 1	669.50'	1.0" x 8.0" Horiz. Existing Overflow X 12.00 columns X 2 rows C= 0.600 in 24.0" Grate (42% open area) Limited to weir flow at low heads
#4	Device 2	665.12'	11.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	666.50'	48.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	667.50'	2.1" x 4.1" Horiz. Orifice/Grate X 8.00 columns X 4 rows C= 0.600 Limited to weir flow at low heads
#7	Primary	672.15'	18.0' long x 30.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

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Lot 2 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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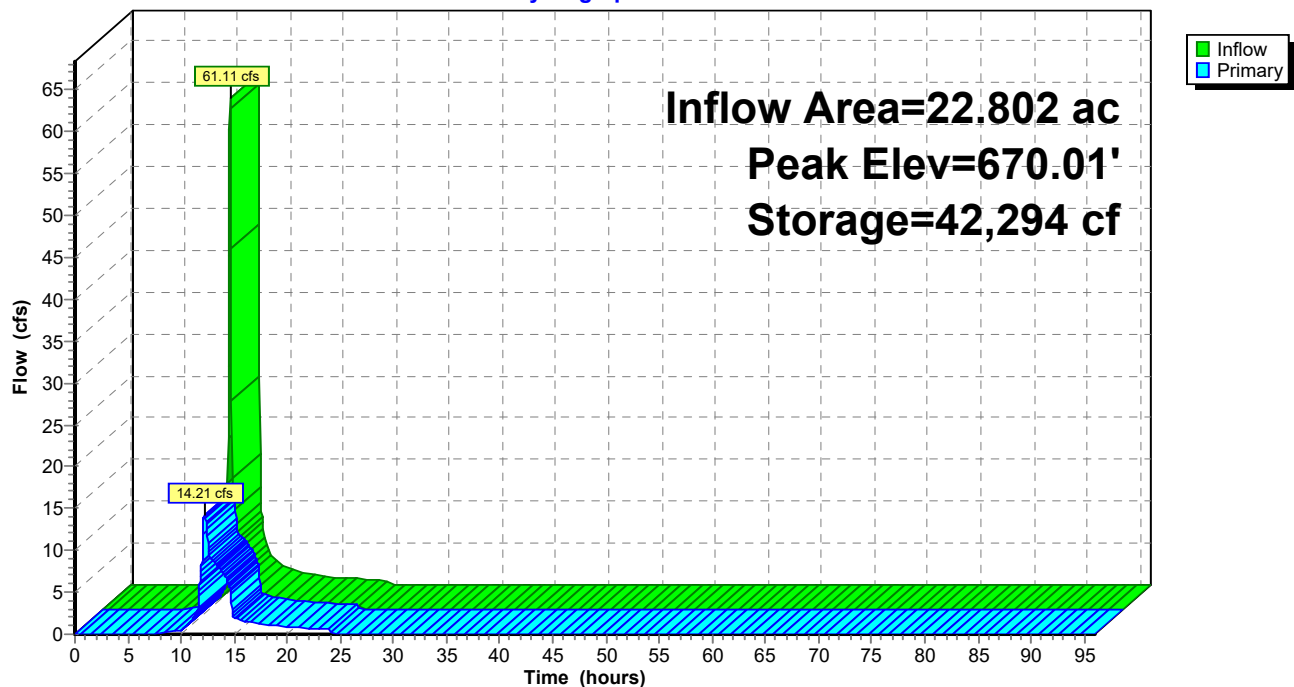
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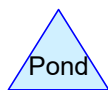
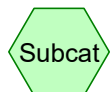
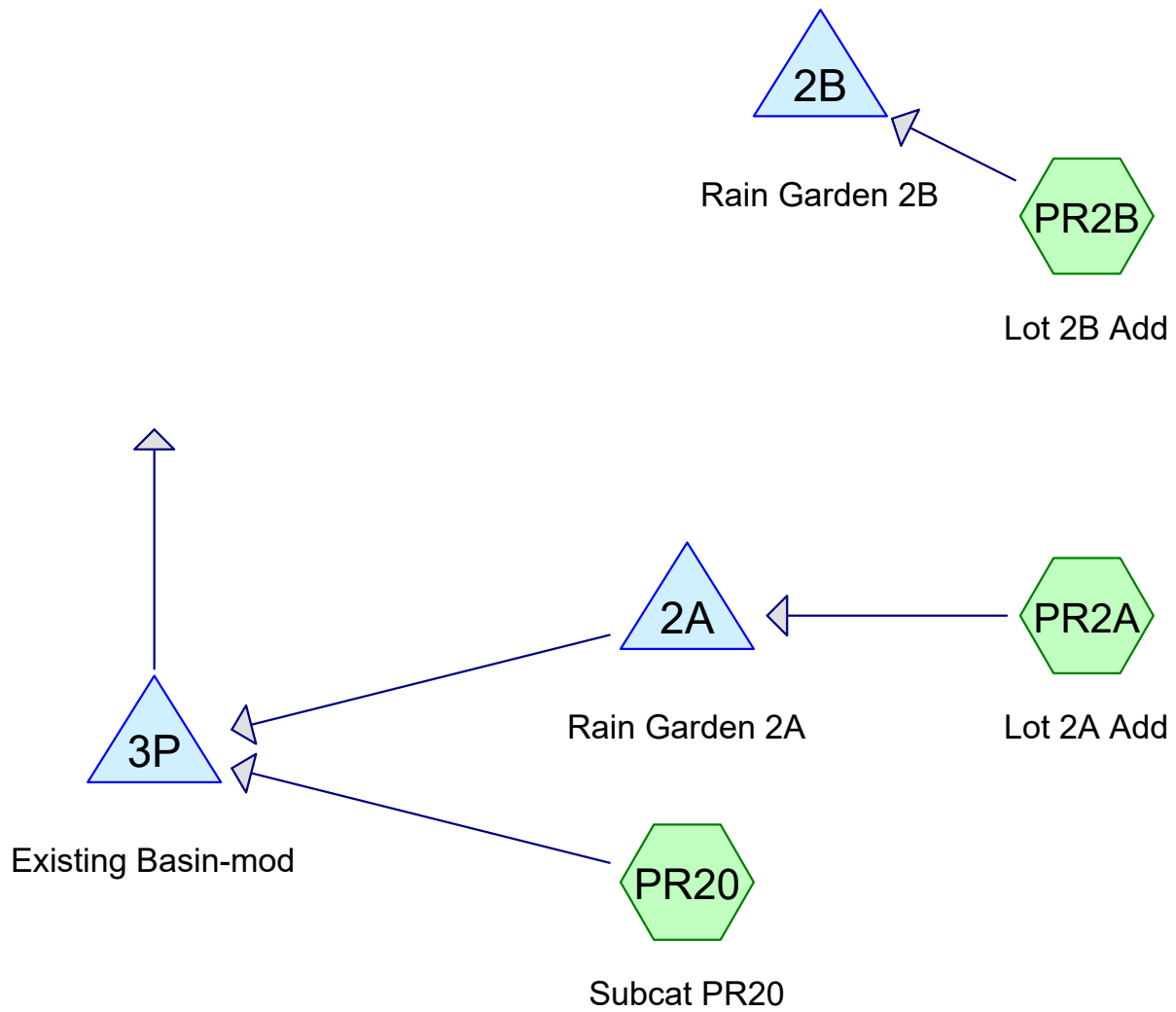
Primary OutFlow Max=14.17 cfs @ 12.17 hrs HW=670.00' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 14.17 cfs of 46.59 cfs potential flow)
- 2=Culvert (Inlet Controls 9.62 cfs @ 7.84 fps)
- 4=Orifice/Grate (Passes < 6.68 cfs potential flow)
- 5=Orifice/Grate (Passes < 11.72 cfs potential flow)
- 6=Orifice/Grate (Passes < 14.57 cfs potential flow)
- 3=Existing Overflow (Orifice Controls 4.54 cfs @ 3.41 fps)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 3P: Existing Basin-mod

Hydrograph





Routing Diagram for 23310_Lot 2 VHB Design-EV Post
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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.355	61	>75% Grass cover, Good, HSG B (PR20)
0.019	74	>75% Grass cover, Good, HSG C (PR20)
1.576	98	Paved parking, HSG B (PR20, PR2A, PR2B)
0.385	98	Paved parking, HSG C (PR20)
0.013	55	Woods, Good, HSG B (PR20)
2.348	92	TOTAL AREA

23310_Lot 2 VHB Design-EV Post

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
1.944	HSG B	PR20, PR2A, PR2B
0.404	HSG C	PR20
0.000	HSG D	
0.000	Other	
2.348		TOTAL AREA

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Lot 2 - Post
Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR20: Subcat PR20

Runoff Area=2.204 ac 82.44% Impervious Runoff Depth=1.69"
Tc=6.0 min CN=92 Runoff=6.23 cfs 0.311 af

SubcatchmentPR2A: Lot 2A Add

Runoff Area=0.047 ac 100.00% Impervious Runoff Depth=2.27"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.009 af

SubcatchmentPR2B: Lot 2B Add

Runoff Area=0.097 ac 100.00% Impervious Runoff Depth=2.27"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.018 af

Pond 2A: Rain Garden 2A

Peak Elev=691.29' Storage=90 cf Inflow=0.17 cfs 0.009 af
Outflow=0.05 cfs 0.009 af

Pond 2B: Rain Garden 2B

Peak Elev=680.96' Storage=255 cf Inflow=0.34 cfs 0.018 af
Outflow=0.05 cfs 0.018 af

Pond 3P: Existing Basin-mod

Peak Elev=668.76' Storage=19,695 cf Inflow=33.96 cfs 1.732 af
Outflow=8.09 cfs 1.732 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.338 af Average Runoff Depth = 1.73"
16.48% Pervious = 0.387 ac 83.52% Impervious = 1.961 ac

23310_Lot 2 VHB Design-EV Post

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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR20: Subcat PR20 Runoff Area=2.204 ac 82.44% Impervious Runoff Depth=2.71"
Tc=6.0 min CN=92 Runoff=9.72 cfs 0.498 af

SubcatchmentPR2A: Lot 2A Add Runoff Area=0.047 ac 100.00% Impervious Runoff Depth=3.35"
Tc=5.0 min CN=98 Runoff=0.24 cfs 0.013 af

SubcatchmentPR2B: Lot 2B Add Runoff Area=0.097 ac 100.00% Impervious Runoff Depth=3.35"
Tc=5.0 min CN=98 Runoff=0.50 cfs 0.027 af

Pond 2A: Rain Garden 2A Peak Elev=691.65' Storage=155 cf Inflow=0.24 cfs 0.013 af
Outflow=0.05 cfs 0.013 af

Pond 2B: Rain Garden 2B Peak Elev=681.24' Storage=389 cf Inflow=0.50 cfs 0.027 af
Outflow=0.09 cfs 0.027 af

Pond 3P: Existing Basin-mod Peak Elev=670.01' Storage=42,432 cf Inflow=61.19 cfs 3.260 af
Outflow=14.25 cfs 3.260 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.539 af Average Runoff Depth = 2.75"
16.48% Pervious = 0.387 ac 83.52% Impervious = 1.961 ac

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Lot 2 - Post
Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-96.00 hrs, dt=0.05 hrs, 1921 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPR20: Subcat PR20 Runoff Area=2.204 ac 82.44% Impervious Runoff Depth=4.23"
Tc=6.0 min CN=92 Runoff=14.72 cfs 0.776 af

SubcatchmentPR2A: Lot 2A Add Runoff Area=0.047 ac 100.00% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=98 Runoff=0.35 cfs 0.019 af

SubcatchmentPR2B: Lot 2B Add Runoff Area=0.097 ac 100.00% Impervious Runoff Depth=4.90"
Tc=5.0 min CN=98 Runoff=0.72 cfs 0.040 af

Pond 2A: Rain Garden 2A Peak Elev=691.83' Storage=198 cf Inflow=0.35 cfs 0.019 af
Outflow=0.25 cfs 0.019 af

Pond 2B: Rain Garden 2B Peak Elev=681.43' Storage=499 cf Inflow=0.72 cfs 0.040 af
Outflow=0.44 cfs 0.040 af

Pond 3P: Existing Basin-mod Peak Elev=671.52' Storage=81,547 cf Inflow=104.36 cfs 5.810 af
Outflow=20.33 cfs 5.810 af

Total Runoff Area = 2.348 ac Runoff Volume = 0.835 af Average Runoff Depth = 4.27"
16.48% Pervious = 0.387 ac 83.52% Impervious = 1.961 ac

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Lot 2 - Post

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PR20: Subcat PR20

Runoff = 9.72 cfs @ 11.96 hrs, Volume= 0.498 af, Depth= 2.71"
Routed to Pond 3P : Existing Basin-mod

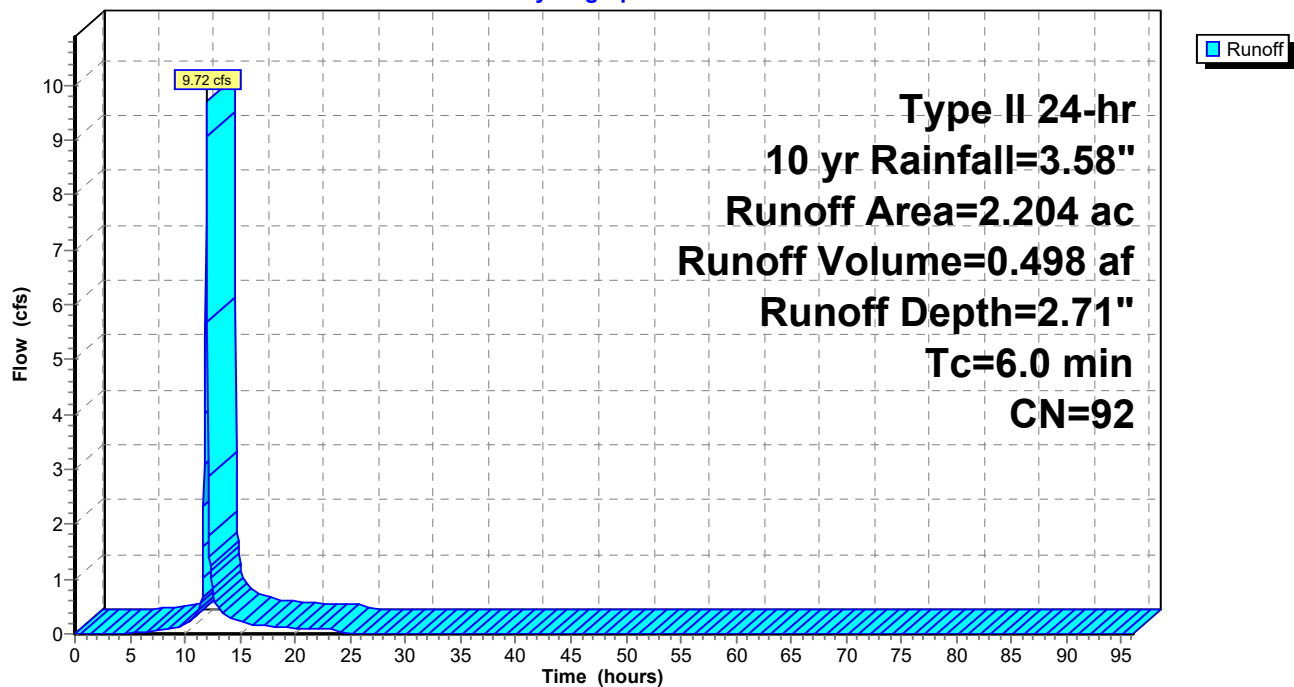
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (ac)	CN	Description
0.355	61	>75% Grass cover, Good, HSG B
0.019	74	>75% Grass cover, Good, HSG C
1.432	98	Paved parking, HSG B
0.385	98	Paved parking, HSG C
0.013	55	Woods, Good, HSG B
2.204	92	Weighted Average
0.387		17.56% Pervious Area
1.817		82.44% Impervious Area

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

Subcatchment PR20: Subcat PR20

Hydrograph



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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PR2A: Lot 2A Add

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.24 cfs @ 11.95 hrs, Volume= 0.013 af, Depth= 3.35"
Routed to Pond 2A : Rain Garden 2A

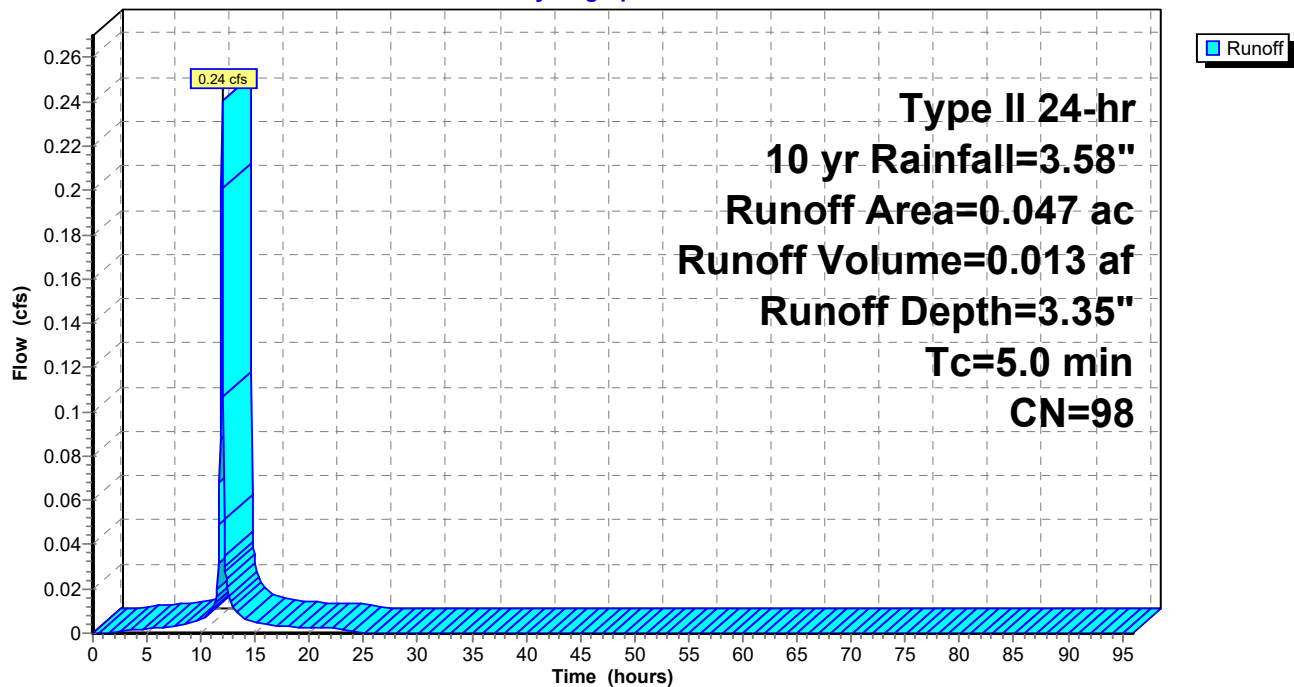
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, $dt=0.05$ hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (ac)	CN	Description
0.047	98	Paved parking, HSG B
0.047		100.00% Impervious Area

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

Subcatchment PR2A: Lot 2A Add

Hydrograph



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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PR2B: Lot 2B Add

[49] Hint: $T_c < 2dt$ may require smaller dt

Runoff = 0.50 cfs @ 11.95 hrs, Volume= 0.027 af, Depth= 3.35"
Routed to Pond 2B : Rain Garden 2B

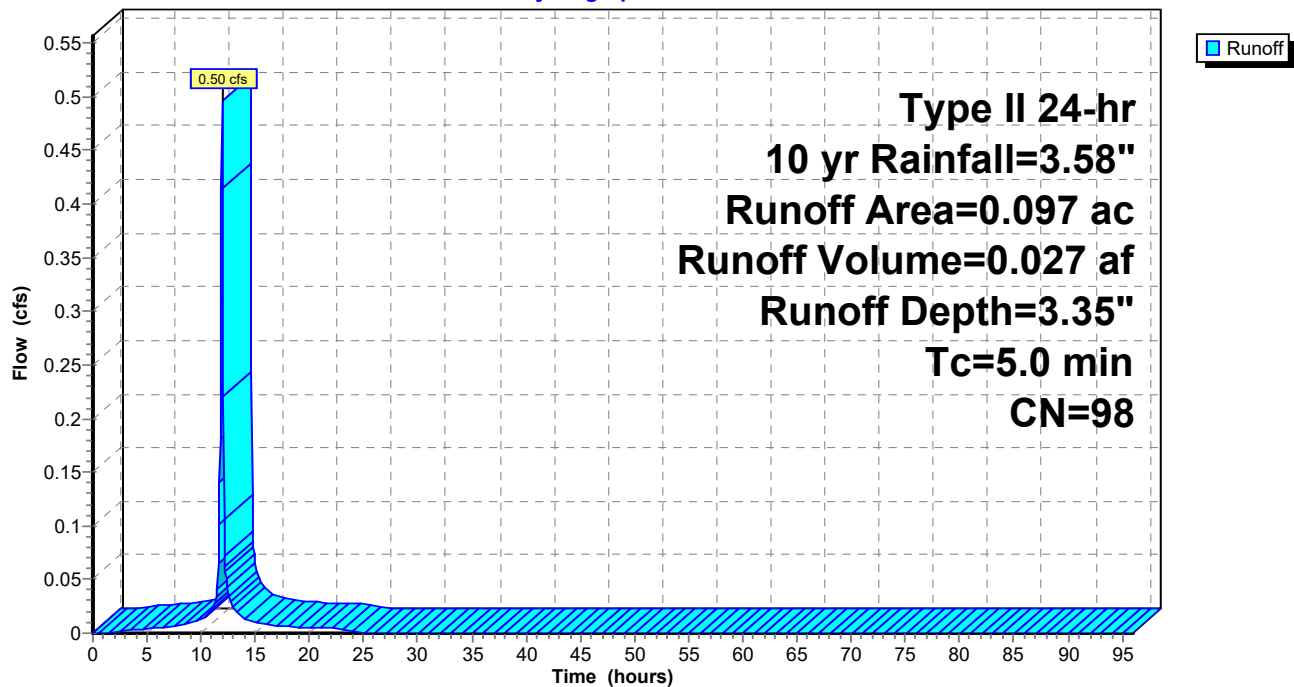
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-96.00 hrs, $dt=0.05$ hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (ac)	CN	Description
0.097	98	Paved parking, HSG B
0.097		100.00% Impervious Area

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

Subcatchment PR2B: Lot 2B Add

Hydrograph



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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond 2A: Rain Garden 2A

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=103)

Inflow Area = 0.047 ac, 100.00% Impervious, Inflow Depth = 3.35" for 10 yr event
Inflow = 0.24 cfs @ 11.95 hrs, Volume= 0.013 af
Outflow = 0.05 cfs @ 12.12 hrs, Volume= 0.013 af, Atten= 79%, Lag= 9.9 min
Primary = 0.05 cfs @ 12.12 hrs, Volume= 0.013 af
Routed to Pond 3P : Existing Basin-mod

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 691.65' @ 12.12 hrs Surf.Area= 215 sf Storage= 155 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 16.3 min (765.5 - 749.2)

Volume	Invert	Avail.Storage	Storage Description	
#1	689.00'	243 cf	Custom Stage Data (Prismatic) Listed below (Recalc)	
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
689.00	93	0.0	0	0
691.00	93	30.0	56	56
691.50	184	100.0	69	125
692.00	289	100.0	118	243

Device	Routing	Invert	Outlet Devices
#1	Primary	683.50'	12.0" Round Culvert L= 4.6' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 683.50' / 683.20' S= 0.0652 ' S= 0.0652 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	688.00'	1.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	691.75'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.05 cfs @ 12.12 hrs HW=691.65' TW=669.97' (Dynamic Tailwater)

- 1=Culvert (Passes 0.05 cfs of 10.46 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.05 cfs @ 9.14 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)

23310_Lot 2 VHB Design-EV Post

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Lot 2 - Post

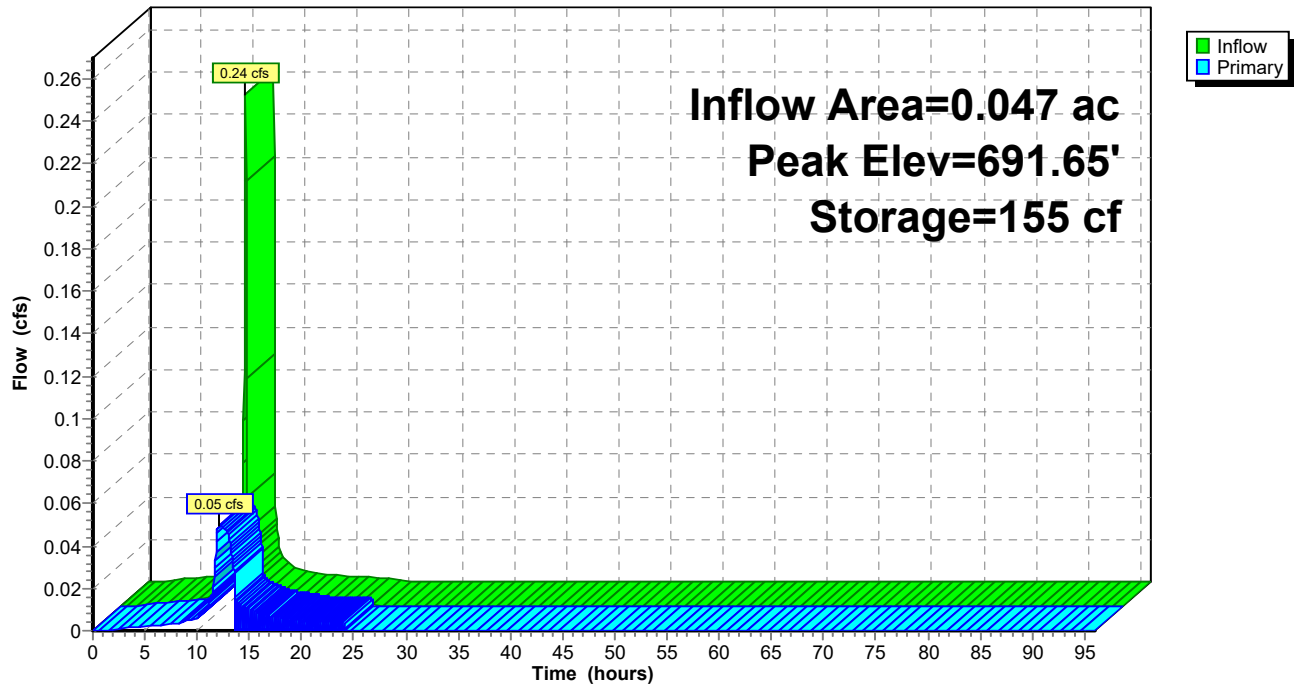
Type II 24-hr 10 yr Rainfall=3.58"

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Pond 2A: Rain Garden 2A

Hydrograph



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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond 2B: Rain Garden 2B

[44] Hint: Outlet device #2 is below defined storage

[87] Warning: Oscillations may require smaller dt or Finer Routing (severity=82)

Inflow Area = 0.097 ac, 100.00% Impervious, Inflow Depth = 3.35" for 10 yr event
Inflow = 0.50 cfs @ 11.95 hrs, Volume= 0.027 af
Outflow = 0.09 cfs @ 12.12 hrs, Volume= 0.027 af, Atten= 81%, Lag= 10.4 min
Primary = 0.09 cfs @ 12.12 hrs, Volume= 0.027 af
Routed to nonexistent node POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
Peak Elev= 681.24' @ 12.12 hrs Surf.Area= 538 sf Storage= 389 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 38.3 min (787.5 - 749.2)

Volume	Invert	Avail.Storage	Storage Description			
#1	678.50'	545 cf	Custom Stage Data (Irregular) Listed below (Recalc)			
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
678.50	203	77.2	0.0	0	0	203
680.50	203	77.2	30.0	122	122	357
681.00	414	93.1	100.0	151	273	577
681.50	686	111.8	100.0	272	545	886

Device	Routing	Invert	Outlet Devices	
#1	Primary	677.32'	12.0" Round Culvert L= 43.5' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 677.32' / 676.00' S= 0.0303 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf	
#2	Device 1	677.42'	1.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#3	Device 1	681.00'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads	
#4	Device 1	681.33'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads	

Primary OutFlow Max=0.09 cfs @ 12.12 hrs HW=681.24' (Free Discharge)

- 1=Culvert (Passes 0.09 cfs of 6.99 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.05 cfs @ 9.36 fps)
- 3=Orifice/Grate (Orifice Controls 0.04 cfs @ 1.91 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)

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Lot 2 - Post

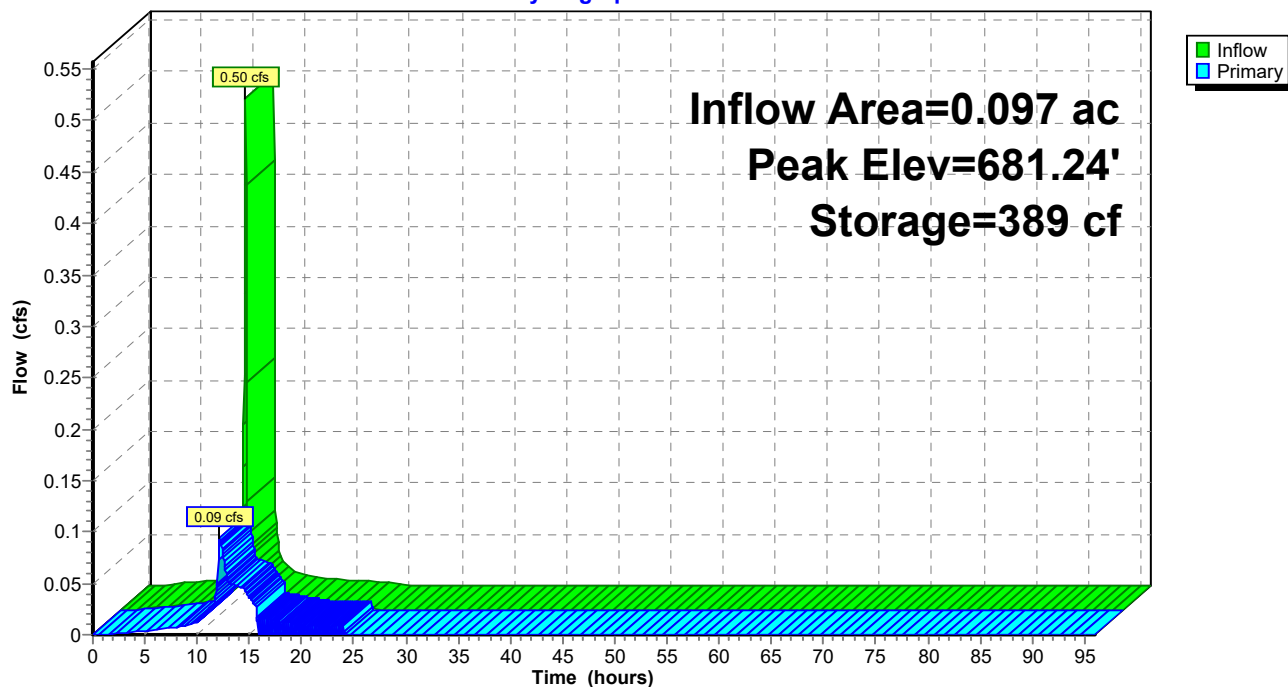
Type II 24-hr 10 yr Rainfall=3.58"

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Pond 2B: Rain Garden 2B

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Lot 2 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond 3P: Existing Basin-mod

Inflow Area = 22.802 ac, 53.50% Impervious, Inflow Depth = 1.72" for 10 yr event
 Inflow = 61.19 cfs @ 11.98 hrs, Volume= 3.260 af
 Outflow = 14.25 cfs @ 12.17 hrs, Volume= 3.260 af, Atten= 77%, Lag= 11.4 min
 Primary = 14.25 cfs @ 12.17 hrs, Volume= 3.260 af
 Routed to Link 1L : Stormwater Management Area Outlet

Routing by Dyn-Stor-Ind method, Time Span= 0.00-96.00 hrs, dt= 0.05 hrs
 Peak Elev= 670.01' @ 12.17 hrs Surf.Area= 20,829 sf Storage= 42,432 cf

Plug-Flow detention time= 28.0 min calculated for 3.260 af (100% of inflow)
 Center-of-Mass det. time= 26.9 min (851.2 - 824.3)

Volume	Invert	Avail.Storage	Storage Description		
#1	665.10'	140,263 cf	Custom Stage Data (Irregular) Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
665.10	10	15.0	0	0	10
666.00	75	111.0	34	34	974
668.00	12,597	701.0	9,096	9,130	39,107
670.00	20,735	845.0	32,996	42,125	56,890
672.00	35,435	1,425.0	55,517	97,643	161,686
672.16	37,810	1,212.0	5,859	103,501	206,384
673.00	50,000	2,000.0	36,761	140,263	407,804

Device	Routing	Invert	Outlet Devices
#1	Primary	663.90'	24.0" Round Culvert L= 98.4' RCP, rounded edge headwall, Ke= 0.100 Inlet / Outlet Invert= 663.90' / 654.20' S= 0.0986 '/' Cc= 0.900 n= 0.012 Concrete pipe, finished, Flow Area= 3.14 sf
#2	Device 1	665.12'	15.0" Round Culvert L= 12.6' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 665.12' / 663.95' S= 0.0929 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#3	Device 1	669.50'	1.0" x 8.0" Horiz. Existing Overflow X 12.00 columns X 2 rows C= 0.600 in 24.0" Grate (42% open area) Limited to weir flow at low heads
#4	Device 2	665.12'	11.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#5	Device 2	666.50'	48.0" W x 4.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#6	Device 2	667.50'	2.1" x 4.1" Horiz. Orifice/Grate X 8.00 columns X 4 rows C= 0.600 Limited to weir flow at low heads
#7	Primary	672.15'	18.0' long x 30.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

23310_Lot 2 VHB Design-EV Post

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Lot 2 - Post

Type II 24-hr 10 yr Rainfall=3.58"

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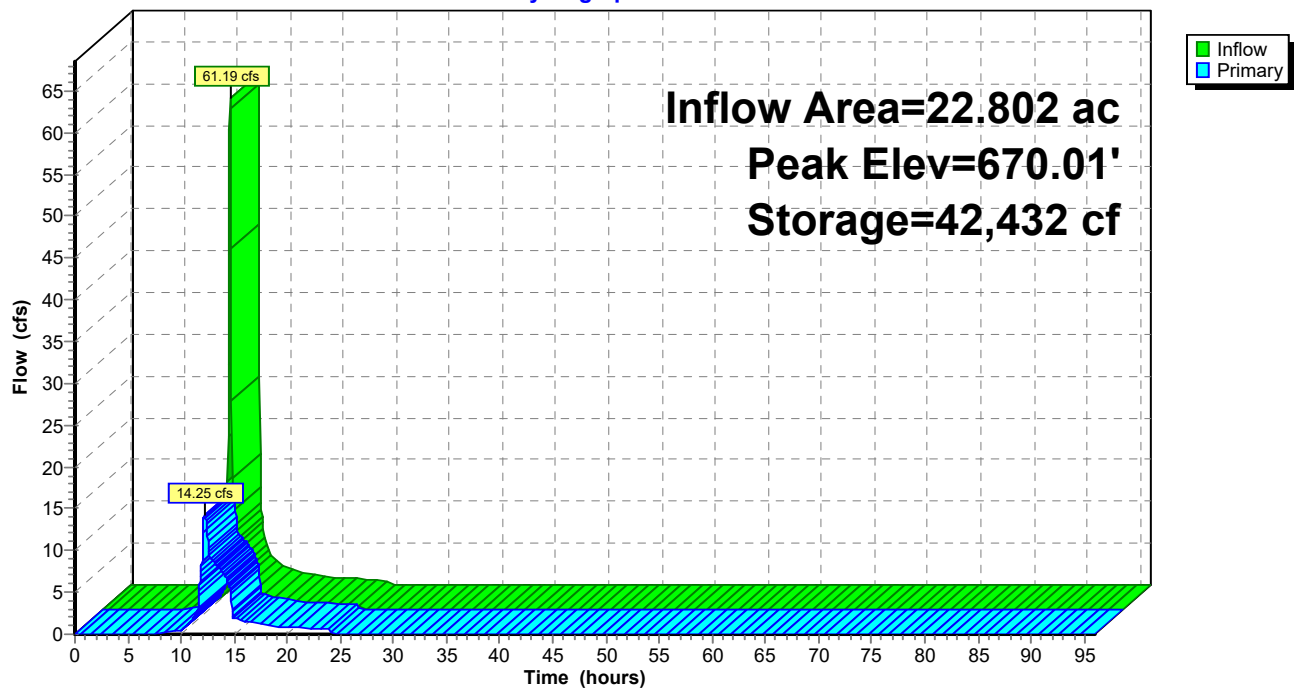
Page 25

Primary OutFlow Max=14.20 cfs @ 12.17 hrs HW=670.01' TW=0.00' (Dynamic Tailwater)

- 1=Culvert (Passes 14.20 cfs of 46.62 cfs potential flow)
- 2=Culvert (Inlet Controls 9.63 cfs @ 7.85 fps)
- 4=Orifice/Grate (Passes < 6.69 cfs potential flow)
- 5=Orifice/Grate (Passes < 11.73 cfs potential flow)
- 6=Orifice/Grate (Passes < 14.59 cfs potential flow)
- 3=Existing Overflow (Orifice Controls 4.57 cfs @ 3.43 fps)
- 7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 3P: Existing Basin-mod

Hydrograph



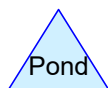
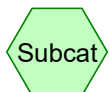
Lot 4 Drainage Analysis



West Pond #2



Lot 4



Routing Diagram for 23310_Lots 4 & 8 Existing
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23310_Lots 4 & 8 Existing

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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.963	74	Grass, Good, HSG C (PS5)
3.162	98	Paved parking (PS5)
0.081	70	Woods, Good, HSG C (PS5)
4.206	92	TOTAL AREA

23310_Lots 4 & 8 Existing

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.044	HSG C	PS5
0.000	HSG D	
3.162	Other	PS5
4.206		TOTAL AREA

23310_Lots 4 & 8 Existing

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Lot 4 - Existing
Type II 24-hr 2 yr Rainfall=2.50"
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Page 4

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,229 sf 75.18% Impervious Runoff Depth=1.69"
Tc=10.0 min CN=92 Runoff=10.72 cfs 0.593 af

Pond 3P: West Pond #2

Peak Elev=740.94' Storage=14,211 cf Inflow=6.03 cfs 0.708 af
Outflow=1.17 cfs 0.495 af

Total Runoff Area = 4.206 ac Runoff Volume = 0.593 af Average Runoff Depth = 1.69"
24.82% Pervious = 1.044 ac 75.18% Impervious = 3.162 ac

23310_Lots 4 & 8 Existing

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Lot 4 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,229 sf 75.18% Impervious Runoff Depth=2.71"

Tc=10.0 min CN=92 Runoff=16.76 cfs 0.951 af

Pond 3P: West Pond #2

Peak Elev=741.48' Storage=17,982 cf Inflow=12.05 cfs 1.404 af

Outflow=8.16 cfs 1.188 af

Total Runoff Area = 4.206 ac Runoff Volume = 0.951 af Average Runoff Depth = 2.71"

24.82% Pervious = 1.044 ac 75.18% Impervious = 3.162 ac

23310_Lots 4 & 8 Existing

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Lot 4 - Existing
Type II 24-hr 50 yr Rainfall=5.14"

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Page 6

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,229 sf 75.18% Impervious Runoff Depth=4.23"
Tc=10.0 min CN=92 Runoff=25.42 cfs 1.481 af

Pond 3P: West Pond #2

Peak Elev=742.12' Storage=22,862 cf Inflow=31.98 cfs 2.514 af
Outflow=20.14 cfs 2.297 af

Total Runoff Area = 4.206 ac Runoff Volume = 1.481 af Average Runoff Depth = 4.23"
24.82% Pervious = 1.044 ac 75.18% Impervious = 3.162 ac

23310_Lots 4 & 8 Existing

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Lot 4 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS5: Lot 4

Runoff = 16.76 cfs @ 12.01 hrs, Volume= 0.951 af, Depth= 2.71"
Routed to Pond 47P : Upper Pond

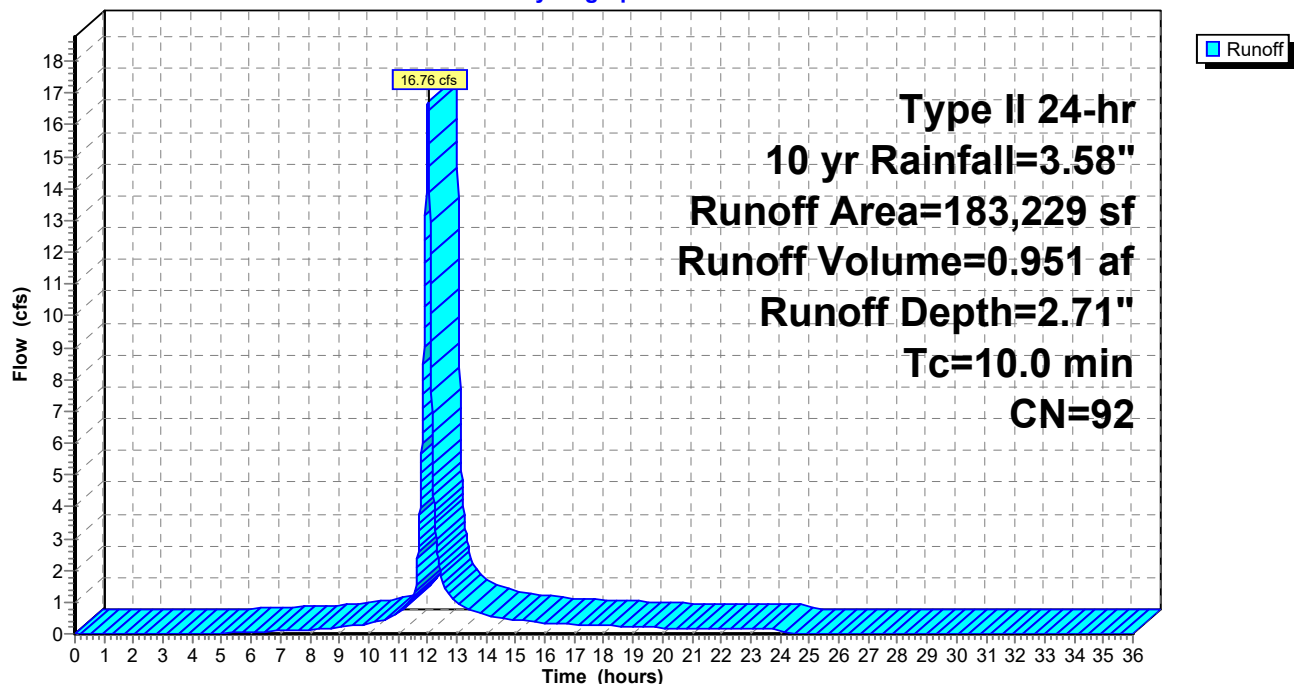
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 yr Rainfall=3.58"

	Area (sf)	CN	Description
	3,517	70	Woods, Good, HSG C
*	41,961	74	Grass, Good, HSG C
*	137,751	98	Paved parking
	183,229	92	Weighted Average
	45,478		24.82% Pervious Area
	137,751		75.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, Matching pond design Tc

Subcatchment PS5: Lot 4

Hydrograph



23310_Lots 4 & 8 Existing

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Lot 4 - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Page 8

Summary for Pond 3P: West Pond #2

3P design is as it appears in Pathways Consulting's HydroCAD model titled "10001.DHMC Loop Rd Proposed", dated 2/8/2007, provided to EV by DHMC.

Outlet control modified to provide extended detention. 4" orifices reduced to 1.3" orifices and invert of wier raised from 740.00 to 740.36 reducing weir oriface from 24" x 48" to 19.68" x 48".

Inflow Area = 9.378 ac, 40.94% Impervious, Inflow Depth = 1.80" for 10 yr event
Inflow = 12.05 cfs @ 12.19 hrs, Volume= 1.404 af
Outflow = 8.16 cfs @ 12.56 hrs, Volume= 1.188 af, Atten= 32%, Lag= 22.6 min
Primary = 8.16 cfs @ 12.56 hrs, Volume= 1.188 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 741.48' @ 12.56 hrs Surf.Area= 7,285 sf Storage= 17,982 cf

Plug-Flow detention time= 193.6 min calculated for 1.188 af (85% of inflow)
Center-of-Mass det. time= 119.2 min (990.9 - 871.7)

Volume	Invert	Avail.Storage	Storage Description
#1	737.00'	30,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
737.00	1,331	0	0
738.00	1,837	1,584	1,584
739.00	3,503	2,670	4,254
740.00	5,278	4,391	8,645
741.00	6,680	5,979	14,624
742.00	7,937	7,309	21,932
743.00	9,579	8,758	30,690

Device	Routing	Invert	Outlet Devices
#1	Primary	739.00'	24.0" Round Culvert L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 739.00' / 736.75' S= 0.0098 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	739.00'	1.3" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	740.75'	48.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.16 cfs @ 12.56 hrs HW=741.48' (Free Discharge)

1=Culvert (Passes 8.16 cfs of 18.41 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.14 cfs @ 7.50 fps)
3=Orifice/Grate (Orifice Controls 8.03 cfs @ 2.74 fps)

23310_Lots 4 & 8 Existing

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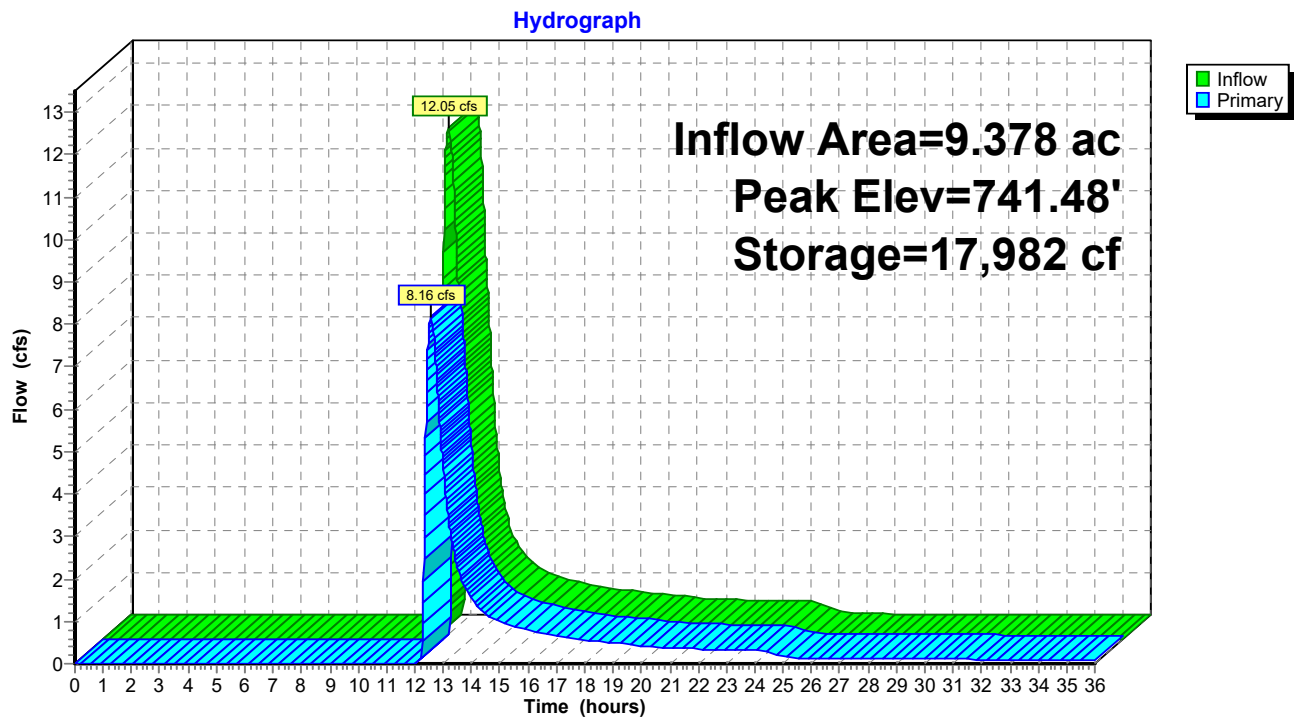
Lot 4 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

Printed 4/26/2024

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Pond 3P: West Pond #2

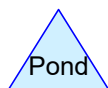
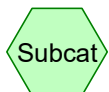




West Pond #2



Lot 4



Routing Diagram for 23310_Lots 4 & 8 Post 2024
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23310_Lots 4 & 8 Post 2024

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.940	74	Grass, Good, HSG C (PS5)
3.188	98	Paved parking (PS5)
0.081	70	Woods, Good, HSG C (PS5)
4.209	92	TOTAL AREA

23310_Lots 4 & 8 Post 2024

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.021	HSG C	PS5
0.000	HSG D	
3.188	Other	PS5
4.209		TOTAL AREA

23310_Lots 4 & 8 Post 2024

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Lot 4 - Post
Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,357 sf 75.74% Impervious Runoff Depth=1.69"
Tc=10.0 min CN=92 Runoff=10.73 cfs 0.594 af

Pond 3P: West Pond #2

Peak Elev=740.94' Storage=14,213 cf Inflow=6.03 cfs 0.709 af
Outflow=1.17 cfs 0.496 af

Total Runoff Area = 4.209 ac Runoff Volume = 0.594 af Average Runoff Depth = 1.69"
24.26% Pervious = 1.021 ac 75.74% Impervious = 3.188 ac

23310_Lots 4 & 8 Post 2024

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Lot 4 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,357 sf 75.74% Impervious Runoff Depth=2.71"
Tc=10.0 min CN=92 Runoff=16.77 cfs 0.952 af

Pond 3P: West Pond #2

Peak Elev=741.48' Storage=17,985 cf Inflow=12.05 cfs 1.404 af
Outflow=8.17 cfs 1.189 af

Total Runoff Area = 4.209 ac Runoff Volume = 0.952 af Average Runoff Depth = 2.71"
24.26% Pervious = 1.021 ac 75.74% Impervious = 3.188 ac

23310_Lots 4 & 8 Post 2024

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Lot 4 - Post
Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS5: Lot 4

Runoff Area=183,357 sf 75.74% Impervious Runoff Depth=4.23"
Tc=10.0 min CN=92 Runoff=25.44 cfs 1.482 af

Pond 3P: West Pond #2

Peak Elev=742.12' Storage=22,867 cf Inflow=32.00 cfs 2.515 af
Outflow=20.15 cfs 2.298 af

Total Runoff Area = 4.209 ac Runoff Volume = 1.482 af Average Runoff Depth = 4.23"
24.26% Pervious = 1.021 ac 75.74% Impervious = 3.188 ac

23310_Lots 4 & 8 Post 2024

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Lot 4 - Post

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS5: Lot 4

Runoff = 16.77 cfs @ 12.01 hrs, Volume= 0.952 af, Depth= 2.71"
Routed to Pond 47P : Upper Pond

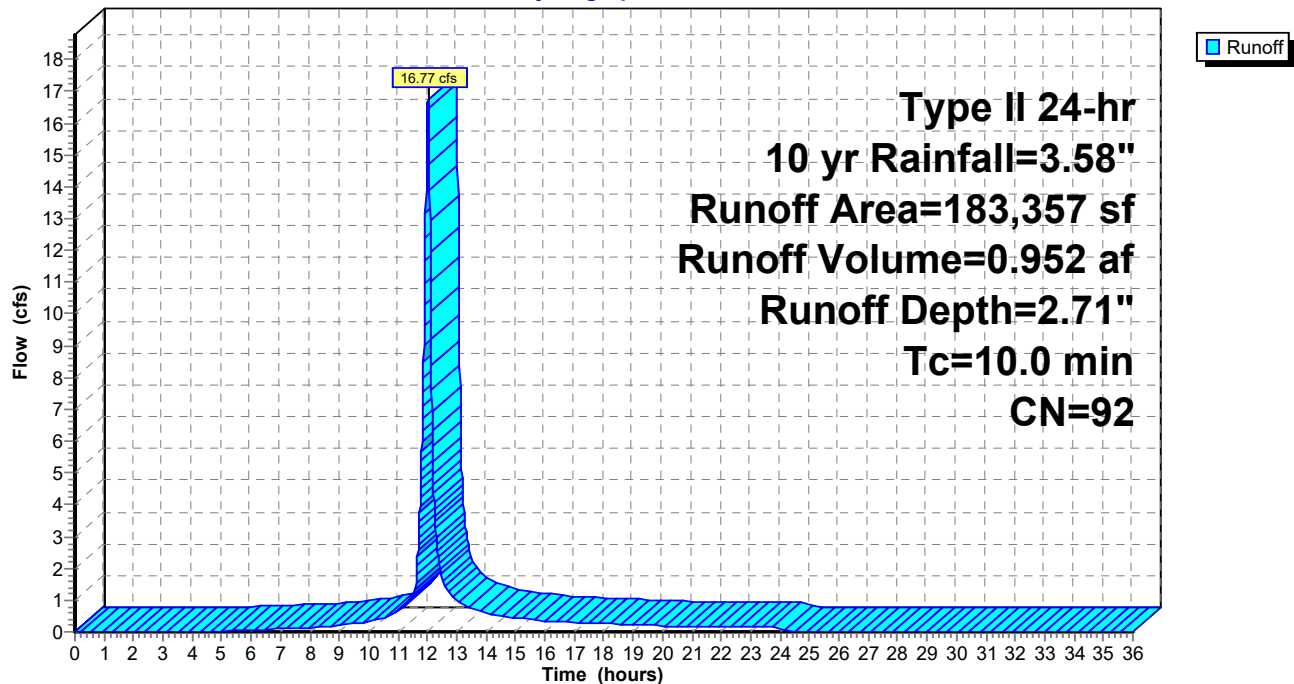
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 yr Rainfall=3.58"

	Area (sf)	CN	Description
	3,517	70	Woods, Good, HSG C
*	40,960	74	Grass, Good, HSG C
*	138,880	98	Paved parking
	183,357	92	Weighted Average
	44,477		24.26% Pervious Area
	138,880		75.74% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry, Matching pond design Tc

Subcatchment PS5: Lot 4

Hydrograph



23310_Lots 4 & 8 Post 2024

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Lot 4 - Post
Type II 24-hr 10 yr Rainfall=3.58"
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Summary for Pond 3P: West Pond #2

3P design is as it appears in Pathways Consulting's HydroCAD model titled "10001.DHMC Loop Rd Proposed", dated 2/8/2007, provided to EV by DHMC.

Outlet control modified to provide extended detention. 4" orifices reduced to 1.3" orifices and invert of wier raised from 740.00 to 740.36 reducing weir oriface from 24" x 48" to 19.68" x 48".

Inflow Area = 9.378 ac, 41.22% Impervious, Inflow Depth = 1.80" for 10 yr event
Inflow = 12.05 cfs @ 12.19 hrs, Volume= 1.404 af
Outflow = 8.17 cfs @ 12.56 hrs, Volume= 1.189 af, Atten= 32%, Lag= 22.5 min
Primary = 8.17 cfs @ 12.56 hrs, Volume= 1.189 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 741.48' @ 12.56 hrs Surf.Area= 7,285 sf Storage= 17,985 cf

Plug-Flow detention time= 193.5 min calculated for 1.189 af (85% of inflow)
Center-of-Mass det. time= 119.2 min (990.8 - 871.7)

Volume	Invert	Avail.Storage	Storage Description
#1	737.00'	30,690 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
737.00	1,331	0	0
738.00	1,837	1,584	1,584
739.00	3,503	2,670	4,254
740.00	5,278	4,391	8,645
741.00	6,680	5,979	14,624
742.00	7,937	7,309	21,932
743.00	9,579	8,758	30,690

Device	Routing	Invert	Outlet Devices
#1	Primary	739.00'	24.0" Round Culvert L= 230.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 739.00' / 736.75' S= 0.0098 ' S= 0.0098 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf
#2	Device 1	739.00'	1.3" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Device 1	740.75'	48.0" W x 15.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.17 cfs @ 12.56 hrs HW=741.48' (Free Discharge)

1=Culvert (Passes 8.17 cfs of 18.41 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.14 cfs @ 7.50 fps)
3=Orifice/Grate (Orifice Controls 8.03 cfs @ 2.75 fps)

23310_Lots 4 & 8 Post 2024

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Lot 4 - Post

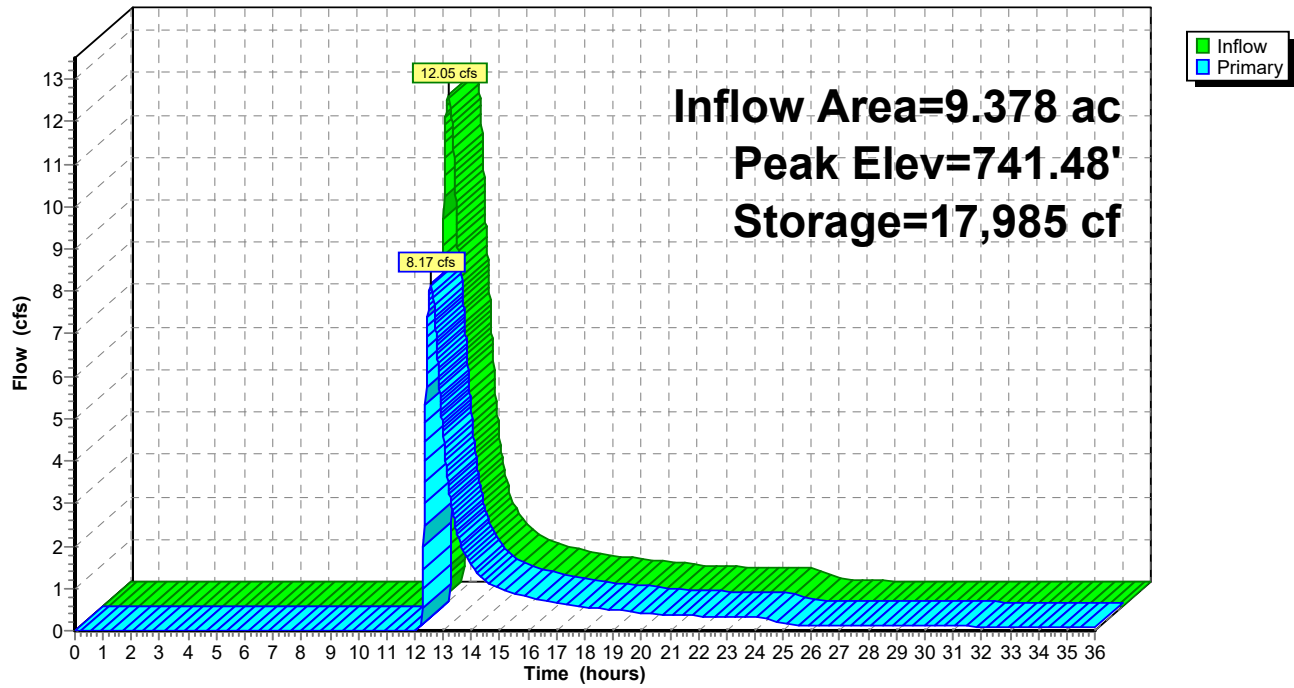
Type II 24-hr 10 yr Rainfall=3.58"

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Pond 3P: West Pond #2

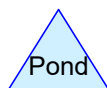
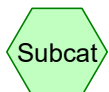
Hydrograph



Lot 8 Drainage Analysis



(new Subcat)



Routing Diagram for 23310_Lots 4 & 8 Existing
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23310_Lots 4 & 8 Existing

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Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.110	61	>75% Grass cover, Good, HSG B (ES8)
0.199	55	Woods, Good, HSG B (ES8)
0.309	57	TOTAL AREA

23310_Lots 4 & 8 Existing

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Page 3

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	ES8
0.309	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.309		TOTAL AREA

23310_Lots 4 & 8 Existing

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Lot 8 - Existing
Type II 24-hr 2 yr Rainfall=2.50"

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Page 4

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES8: (new Subcat)

Runoff Area=13,460 sf 0.00% Impervious Runoff Depth=0.12"

Tc=5.0 min CN=57 Runoff=0.01 cfs 0.003 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.003 af Average Runoff Depth = 0.12"
100.00% Pervious = 0.309 ac 0.00% Impervious = 0.000 ac

23310_Lots 4 & 8 Existing

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Lot 8 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Page 5

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES8: (new Subcat)

Runoff Area=13,460 sf 0.00% Impervious Runoff Depth=0.45"

Tc=5.0 min CN=57 Runoff=0.19 cfs 0.011 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.011 af Average Runoff Depth = 0.45"

100.00% Pervious = 0.309 ac 0.00% Impervious = 0.000 ac

23310_Lots 4 & 8 Existing

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Lot 8 - Existing

Type II 24-hr 50 yr Rainfall=5.14"

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Page 6

Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentES8: (new Subcat)

Runoff Area=13,460 sf 0.00% Impervious Runoff Depth=1.18"

Tc=5.0 min CN=57 Runoff=0.64 cfs 0.030 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.030 af Average Runoff Depth = 1.18"

100.00% Pervious = 0.309 ac 0.00% Impervious = 0.000 ac

23310_Lots 4 & 8 Existing

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Lot 8 - Existing

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment ES8: (new Subcat)

Runoff = 0.19 cfs @ 11.99 hrs, Volume= 0.011 af, Depth= 0.45"

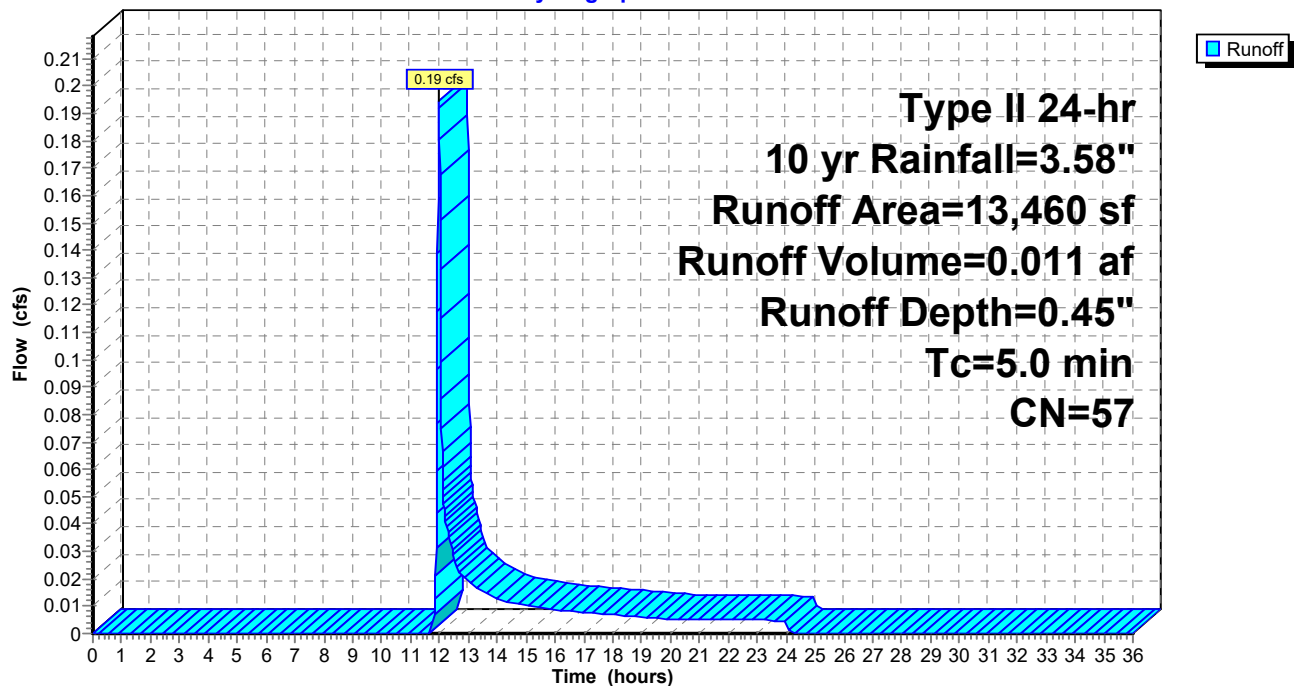
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 yr Rainfall=3.58"

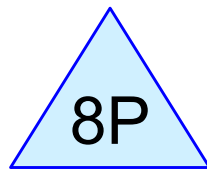
Area (sf)	CN	Description
8,650	55	Woods, Good, HSG B
4,810	61	>75% Grass cover, Good, HSG B
13,460	57	Weighted Average
13,460		100.00% Pervious Area

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

Subcatchment ES8: (new Subcat)

Hydrograph

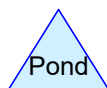
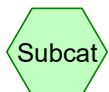




Rain Garden 8P



Lot 8 Add



Routing Diagram for 23310_Lots 4 & 8 Post 2024
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23310_Lots 4 & 8 Post 2024

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.163	61	>75% Grass cover, Good, HSG B (PS8)
0.146	98	Paved parking, HSG B (PS8)
0.309	78	TOTAL AREA

23310_Lots 4 & 8 Post 2024

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.309	HSG B	PS8
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.309		TOTAL AREA

23310_Lots 4 & 8 Post 2024

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Lot 8 - Post
Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS8: Lot 8 Add

Runoff Area=13,460 sf 47.23% Impervious Runoff Depth=0.79"
Tc=5.0 min CN=78 Runoff=0.45 cfs 0.020 af

Pond 8P: Rain Garden 8P

Peak Elev=759.64' Storage=487 cf Inflow=0.45 cfs 0.020 af
Discarded=0.01 cfs 0.012 af Primary=0.01 cfs 0.003 af Outflow=0.02 cfs 0.015 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.020 af Average Runoff Depth = 0.79"
52.77% Pervious = 0.163 ac 47.23% Impervious = 0.146 ac

23310_Lots 4 & 8 Post 2024

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Lot 8 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS8: Lot 8 Add

Runoff Area=13,460 sf 47.23% Impervious Runoff Depth=1.56"
Tc=5.0 min CN=78 Runoff=0.90 cfs 0.040 af

Pond 8P: Rain Garden 8P

Peak Elev=760.05' Storage=784 cf Inflow=0.90 cfs 0.040 af
Discarded=0.01 cfs 0.014 af Primary=0.07 cfs 0.021 af Outflow=0.08 cfs 0.035 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.040 af Average Runoff Depth = 1.56"
52.77% Pervious = 0.163 ac 47.23% Impervious = 0.146 ac

23310_Lots 4 & 8 Post 2024

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Lot 8 - Post

Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

SubcatchmentPS8: Lot 8 Add

Runoff Area=13,460 sf 47.23% Impervious Runoff Depth=2.83"

Tc=5.0 min CN=78 Runoff=1.61 cfs 0.073 af

Pond 8P: Rain Garden 8P

Peak Elev=760.60' Storage=1,381 cf Inflow=1.61 cfs 0.073 af

Discarded=0.02 cfs 0.016 af Primary=0.45 cfs 0.051 af Outflow=0.47 cfs 0.067 af

Total Runoff Area = 0.309 ac Runoff Volume = 0.073 af Average Runoff Depth = 2.83"

52.77% Pervious = 0.163 ac 47.23% Impervious = 0.146 ac

23310_Lots 4 & 8 Post 2024

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Lot 8 - Post

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS8: Lot 8 Add

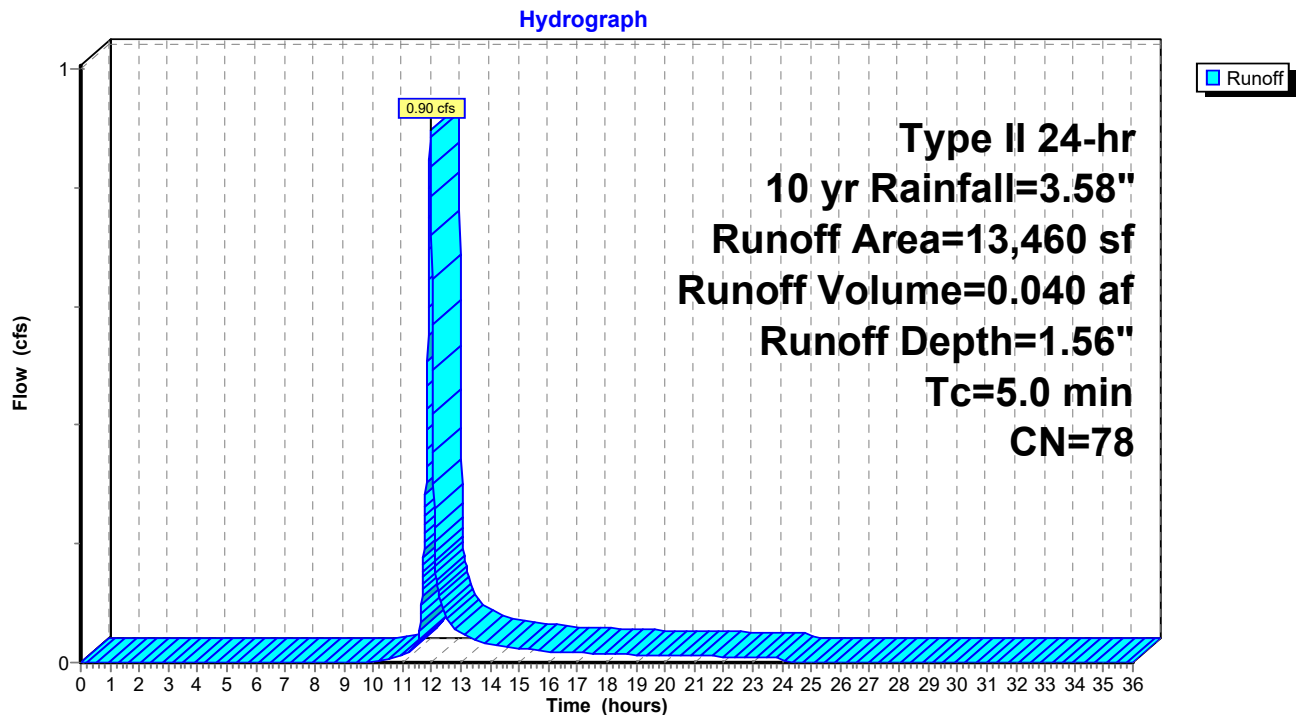
Runoff = 0.90 cfs @ 11.96 hrs, Volume= 0.040 af, Depth= 1.56"
Routed to Pond 8P : Rain Garden 8P

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
7,103	61	>75% Grass cover, Good, HSG B
6,357	98	Paved parking, HSG B
13,460	78	Weighted Average
7,103		52.77% Pervious Area
6,357		47.23% Impervious Area

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

Subcatchment PS8: Lot 8 Add



23310_Lots 4 & 8 Post 2024

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Lot 8 - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond 8P: Rain Garden 8P

Inflow Area = 0.309 ac, 47.23% Impervious, Inflow Depth = 1.56" for 10 yr event
 Inflow = 0.90 cfs @ 11.96 hrs, Volume= 0.040 af
 Outflow = 0.08 cfs @ 12.48 hrs, Volume= 0.035 af, Atten= 91%, Lag= 30.8 min
 Discarded = 0.01 cfs @ 12.48 hrs, Volume= 0.014 af
 Primary = 0.07 cfs @ 12.48 hrs, Volume= 0.021 af
 Routed to nonexistent node POI-1

Routing by Dyn-Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Peak Elev= 760.05' @ 12.48 hrs Surf.Area= 871 sf Storage= 784 cf

Plug-Flow detention time= 281.3 min calculated for 0.035 af (86% of inflow)
 Center-of-Mass det. time= 216.3 min (1,055.3 - 839.0)

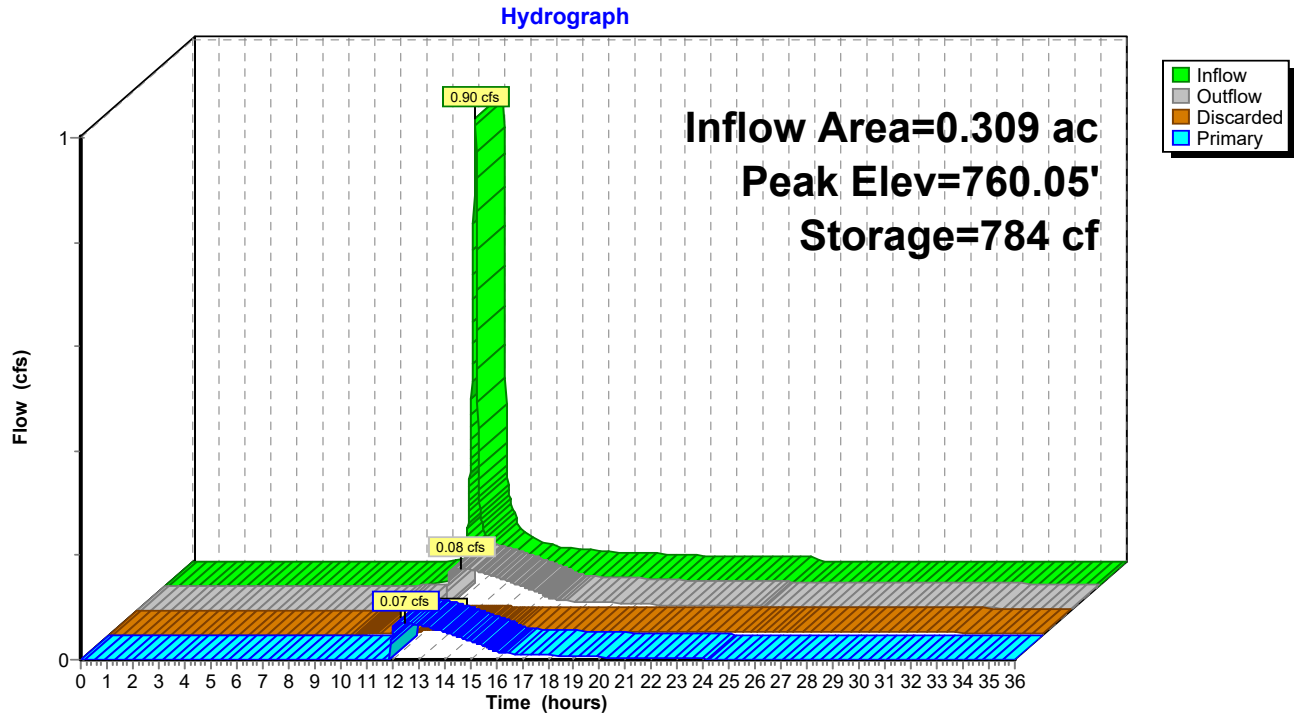
Volume	Invert	Avail.Storage	Storage Description
#1	757.00'	1,945 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)
757.00	353	0.0	0
759.00	353	30.0	212
759.50	467	100.0	205
761.00	1,570	100.0	1,528
Cum.Store (cubic-feet)			
			0
			212
			417
			1,945

Device	Routing	Invert	Outlet Devices
#1	Discarded	757.00'	0.500 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 734.50'
#2	Primary	755.50'	18.0" Round Culvert L= 12.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 755.50' / 755.00' S= 0.0417 ' S= 0.0417 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#3	Device 2	759.60'	2.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 2	760.50'	12.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads

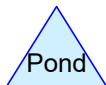
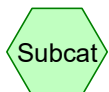
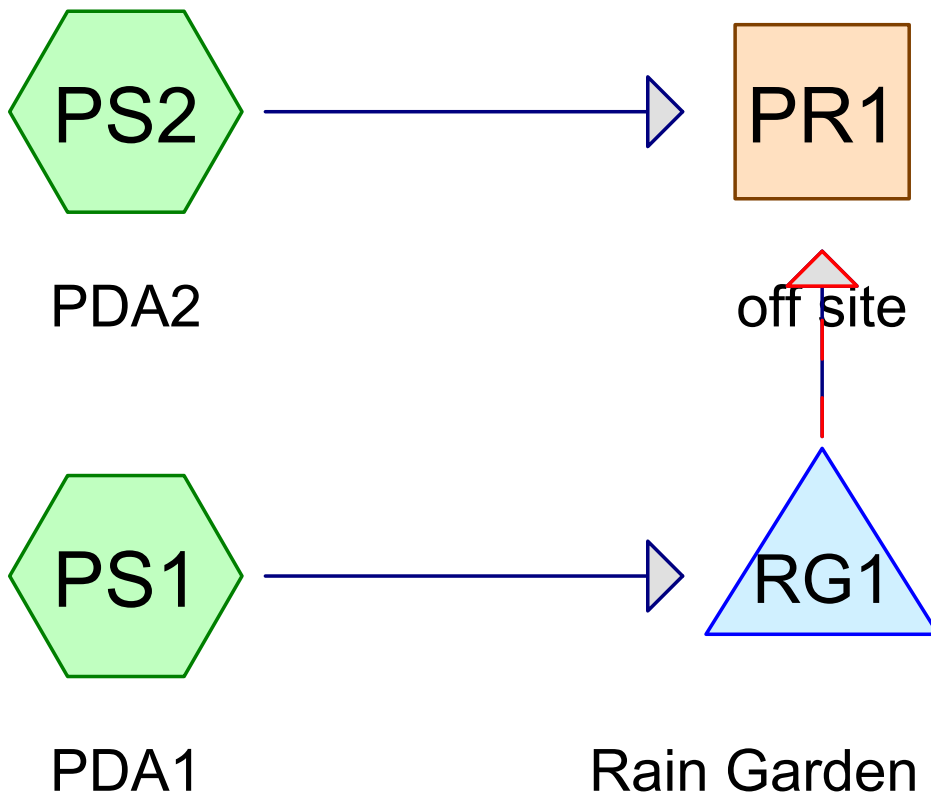
Discarded OutFlow Max=0.01 cfs @ 12.48 hrs HW=760.05' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 0.01 cfs)

Primary OutFlow Max=0.07 cfs @ 12.48 hrs HW=760.05' (Free Discharge)
 ↑ **2=Culvert** (Passes 0.07 cfs of 16.58 cfs potential flow)
 ↑ **3=Orifice/Grate** (Orifice Controls 0.07 cfs @ 3.23 fps)
 ↑ **4=Orifice/Grate** (Controls 0.00 cfs)

Pond 8P: Rain Garden 8P



Lot E/CNG Drainage Analysis



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12280_CNG Pro 13.05.03

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.616	74	>75% Grass cover, Good, HSG C (PS1, PS2)
0.300	98	Driveway, HSG C (PS1, PS2)
0.069	98	Gravel Walkway, HSG C (PS1, PS2)
0.014	98	Path, HSG C (PS2)
0.018	98	Unconnected roofs, HSG C (PS1, PS2)
1.017	83	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.017	HSG C	PS1, PS2
0.000	HSG D	
0.000	Other	
1.017		TOTAL AREA

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Lot E - Existing
Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPS1: PDA1Runoff Area=34,005 sf 42.58% Impervious Runoff Depth=1.12"
Flow Length=316' Tc=11.4 min CN=84 Runoff=1.28 cfs 0.073 af**SubcatchmentPS2: PDA2**Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=0.94"
Flow Length=262' Tc=5.3 min CN=81 Runoff=0.41 cfs 0.019 af**Reach PR1: off site**Inflow=0.53 cfs 0.091 af
Outflow=0.53 cfs 0.091 af**Pond RG1: Rain Garden RG1**Peak Elev=713.53' Storage=1,202 cf Inflow=1.28 cfs 0.073 af
Primary=0.19 cfs 0.073 af Secondary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.073 af**Total Runoff Area = 1.017 ac Runoff Volume = 0.091 af Average Runoff Depth = 1.08"**
60.52% Pervious = 0.616 ac 39.48% Impervious = 0.401 ac

12280_CNG Pro 13.05.03

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Lot E - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPS1: PDA1

Runoff Area=34,005 sf 42.58% Impervious Runoff Depth=2.01"
Flow Length=316' Tc=11.4 min CN=84 Runoff=2.29 cfs 0.130 af

SubcatchmentPS2: PDA2

Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=1.77"
Flow Length=262' Tc=5.3 min CN=81 Runoff=0.77 cfs 0.035 af

Reach PR1: off site

Inflow=1.02 cfs 0.165 af
Outflow=1.02 cfs 0.165 af

Pond RG1: Rain Garden RG1

Peak Elev=714.13' Storage=1,986 cf Inflow=2.29 cfs 0.130 af
Primary=0.91 cfs 0.130 af Secondary=0.00 cfs 0.000 af Outflow=0.91 cfs 0.130 af

Total Runoff Area = 1.017 ac Runoff Volume = 0.165 af Average Runoff Depth = 1.95"
60.52% Pervious = 0.616 ac 39.48% Impervious = 0.401 ac

12280_CNG Pro 13.05.03

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Lot E - Existing
Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentPS1: PDA1Runoff Area=34,005 sf 42.58% Impervious Runoff Depth=3.40"
Flow Length=316' Tc=11.4 min CN=84 Runoff=3.82 cfs 0.221 af**SubcatchmentPS2: PDA2**Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=3.11"
Flow Length=262' Tc=5.3 min CN=81 Runoff=1.32 cfs 0.061 af**Reach PR1: off site**Inflow=2.96 cfs 0.282 af
Outflow=2.96 cfs 0.282 af**Pond RG1: Rain Garden RG1**Peak Elev=714.52' Storage=2,638 cf Inflow=3.82 cfs 0.221 af
Primary=2.51 cfs 0.221 af Secondary=0.00 cfs 0.000 af Outflow=2.51 cfs 0.221 af**Total Runoff Area = 1.017 ac Runoff Volume = 0.282 af Average Runoff Depth = 3.33"**
60.52% Pervious = 0.616 ac 39.48% Impervious = 0.401 ac

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Lot E - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS1: PDA1

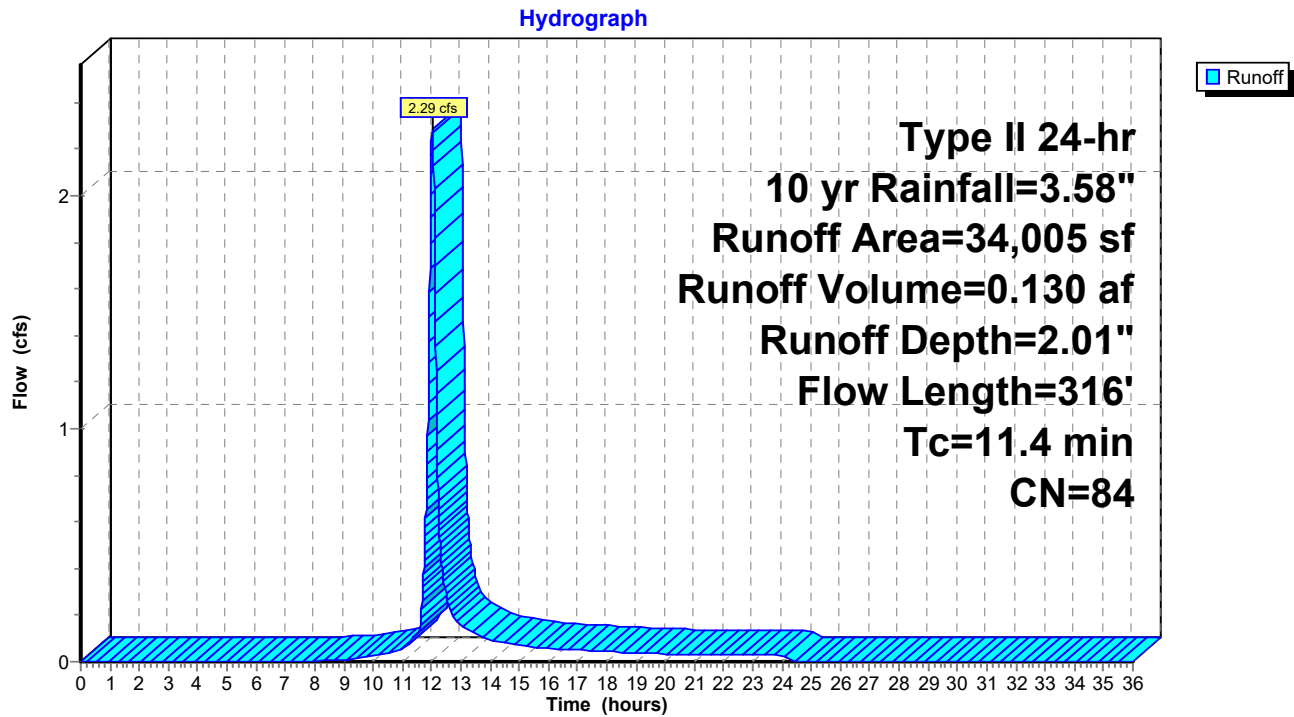
Runoff = 2.29 cfs @ 12.03 hrs, Volume= 0.130 af, Depth= 2.01"
 Routed to Pond RG1 : Rain Garden RG1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
19,524	74	>75% Grass cover, Good, HSG C
754	98	Unconnected roofs, HSG C
* 2,856	98	Gravel Walkway, HSG C
* 10,871	98	Driveway, HSG C
34,005	84	Weighted Average
19,524		57.42% Pervious Area
14,481		42.58% Impervious Area
754		5.21% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0225	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"
0.6	65	0.0731	1.89		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	151	0.0331	6.42	32.08	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030
11.4	316	Total			

Subcatchment PS1: PDA1



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Lot E - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS2: PDA2

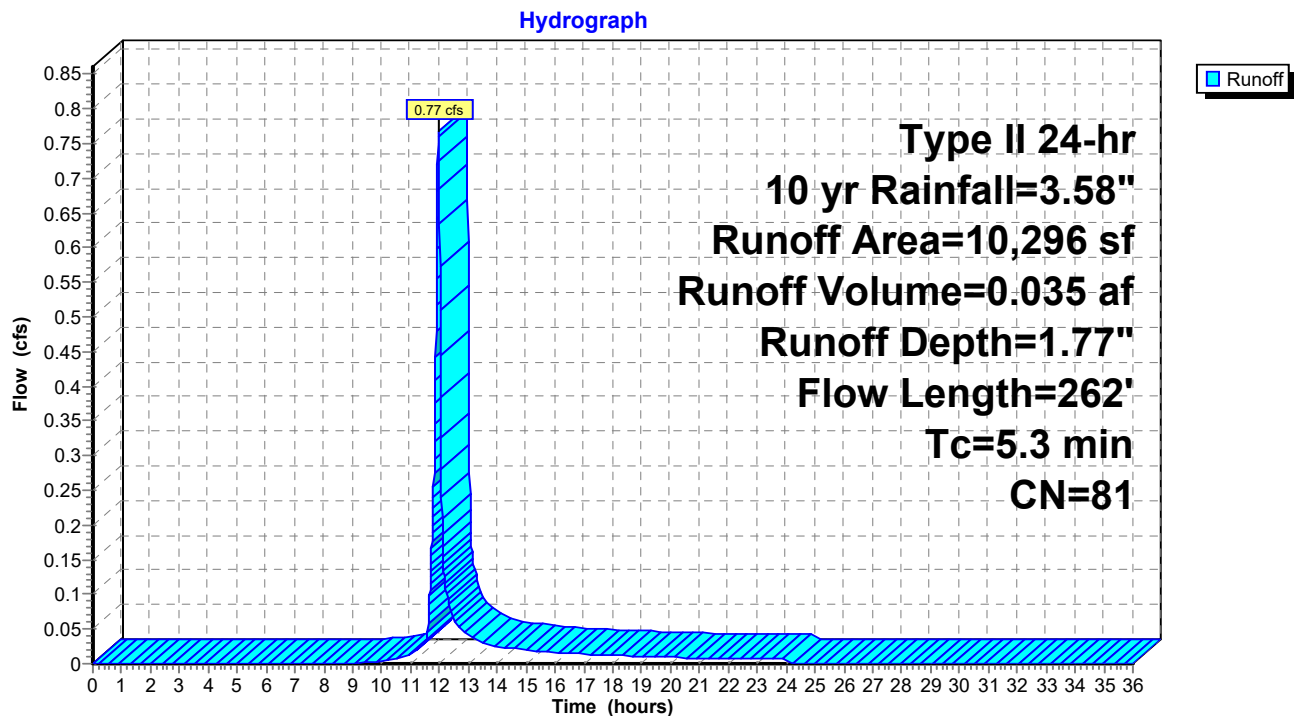
Runoff = 0.77 cfs @ 11.97 hrs, Volume= 0.035 af, Depth= 1.77"
 Routed to Reach PR1 : off site

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
7,289	74	>75% Grass cover, Good, HSG C
* 150	98	Gravel Walkway, HSG C
* 2,202	98	Driveway, HSG C
* 609	98	Path, HSG C
46	98	Unconnected roofs, HSG C
10,296	81	Weighted Average
7,289		70.79% Pervious Area
3,007		29.21% Impervious Area
46		1.53% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	59	0.0508	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"
0.3	102	0.0294	6.05	30.23	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030
0.1	72	0.0278	8.19	6.44	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
0.0	29	0.1034	10.57	52.86	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.030
5.3	262	Total			

Subcatchment PS2: PDA2



Summary for Reach PR1: off site

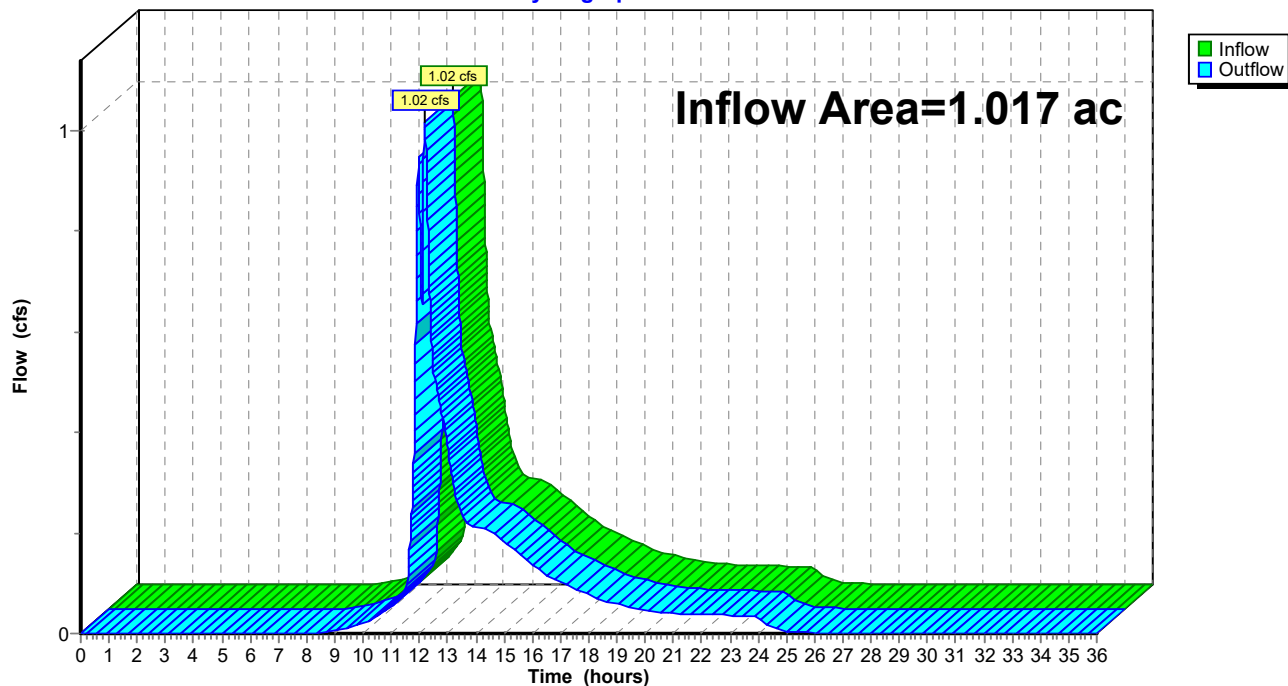
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.017 ac, 39.48% Impervious, Inflow Depth = 1.95" for 10 yr event
Inflow = 1.02 cfs @ 12.19 hrs, Volume= 0.165 af
Outflow = 1.02 cfs @ 12.19 hrs, Volume= 0.165 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach PR1: off site

Hydrograph



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Lot E - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond RG1: Rain Garden RG1

[42] Hint: Gap in defined storage above volume #1 at 711.24'

[92] Warning: Device #4 is above defined storage

Inflow Area = 0.781 ac, 42.58% Impervious, Inflow Depth = 2.01" for 10 yr event
 Inflow = 2.29 cfs @ 12.03 hrs, Volume= 0.130 af
 Outflow = 0.91 cfs @ 12.19 hrs, Volume= 0.130 af, Atten= 60%, Lag= 9.6 min
 Primary = 0.91 cfs @ 12.19 hrs, Volume= 0.130 af
 Routed to Reach PR1 : off site
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach PR1 : off site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 714.13' @ 12.19 hrs Surf.Area= 3,195 sf Storage= 1,986 cf

Plug-Flow detention time= 60.3 min calculated for 0.130 af (100% of inflow)

Center-of-Mass det. time= 60.3 min (886.7 - 826.4)

Volume	Invert	Avail.Storage	Storage Description
#1	710.17'	347 cf	Pea Stone (Prismatic) Listed below (Recalc) 867 cf Overall x 40.0% Voids
#2	711.25'	510 cf	Filter Media (Prismatic) Listed below (Recalc) 1,698 cf Overall x 30.0% Voids
#3	713.00'	613 cf	Forebay (Prismatic) Listed below (Recalc)
#4	713.25'	2,733 cf	Pond (Prismatic) Listed below (Recalc)
		4,202 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
710.17	795	0	0
711.24	825	867	867

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
711.25	825	0	0
713.24	882	1,698	1,698

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.00	113	0	0
714.00	317	215	215
714.75	743	398	613

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
713.25	882	0	0
714.00	1,063	729	729
715.00	1,330	1,197	1,926
715.50	1,898	807	2,733

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Lot E - Existing
Type II 24-hr 10 yr Rainfall=3.58"

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Device	Routing	Invert	Outlet Devices
#1	Primary	710.17'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	713.50'	2.8" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Primary	714.00'	10.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	715.50'	10.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=0.90 cfs @ 12.19 hrs HW=714.13' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.21 cfs @ 9.48 fps)

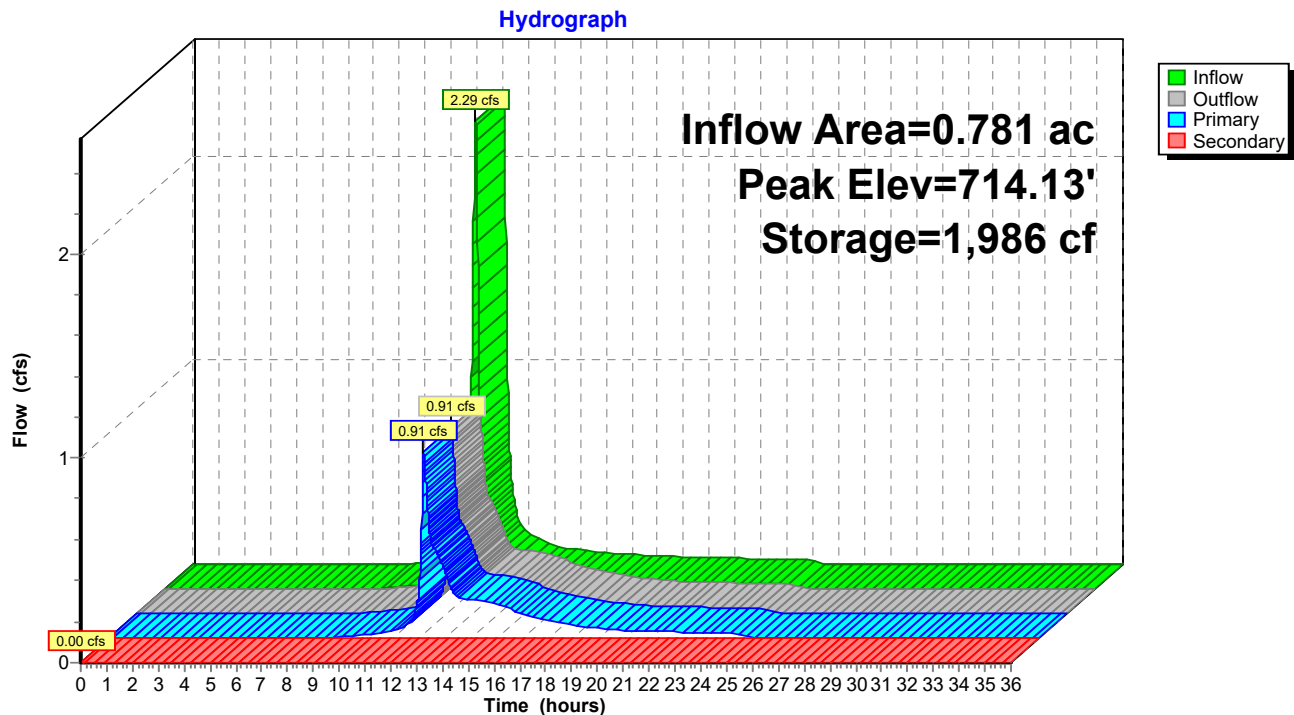
2=Orifice/Grate (Orifice Controls 0.29 cfs @ 3.45 fps)

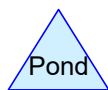
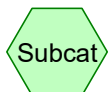
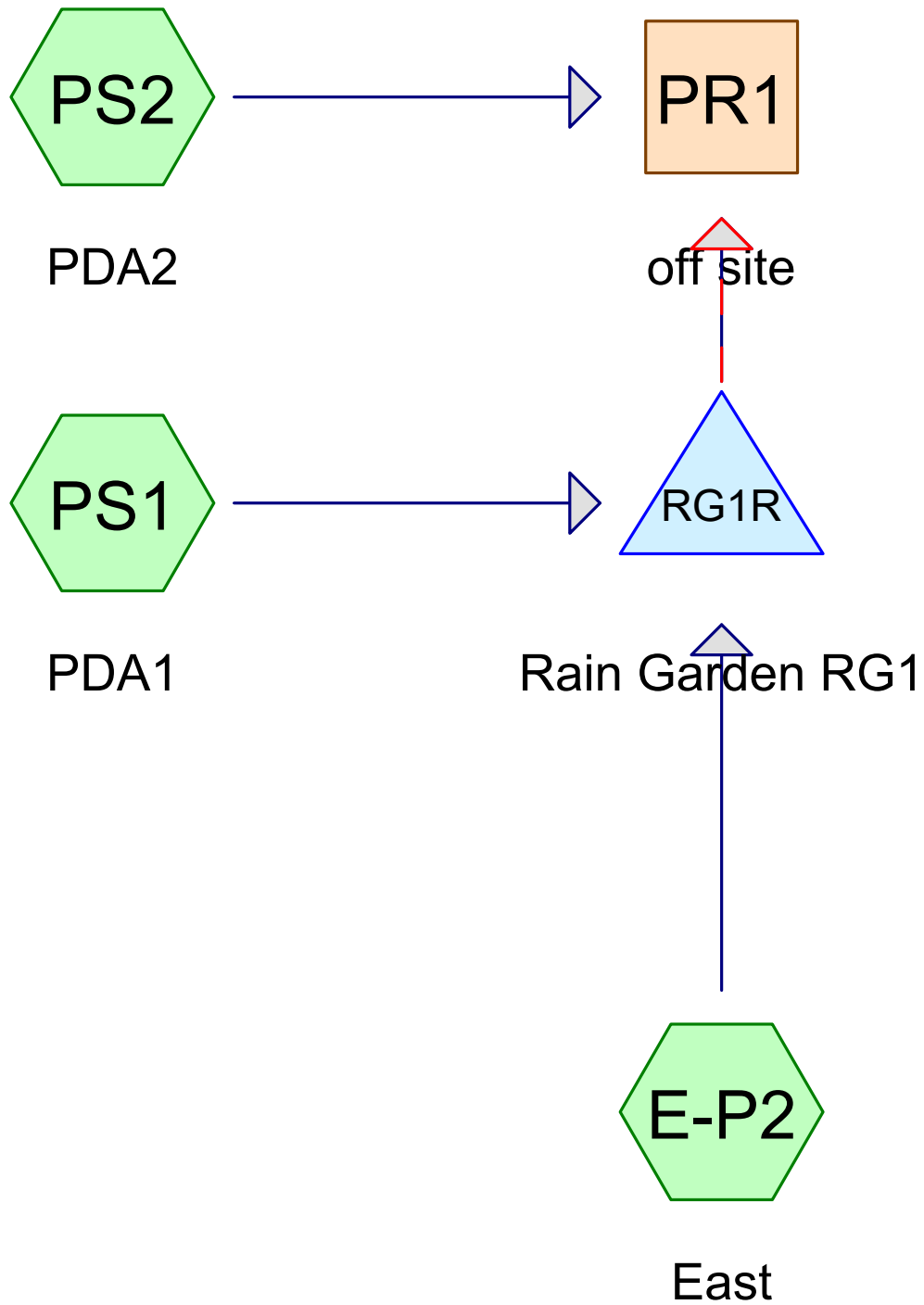
3=Orifice/Grate (Weir Controls 0.40 cfs @ 1.18 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=710.17' (Free Discharge)

4=Sharp-Crested Rectangular Weir(Controls 0.00 cfs)

Pond RG1: Rain Garden RG1





Routing Diagram for 12280_CNG Pro - Plus ED
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12280_CNG Pro - Plus ED

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.619	74	>75% Grass cover, Good, HSG C (E-P2, PS1, PS2)
0.314	98	Driveway, HSG C (PS1, PS2)
0.069	98	Gravel Walkway, HSG C (PS1, PS2)
0.014	98	Path, HSG C (PS2)
0.243	98	Paved parking, HSG C (E-P2)
0.018	98	Unconnected roofs, HSG C (PS1, PS2)
1.277	86	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
1.277	HSG C	E-P2, PS1, PS2
0.000	HSG D	
0.000	Other	
1.277		TOTAL AREA

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Lot E - Post

Type II 24-hr 2 yr Rainfall=2.50"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-P2: East

Runoff Area=10,751 sf 98.60% Impervious Runoff Depth=2.27"

Tc=5.0 min CN=98 Runoff=0.89 cfs 0.047 af

SubcatchmentPS1: PDA1

Runoff Area=34,599 sf 43.57% Impervious Runoff Depth=1.12"

Flow Length=316' Tc=11.4 min CN=84 Runoff=1.30 cfs 0.074 af

SubcatchmentPS2: PDA2

Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=0.94"

Flow Length=262' Tc=5.3 min CN=81 Runoff=0.41 cfs 0.019 af

Reach PR1: off site

Inflow=0.56 cfs 0.139 af

Outflow=0.56 cfs 0.139 af

Pond RG1R: Rain Garden RG1

Peak Elev=713.42' Storage=2,082 cf Inflow=1.96 cfs 0.121 af

Primary=0.19 cfs 0.121 af Secondary=0.00 cfs 0.000 af Outflow=0.19 cfs 0.121 af

Total Runoff Area = 1.277 ac Runoff Volume = 0.139 af Average Runoff Depth = 1.31"
48.46% Pervious = 0.619 ac 51.54% Impervious = 0.658 ac

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Lot E - Post
Type II 24-hr 10 yr Rainfall=3.58"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-P2: East

Runoff Area=10,751 sf 98.60% Impervious Runoff Depth=3.35"

Tc=5.0 min CN=98 Runoff=1.29 cfs 0.069 af

SubcatchmentPS1: PDA1

Runoff Area=34,599 sf 43.57% Impervious Runoff Depth=2.01"

Flow Length=316' Tc=11.4 min CN=84 Runoff=2.33 cfs 0.133 af

SubcatchmentPS2: PDA2

Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=1.77"

Flow Length=262' Tc=5.3 min CN=81 Runoff=0.77 cfs 0.035 af

Reach PR1: off site

Inflow=0.95 cfs 0.236 af

Outflow=0.95 cfs 0.236 af

Pond RG1R: Rain Garden RG1

Peak Elev=714.01' Storage=3,539 cf Inflow=3.29 cfs 0.202 af

Primary=0.48 cfs 0.202 af Secondary=0.00 cfs 0.000 af Outflow=0.48 cfs 0.202 af

Total Runoff Area = 1.277 ac Runoff Volume = 0.236 af Average Runoff Depth = 2.22"
48.46% Pervious = 0.619 ac 51.54% Impervious = 0.658 ac

12280_CNG Pro - Plus ED

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Lot E - Post

Type II 24-hr 50 yr Rainfall=5.14"

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Time span=0.00-36.00 hrs, dt=0.01 hrs, 3601 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentE-P2: East

Runoff Area=10,751 sf 98.60% Impervious Runoff Depth=4.90"

Tc=5.0 min CN=98 Runoff=1.86 cfs 0.101 af

SubcatchmentPS1: PDA1

Runoff Area=34,599 sf 43.57% Impervious Runoff Depth=3.40"

Flow Length=316' Tc=11.4 min CN=84 Runoff=3.89 cfs 0.225 af

SubcatchmentPS2: PDA2

Runoff Area=10,296 sf 29.21% Impervious Runoff Depth=3.11"

Flow Length=262' Tc=5.3 min CN=81 Runoff=1.32 cfs 0.061 af

Reach PR1: off site

Inflow=2.70 cfs 0.387 af

Outflow=2.70 cfs 0.387 af

Pond RG1R: Rain Garden RG1

Peak Elev=714.46' Storage=4,815 cf Inflow=5.28 cfs 0.326 af

Primary=2.38 cfs 0.326 af Secondary=0.00 cfs 0.000 af Outflow=2.38 cfs 0.326 af

Total Runoff Area = 1.277 ac Runoff Volume = 0.387 af Average Runoff Depth = 3.64"
48.46% Pervious = 0.619 ac 51.54% Impervious = 0.658 ac

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Lot E - Post

Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment E-P2: East

Runoff = 1.29 cfs @ 11.96 hrs, Volume= 0.069 af, Depth= 3.35"
Routed to Pond RG1R : Rain Garden RG1

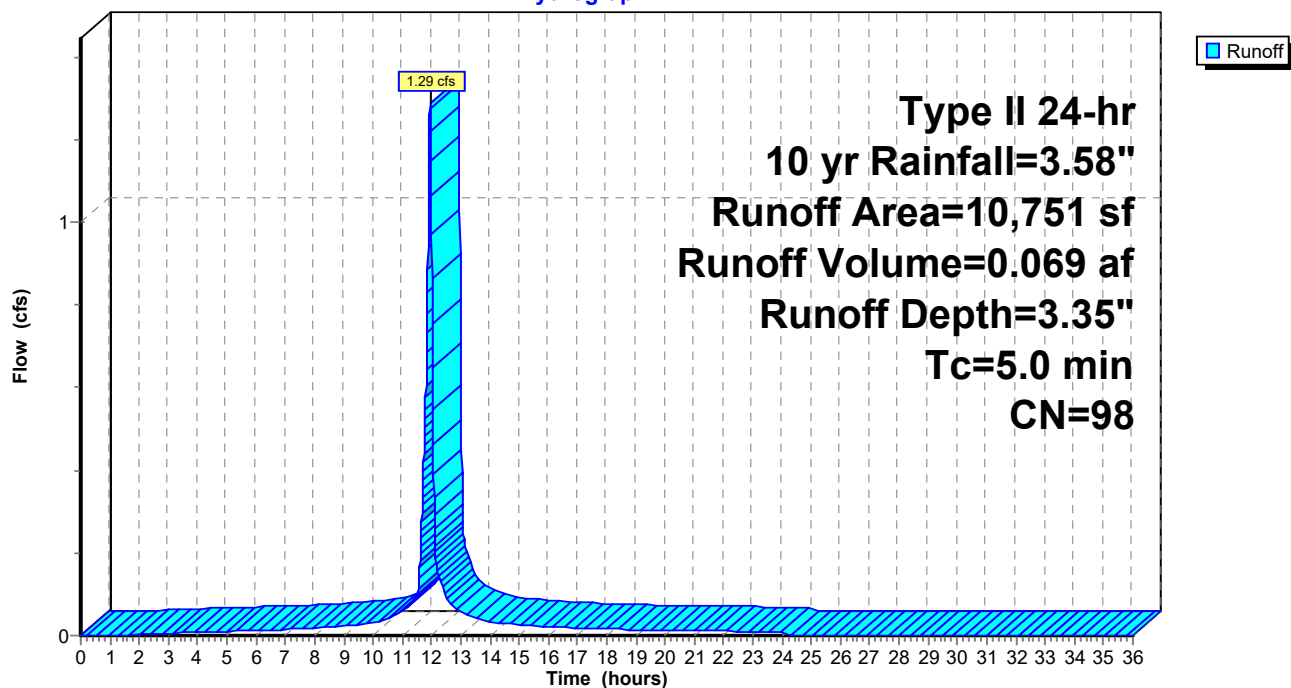
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
151	74	>75% Grass cover, Good, HSG C
10,600	98	Paved parking, HSG C
10,751	98	Weighted Average
151		1.40% Pervious Area
10,600		98.60% Impervious Area

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

Subcatchment E-P2: East

Hydrograph



12280_CNG Pro - Plus ED

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Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS1: PDA1

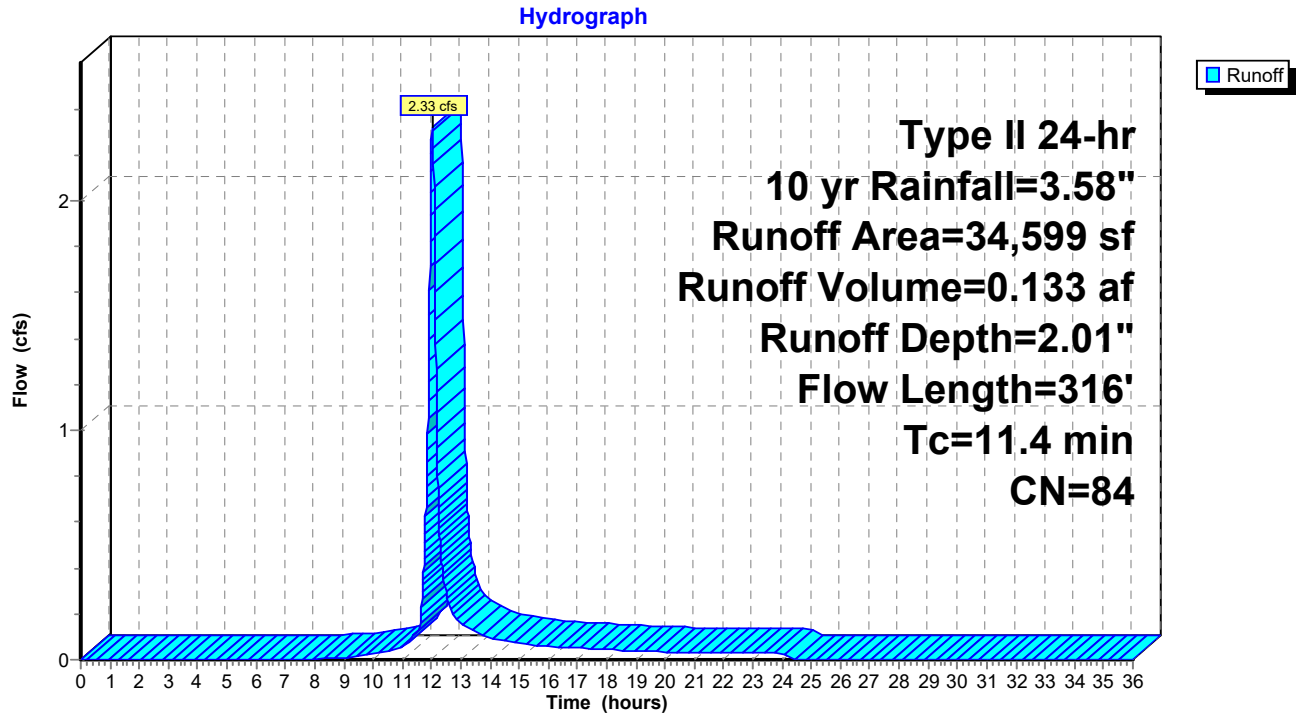
Runoff = 2.33 cfs @ 12.03 hrs, Volume= 0.133 af, Depth= 2.01"
 Routed to Pond RG1R : Rain Garden RG1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
19,524	74	>75% Grass cover, Good, HSG C
754	98	Unconnected roofs, HSG C
* 2,856	98	Gravel Walkway, HSG C
* 11,465	98	Driveway, HSG C
34,599	84	Weighted Average
19,524		56.43% Pervious Area
15,075		43.57% Impervious Area
754		5.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4	100	0.0225	0.16		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"
0.6	65	0.0731	1.89		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
0.4	151	0.0331	6.42	32.08	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030
11.4	316	Total			

Subcatchment PS1: PDA1



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Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Subcatchment PS2: PDA2

Runoff = 0.77 cfs @ 11.97 hrs, Volume= 0.035 af, Depth= 1.77"
 Routed to Reach PR1 : off site

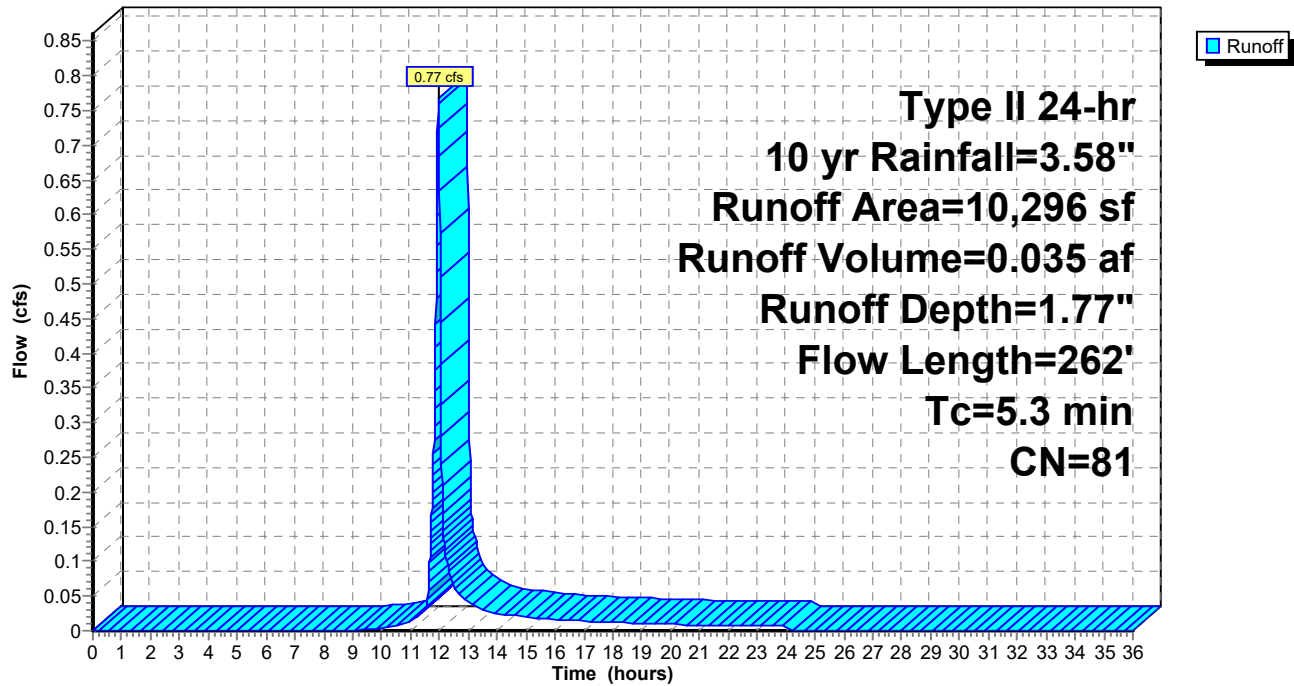
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs
 Type II 24-hr 10 yr Rainfall=3.58"

Area (sf)	CN	Description
7,289	74	>75% Grass cover, Good, HSG C
* 150	98	Gravel Walkway, HSG C
* 2,202	98	Driveway, HSG C
* 609	98	Path, HSG C
46	98	Unconnected roofs, HSG C
10,296	81	Weighted Average
7,289		70.79% Pervious Area
3,007		29.21% Impervious Area
46		1.53% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.9	59	0.0508	0.20		Sheet Flow, Grass: Short n= 0.150 P2= 2.60"
0.3	102	0.0294	6.05	30.23	Trap/Vee/Rect Channel Flow, Bot.W=2.00' D=1.00' Z= 3.0 '/' Top.W=8.00' n= 0.030
0.1	72	0.0278	8.19	6.44	Pipe Channel, 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.012
0.0	29	0.1034	10.57	52.86	Trap/Vee/Rect Channel Flow, Bot.W=1.00' D=1.00' Z= 4.0 '/' Top.W=9.00' n= 0.030
5.3	262	Total			

Subcatchment PS2: PDA2

Hydrograph

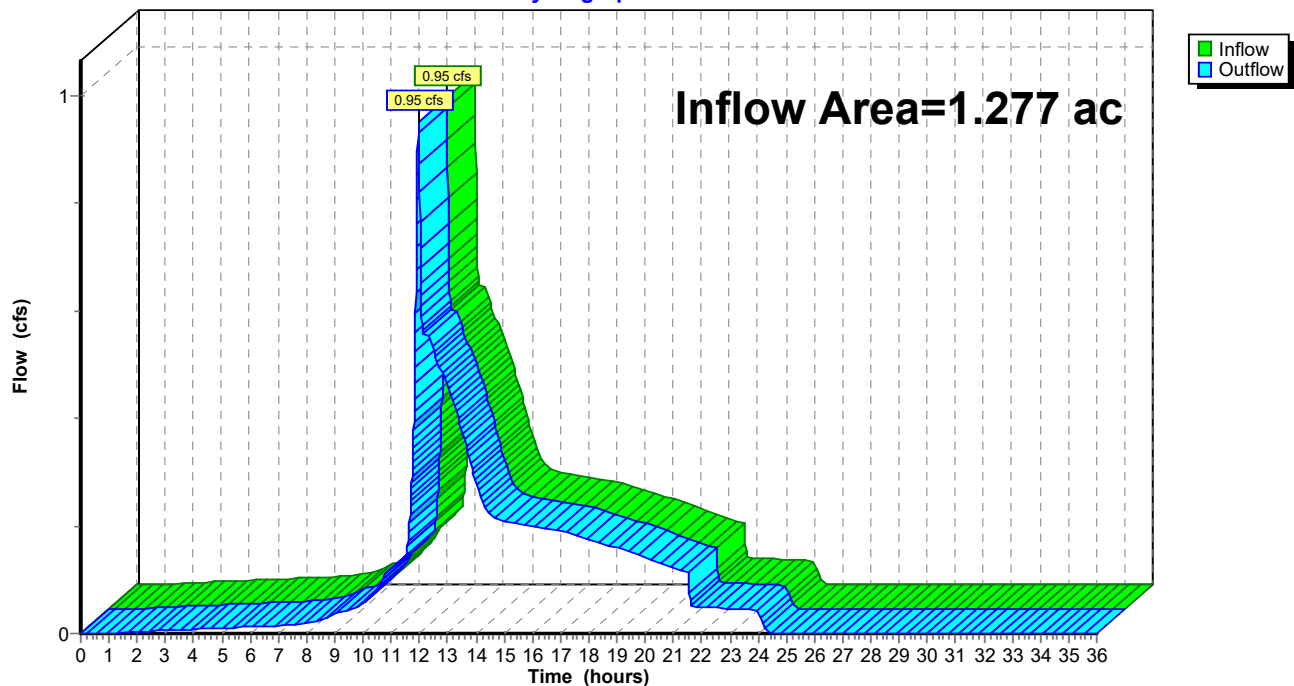


Summary for Reach PR1: off site

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.277 ac, 51.54% Impervious, Inflow Depth = 2.22" for 10 yr event
Inflow = 0.95 cfs @ 11.97 hrs, Volume= 0.236 af
Outflow = 0.95 cfs @ 11.97 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs

Reach PR1: off site**Hydrograph**

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Type II 24-hr 10 yr Rainfall=3.58"

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Summary for Pond RG1R: Rain Garden RG1

[44] Hint: Outlet device #1 is below defined storage

[92] Warning: Device #4 is above defined storage

Inflow Area = 1.041 ac, 56.62% Impervious, Inflow Depth = 2.32" for 10 yr event
 Inflow = 3.29 cfs @ 11.99 hrs, Volume= 0.202 af
 Outflow = 0.48 cfs @ 12.40 hrs, Volume= 0.202 af, Atten= 85%, Lag= 24.3 min
 Primary = 0.48 cfs @ 12.40 hrs, Volume= 0.202 af
 Routed to Reach PR1 : off site
 Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
 Routed to Reach PR1 : off site

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.01 hrs / 2
 Peak Elev= 714.01' @ 12.40 hrs Surf.Area= 3,140 sf Storage= 3,539 cf

Plug-Flow detention time= 108.7 min calculated for 0.201 af (100% of inflow)
 Center-of-Mass det. time= 108.7 min (908.7 - 800.0)

Volume	Invert	Avail.Storage	Storage Description
#1	711.24'	7,583 cf	Rain Garden (Prismatic) Listed below (Recalc)
#2	711.25'	655 cf	Forebay (Prismatic) Listed below (Recalc)
		8,238 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
711.24	1,806	0.0	0	0
711.25	1,806	30.0	5	5
713.24	1,895	30.0	1,105	1,110
713.25	1,895	100.0	19	1,129
714.00	2,682	100.0	1,716	2,845
715.00	3,331	100.0	3,007	5,852
715.50	3,593	100.0	1,731	7,583

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
711.25	140	0	0
713.25	408	548	548
713.50	449	107	655

Device	Routing	Invert	Outlet Devices
#1	Primary	710.17'	2.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	713.50'	2.8" Vert. Orifice/Grate X 2.00 C= 0.600 Limited to weir flow at low heads
#3	Primary	714.00'	10.0" Horiz. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Secondary	715.50'	10.0' long Sharp-Crested Rectangular Weir 2 End Contraction(s)

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Lot E - Post

Type II 24-hr 10 yr Rainfall=3.58"

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Primary OutFlow Max=0.48 cfs @ 12.40 hrs HW=714.01' (Free Discharge)

1=Orifice/Grate (Orifice Controls 0.20 cfs @ 9.34 fps)

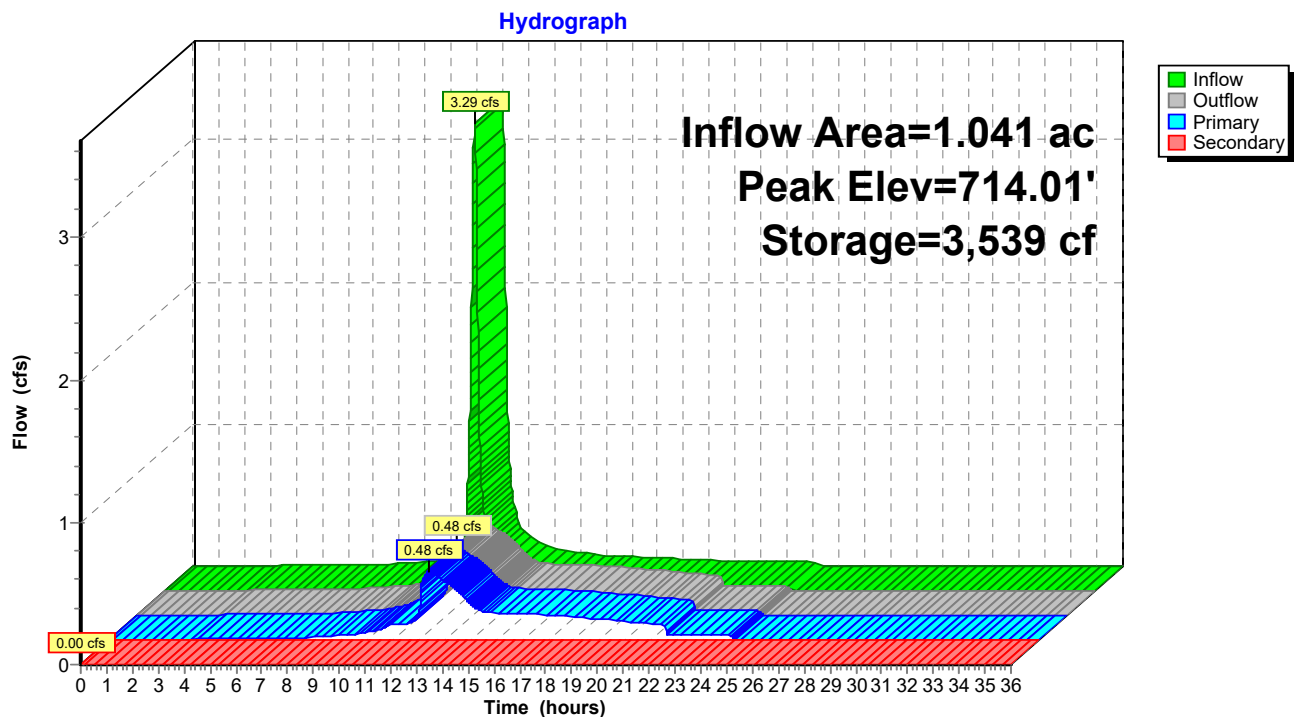
2=Orifice/Grate (Orifice Controls 0.26 cfs @ 3.04 fps)

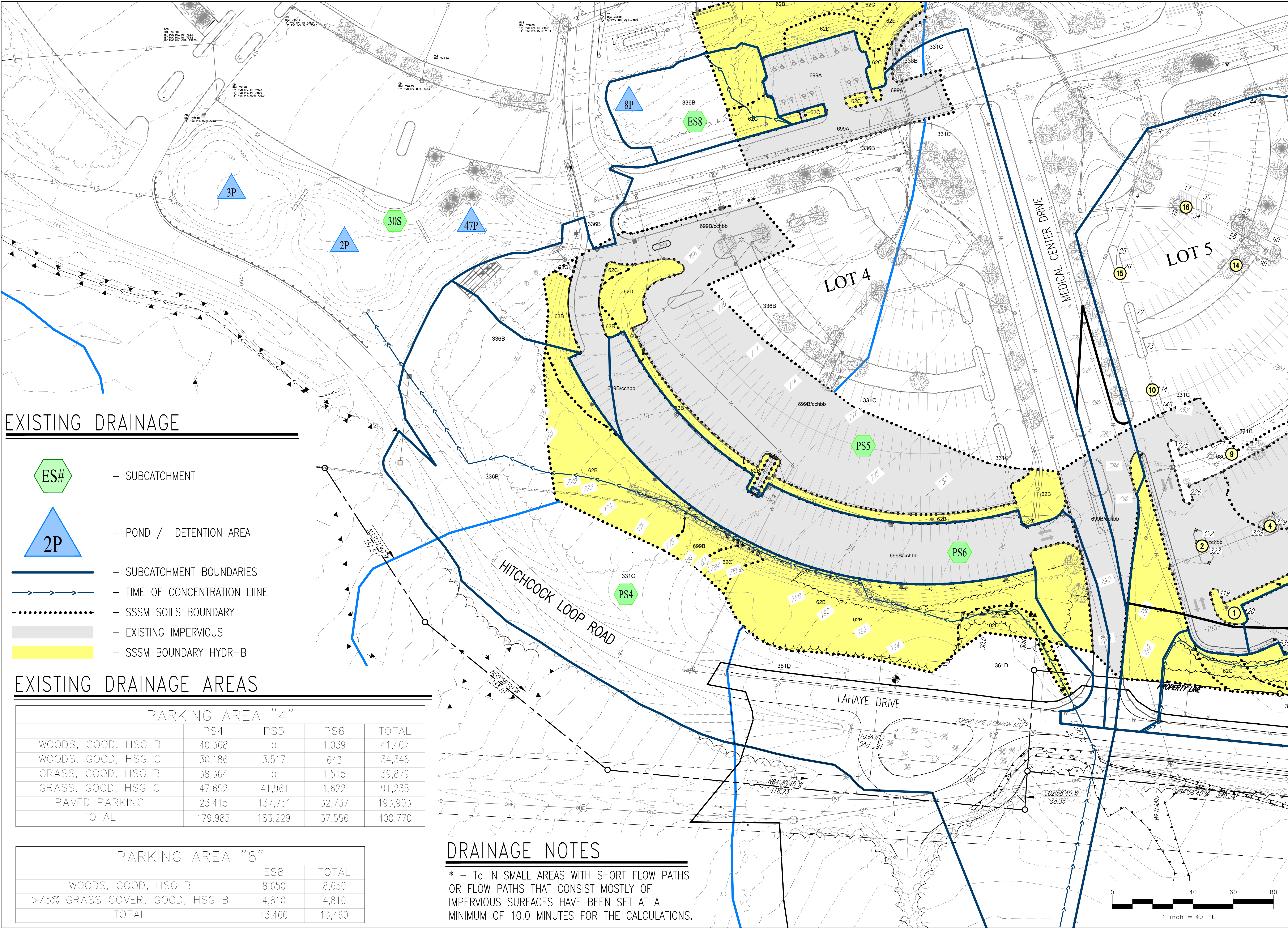
3=Orifice/Grate (Weir Controls 0.01 cfs @ 0.39 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=711.24' (Free Discharge)

4=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond RG1R: Rain Garden RG1





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Date	
Description	
No.	

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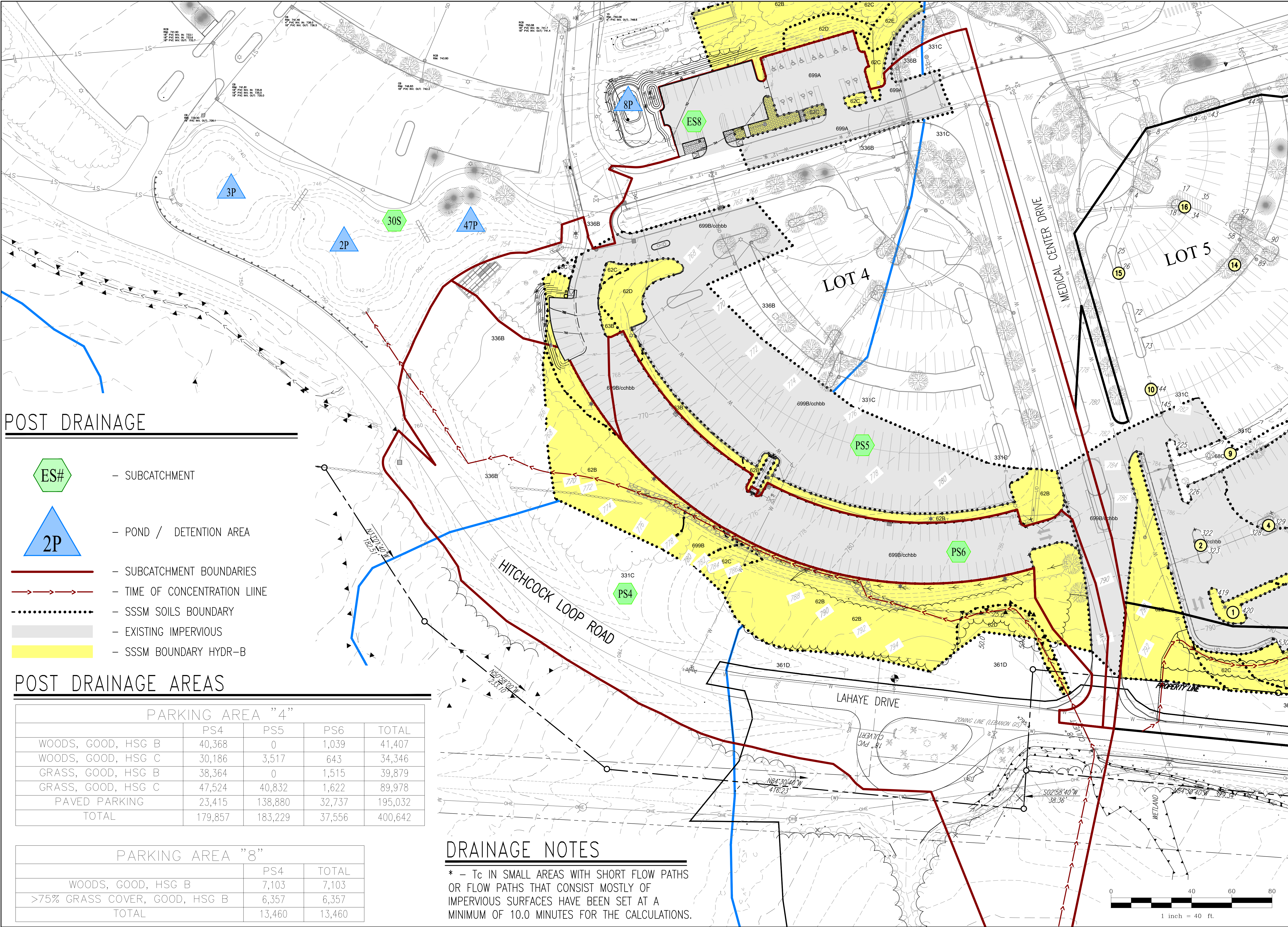
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DARTMOUTH - HITCHCOCK MEDICAL CENTER
1 MEDICAL CENTER DRIVE
LEBANON, NEW HAMPSHIRE 03766

EXISTING DRAINAGE PARKING AREAS "4" AND "8"	MAIN CAMPUS PARKING EXPANSION LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE
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EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 40'
Date:	04/29/2024

D1.1



Stamp	
Date	
Description	
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LEBANON, NEW HAMPSHIRE 03766

POST DRAINAGE PARKING AREAS "4" AND "8"

MAIN CAMPUS PARKING EXPANSION

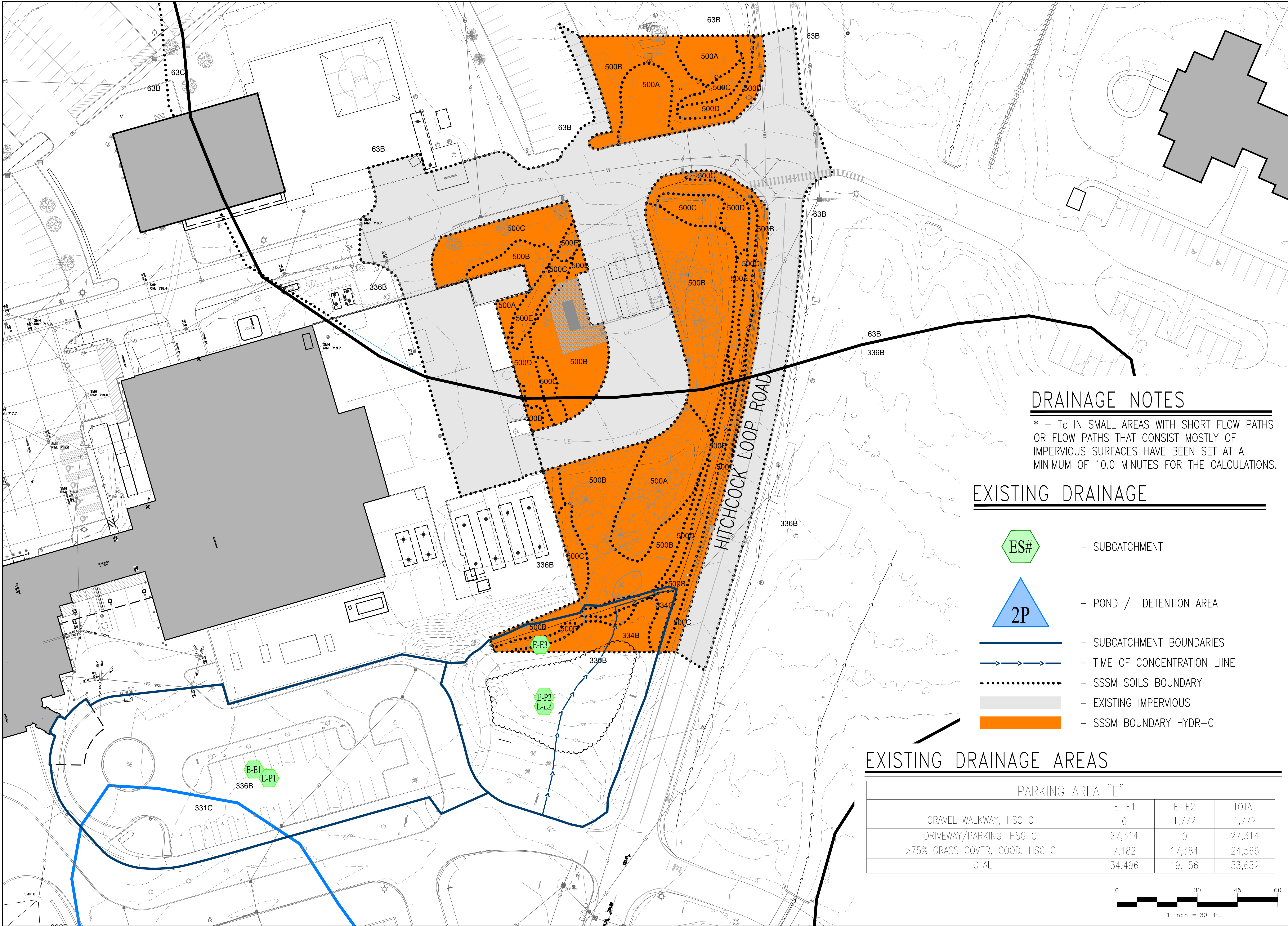
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project #	23310
Drawn By:	JWF
Checked By:	NAF
Scale:	1" = 40'
Date:	04/29/2024

D1.2

3/20/2024 4:04 PM

S:\PROJECTS\2023\2310 NH DMAC PARKING ADDITION\DWG\2310 SSSM.DWG



DRAINAGE NOTES

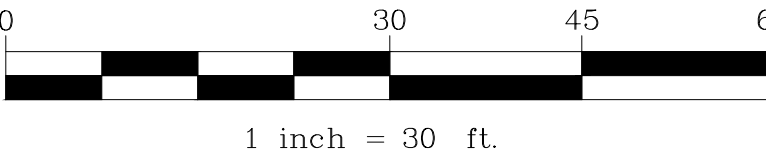
* - Tc IN SMALL AREAS WITH SHORT FLOW PATHS OR FLOW PATHS THAT CONSIST MOSTLY OF IMPERVIOUS SURFACES HAVE BEEN SET AT A MINIMUM OF 10.0 MINUTES FOR THE CALCULATIONS.

EXISTING DRAINAGE

- SUBCATCHMENT
- POND / DETENTION AREA
- SUBCATCHMENT BOUNDARIES
- TIME OF CONCENTRATION LINE
- SSSM SOILS BOUNDARY
- EXISTING IMPERVIOUS
- SSSM BOUNDARY HYDR-C

EXISTING DRAINAGE AREAS

PARKING AREA "E"			
	E-E1	E-E2	TOTAL
GRAVEL WALKWAY, HSG C	0	1,772	1,772
DRIVEWAY/PARKING, HSG C	27,314	0	27,314
>75% GRASS COVER, GOOD, HSG C	7,182	17,384	24,566
TOTAL	34,496	19,156	53,652



Stamp

Date

No.

Description

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EXISTING DRAINAGE
PARKING AREA "E" AND CNG SITE

MAIN CAMPUS
PARKING EXPANSION

DARTMOUTH - HITCHCOCK
MEDICAL CENTER
1 MEDICAL CENTER DRIVE
LEBANON, NEW HAMPSHIRE 03766

Sheet Title: EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 30'
Date: 04/29/2024

D2.1

Page 160 of 244



DRAINAGE NOTES

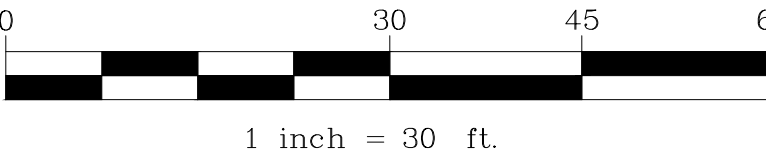
* - Tc IN SMALL AREAS WITH SHORT FLOW PATHS OR FLOW PATHS THAT CONSIST MOSTLY OF IMPERVIOUS SURFACES HAVE BEEN SET AT A MINIMUM OF 10.0 MINUTES FOR THE CALCULATIONS.

POST DRAINAGE

- ES# - SUBCATCHMENT
- 2P - POND / DETENTION AREA
- SUBCATCHMENT BOUNDARIES
- TIME OF CONCENTRATION LINE
- SSSM SOILS BOUNDARY
- EXISTING IMPERVIOUS
- SSSM BOUNDARY HYDR-C

EXISTING DRAINAGE AREAS

PARKING AREA "E"				
	E-P1	E-P2	E-E3	TOTAL
GRAVEL WALKWAY, HSG C	0	0	974	974
DRIVEWAY/PARKING, HSG C	25,377	10,600	0	35,977
>75% GRASS COVER, GOOD, HSG C	5,255	150	11,296	16,701
TOTAL	30,632	10,750	12,270	53,652



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DARTMOUTH - HITCHCOCK MEDICAL CENTER

1 MEDICAL CENTER DRIVE

LEBANON, NEW HAMPSHIRE 03766

POST DRAINAGE

PARKING AREA "E" AND CNG SITE

MAIN CAMPUS

PARKING EXPANSION

LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project #

23310

Drawn By:

JWF

Checked By:

NAF

Scale:

1" = 30'

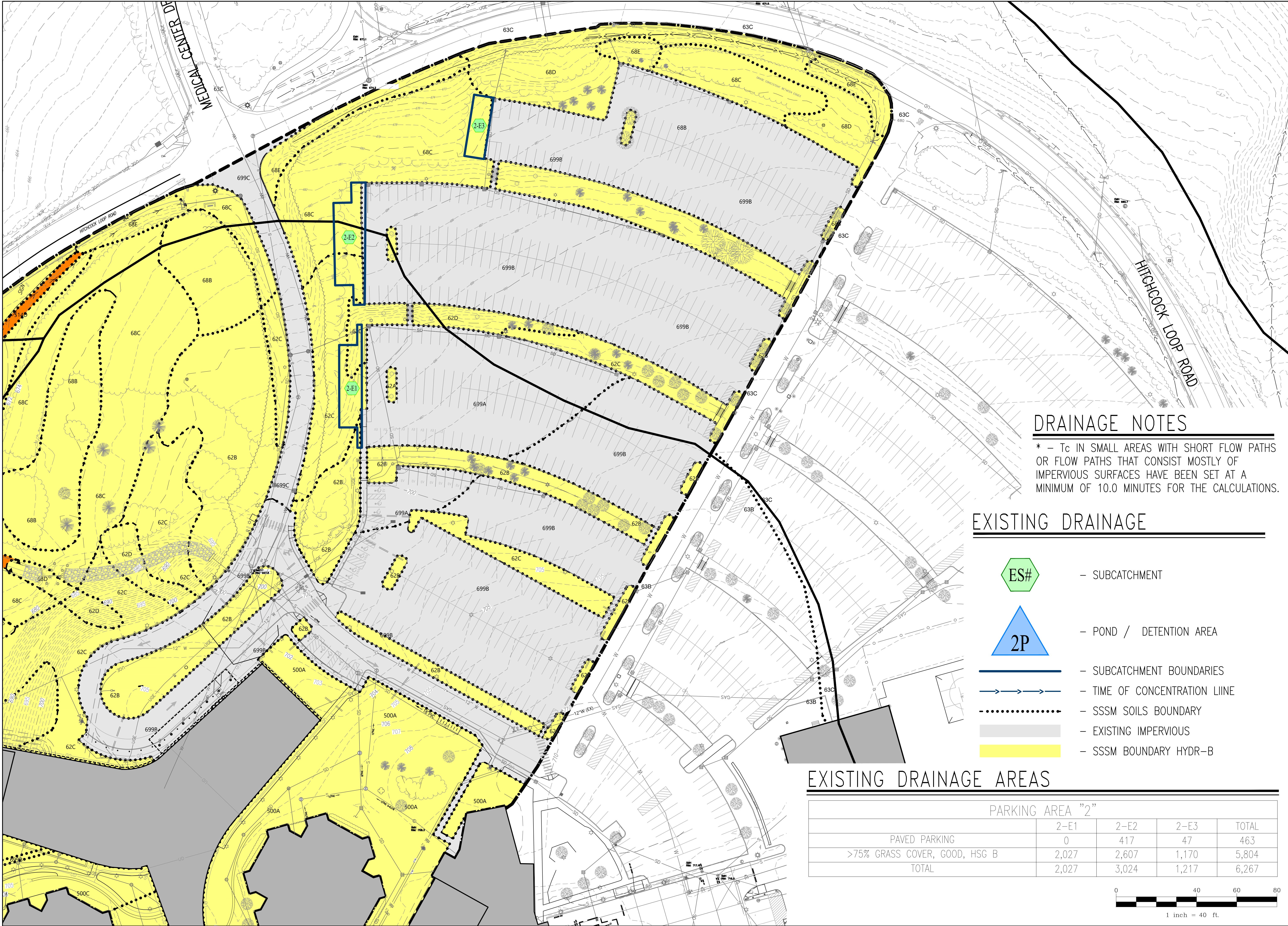
Date:

04/29/2024

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3/20/2024 10:41 AM

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DRAINAGE NOTES

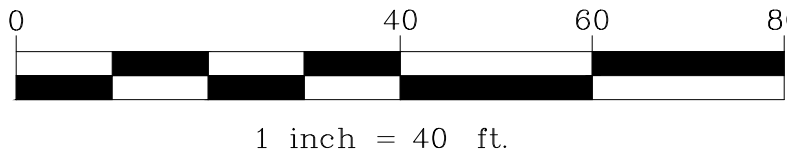
* - T_c IN SMALL AREAS WITH SHORT FLOW PATHS OR FLOW PATHS THAT CONSIST MOSTLY OF IMPERVIOUS SURFACES HAVE BEEN SET AT A MINIMUM OF 10.0 MINUTES FOR THE CALCULATIONS.

EXISTING DRAINAGE

- SUBCATCHMENT
- POND / DETENTION AREA
- SUBCATCHMENT BOUNDARIES
- TIME OF CONCENTRATION LINE
- SSSM SOILS BOUNDARY
- EXISTING IMPERVIOUS
- SSSM BOUNDARY HYDR-B

EXISTING DRAINAGE AREAS

PARKING AREA "2"				
	2-E1	2-E2	2-E3	TOTAL
PAVED PARKING	0	417	47	463
>75% GRASS COVER, GOOD, HSG B	2,027	2,607	1,170	5,804
TOTAL	2,027	3,024	1,217	6,267



Stamp

Date

Description

No.

ENGINEERING VENTURES PC
208 Flynn Avenue, Suite 2A, Burlington, VT 05401 • 802-863-6225
85 Mechanic Street, Suite E2-3, Lebanon, NH 03766 • 603-442-9333
414 Union Street, Schenectady, NY 12305 • 518-630-9614
www.engineeringventures.com

DARTMOUTH - HITCHCOCK MEDICAL CENTER
1 MEDICAL CENTER DRIVE
LEBANON, NEW HAMPSHIRE 03766

EXISTING DRAINAGE
PARKING AREA "2"

MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project # 23310

Drawn By: JWF

Checked By: NAF

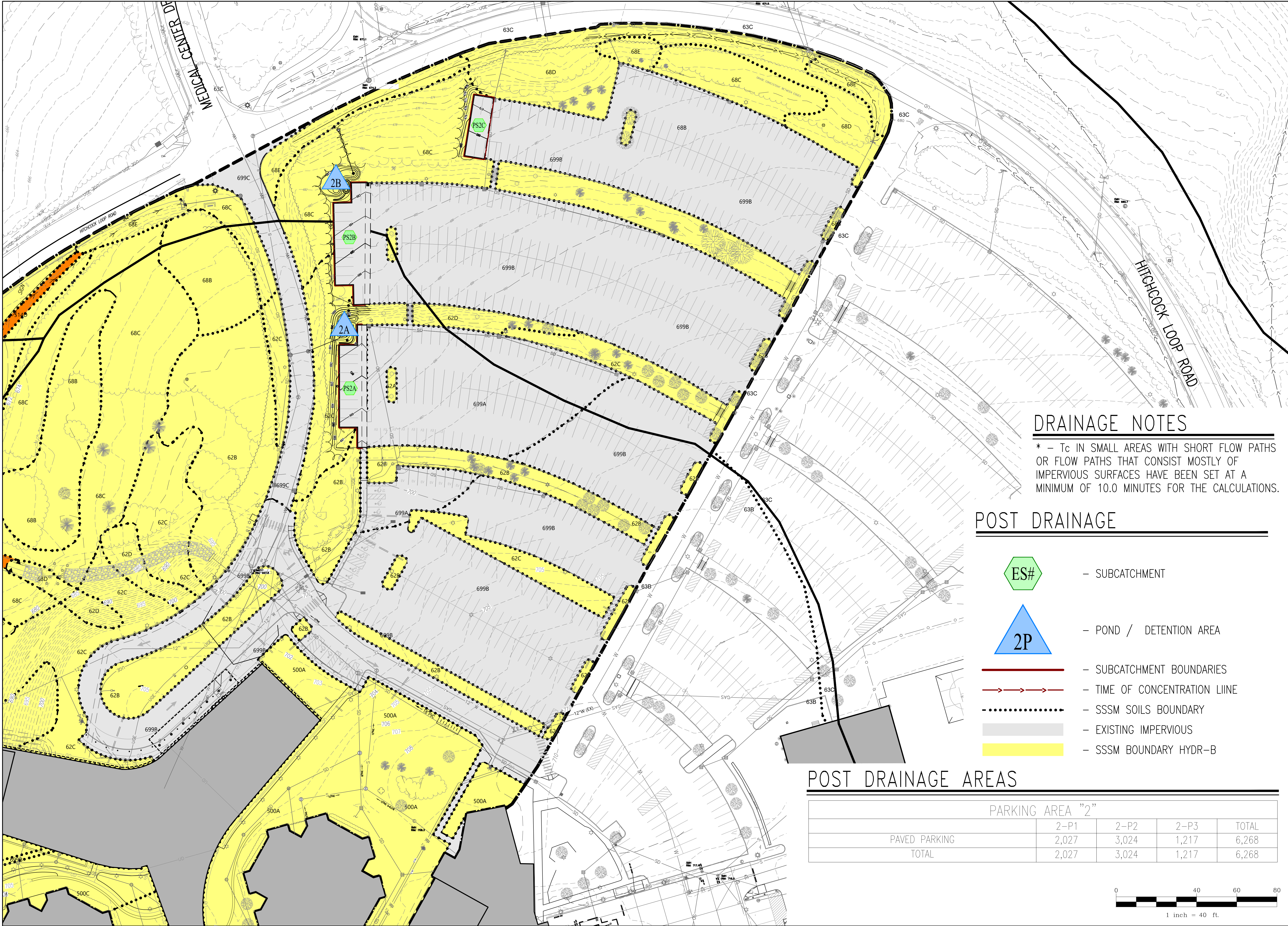
Date: 04/29/2024

Scale: 1" = 40'

D3.1

3/20/2024 4:04 PM

S:\PROJECTS\2023\210 NH DMAC PARKING ADDITION\DWG\210 SS&L.DWG



DRAINAGE NOTES

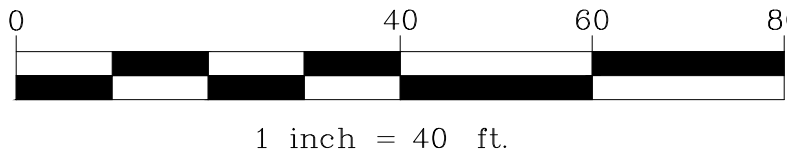
* - T_c IN SMALL AREAS WITH SHORT FLOW PATHS OR FLOW PATHS THAT CONSIST MOSTLY OF IMPERVIOUS SURFACES HAVE BEEN SET AT A MINIMUM OF 10.0 MINUTES FOR THE CALCULATIONS.

POST DRAINAGE

- SUBCATCHMENT
- POND / DETENTION AREA
- SUBCATCHMENT BOUNDARIES
- TIME OF CONCENTRATION LINE
- SSSM SOILS BOUNDARY
- EXISTING IMPERVIOUS
- SSSM BOUNDARY HYDR-B

POST DRAINAGE AREAS

PARKING AREA "2"				
	2-P1	2-P2	2-P3	TOTAL
PAVED PARKING	2,027	3,024	1,217	6,268
TOTAL	2,027	3,024	1,217	6,268



Stamp	
Date	
No.	
Description	

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POST DRAINAGE
PARKING AREA "2"
MAIN CAMPUS
PARKING EXPANSION
LEBANON, GRAFTON COUNTY, NEW HAMPSHIRE

EV Project # 23310
Drawn By: JWF
Checked By: NAF
Scale: 1" = 40'
Date: 04/29/2024

D3.2

**CITY OF LEBANON
APPLICATION FOR**

SPECIAL EXCEPTION	☐	☐	SITE PLAN REVIEW
VARIANCE	☐	☐	SUBDIVISION
MOTION FOR REHEARING	☐	☐	LOT LINE ADJUSTMENT
APPEAL OF AN ADMIN. DECISION	☐	☐	CONDITIONAL USE PERMIT

☐ OTHER Siteplan Amendment

PROPERTY OWNER (APPLICANT):

NAME: Adimab TEL.#: 603.643.7110

MAILING ADDRESS: 7 Lucent Drive, Lebanon NH 03766

E-MAIL ADDRESS: Ryan.Mcgovern@adimab.com

CO-APPLICANT, AGENT, OR LESSEE:

NAME: Jason Yehle TEL.#: 207.831.4161

MAILING ADDRESS: 7 Lucent Drive, Lebanon NH 03766

E-MAIL ADDRESS: jason.yehle@adimab.com

PROJECT LOCATION:

TAX MAP #: 10 LOT#: 2600 11 PLOT #: 11-2600 ZONE: INDL

STREET ADDRESS OF PROJECT: 7 Lucent Drive

IS THIS PROPERTY LOCATED IN THE: **WETLANDS** ☒ YES ☐ NO **HISTORIC DISTRICT** ☐ YES ☒ NO
FLOOD PLAIN ☐ YES ☒ NO

SCOPE OF PROJECT:

Application for site plan ammendment that requires waivers

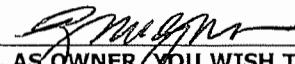
TYPE OF OCCUPANCY:

EXISTING ☐ VACANT ☐ ONEFAMILY ☐ TWOFAMILY ☐ MULTI-FAMILY ☒ COMMERCIAL ☐ INDUSTRIAL
PROPOSED ☐ VACANT ☐ ONEFAMILY ☐ TWOFAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
IF USE IS **COMMERCIAL** OR **INDUSTRIAL**, PLEASE NOTE **SPECIFIC**
USE: R&D Building

SIGNATURE BLOCK:

FOR PLANNING BOARD APPLICATIONS ONLY: I, the undersigned, hereby submit this application on the date noted below with the knowledge and understanding that the Planning Board shall determine if the submitted application is complete according to its regulations at its next regularly scheduled meeting on 03.11.2024, 20__, unless I personally request, in writing, that the Board delay its determination of completeness to a later date.

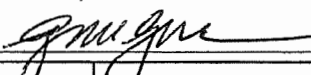
PROPERTY

OWNER:  DATE: 2.12.2024

NOTE: IF, AS OWNER YOU WISH TO DESIGNATE AN AGENT TO ACT ON YOUR BEHALF, PLEASE READ

THE FOLLOWING AND SIGN BELOW: I hereby designate the person listed above as my agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by any official decision made on the basis of such representation.

PROPERTY

OWNER:  DATE: 2.12.2024

DATE RECEIVED	FILE # (MAP/LOT)	APPLICATION #		
2/12/2024	10-11-2600	PB2024-10-SPA		

(Last Revised 4/04/18)

April 2, 2024

Adimab, 7 Lucent Drive - Addition, auxiliary parking and related site improvements
2024-03-18_PB2024-10-SPA_Amendment Application Narrative

Adimab is a biotechnology company and industry leader in the discovery of new medicines based on human antibodies. Adimab has been based in Lebanon NH since its founding in 2007 and collaborates with major pharmaceutical companies from all over the world.

Adimab received planning approval for a 27,000 s.f. building addition, auxiliary parking area and related site improvements in June of 2020. Adimab's project is nearing completion and is scheduled to finish in early summer of 2024.

Adimab requests the following amendments, they are due to code requirements of the city building permit, and slight design revisions over the past three years:

- Site plan - (5) electric vehicle charging stations added
- Site plan - (2) exterior ground hydrants added
- Site plan - Exterior stair relocated from south to north near building joint
- Landscaping, shrubs - Species changes and slight relocation, same count
- Landscaping, trees - Species changes and slight relocation, added (43)
- Landscaping, parking shading - Fewer trees at parking, still over 30% shaded
- Landscaping, footpaths - 40" wide pea stone footpaths added at egress doors
- Lighting, foot path lights - Relocated, same fixture and count
- Lighting, pedestrian bridge - (2) fixtures added, 1 FC at walking surface
- Lighting, exterior stairs - (11) fixtures added, 10 FC at stairs
- Lighting, egress doors - (4) fixtures added, 1 FC at walking surface

Adimab is requesting one waiver to change the approved surface material for their new remote parking lot from asphalt to compacted stone 'ledge pack.' The requested change is only regarding the new parking area. The 130' long entrance driveway access connecting this auxiliary parking lot to the dead end of Lucent Drive is paved with asphalt.

“Section 6.5 E 2, Criteria B. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.”

- Adimab’s new addition and auxiliary parking area are located in a forested wetland area. The overall project has been carefully designed to minimize impact to the existing forest and wetlands. Adimab is concerned about the negative health and environmental impacts of asphalt and concrete paving in this natural setting.
- Adimab’s proposal to use a ledge pack surface will carry out the spirit and intent of the planning regulations.
- This ledge pack surface will be located 130’ from Lucent drive. No ledge pack material or water from this parking area will encroach onto Lucent Drive.
- The parking lot surface material is not visible from Lucent Drive.
- Adimab is a private biotechnology company, and employees have the choice to park in one of several existing asphalt paved lots; the new auxiliary parking lot is not open for use by the general public and is not the main entrance to Adimab.
- The ledge pack surface will drain to the existing bioretention filters and underground detention system as previously engineered.

BACKGROUND

Adimab’s growth over the years has necessitated more laboratory, office, and meeting spaces. Since its founding, the management of the company has consistently and significantly invested in creating healthy and comfortable environments for its employees, which are recruited nationwide. Attracting a young, dynamic, and highly skilled workforce to New Hampshire has required the company to be on the forefront of design and sustainability goals. With this new building project, management added a design directive to make the most sustainable choices wherever possible. This directive was considered throughout the design process and can be seen in the choice of building materials, in the heating and cooling systems, and the consideration of the land.

THE PARKING LOT

Adimab’s project requires a remote parking lot with 80+ spaces. This resulted in researching the most sustainable options for parking surface materials. Drainage, maintenance, aesthetics, and function were also considered. The design team reviewed asphalt, concrete, and compacted ledge pack surfaces. Given the negative human health risks of asphalt and the environmental damage of concrete, Adimab chose compacted ledge pack as the safest, most sustainable choice. The forest and wetland setting of this parking lot is an ideal location for a

low impact parking surface. The size of this new parking area represents less than a quarter of Adimab's total parking areas; all other parking areas are paved with asphalt.

“WHAT’S WRONG WITH USING ASPHALT?”

Asphalt paving is a mixture of heavy crude oil, sand, and gravel. Two recent scientific research papers have documented the air pollution released by both new and old asphalt paving. These pollutants are a significant source of air pollution, and harmful to human health. In addition to this health hazard, asphalt paving reaches temperatures of 120° - 150° during summer weather. This heat is then transferred to the surrounding air and stormwater, exacerbating heat waves and adding to air and land pollutants. These studies show that asphalt is an overlooked major source of hazardous airborne pollutants.

“a main finding is that asphalt-related products emit a substantial and diverse mixtures of organic compounds into the air, with a strong dependence on temperature and other environmental conditions.”

“AND WHY NOT USE CONCRETE?”

Adimab also considered using a concrete surface for the parking lot. Concrete is a mixture of cement, sand, stone, and water. Carbon dioxide is a major byproduct of the cement making chemical reaction. Compounding this, additional CO₂ is produced when making cement, due to burning fuel to heat the manufacturing kilns. Using concrete at this parking lot would produce 1.5 million pounds of CO₂. This is equivalent to the pollutants released by the average car driving 1.7 million miles or driving around the globe 68 times.

Using crushed stone ‘ledge pack’ as a parking lot surface minimizes site heat gain, produces no hazardous pollution, and is a locally sourced material.

THE NEW ADDITION

Adimab's new addition uses wood, in the form of 'mass timber' for the structural system. Mass timber construction uses small pieces of wood, glued together to create large, strong timbers. The wood used for Adimab's structure was sourced from Quebec, processed into sheets, beams, and columns precisely cut for the building, and then trucked to the site for efficient assembly.

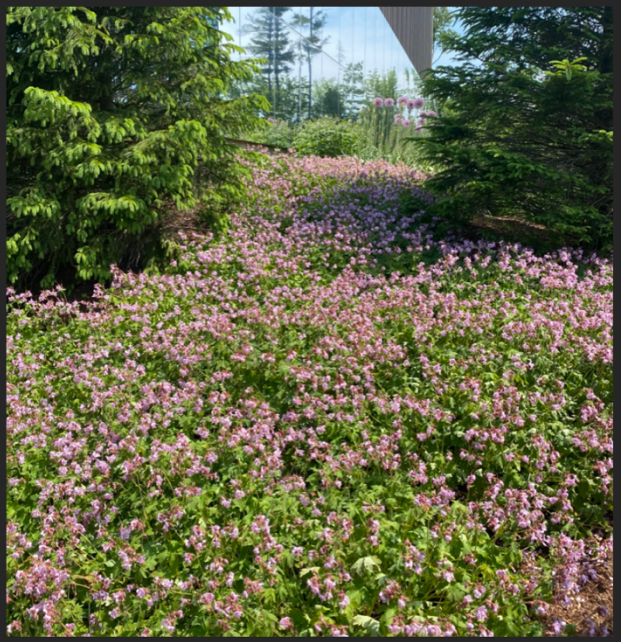
As a biotechnology company, Adimab has unique requirements for air filtering and changing to ensure a safe and comfortable interior environment. The new air handling systems are exceptionally resource efficient and maximize renewable energy use. Those systems are paired with a high-performance building 'envelope'. This envelope consists of a super-insulated and tightly air sealed building shell that works in tandem with the mechanical systems to allow for high efficiency heating and cooling, excellent user comfort, and minimal energy use.

Adimab's heating, cooling, and ventilation systems are highly energy efficient, supply 100% fresh air with minimal energy waste, use HEPA filtration for health and safety, and create far less combustion pollution than standard systems.

THE LANDSCAPE

Adimab's project is located in a forested wetland, and as such the addition's small footprint was designed to minimize impact on the natural area. A pedestrian footbridge delicately crosses the wetlands zone between the building and remote parking area. A design goal for the entire site was to minimize disturbance to the existing natural setting. For example, the working construction zone around the addition was limited to only 15 feet off the structure. All trees outside of that 15-foot zone were protected. During the design process of the pedestrian bridge, all trees were digitally mapped, and the resulting bridge was threaded through the trees. Adimab has a track record of valuing its landscape and has consistently invested in beautifying its land. Adimab currently has several garden areas with native species, as well as on-site employee-maintained vegetable gardens. Overall, the landscape design intent around the new building is to return the remaining forested land to a natural state using native species that benefit wildlife.

The landscape has been protected to limit the disruption of wildlife, to help shade the building from solar heat gain, to provide employees with lovely views of nature from within the building, and to remove the need for mowing and maintenance.







City of Lebanon, New Hampshire APPLICATION FOR WAIVERS

Office Use Only

Date Received: _____

File No.: _____

PROJECT INFORMATION

Name of Applicant: _____ Adimab
Project Name: _____ Adimab Addition
Project Address: _____ 7 Lucent Drive

WAIVER REGULATIONS

In order to grant a Waiver from a requirement of the City of Lebanon Site Plan Review or Subdivision Regulations, the Planning Board must find that the Waiver is justified under one of the following criteria (See Article VII of the Site Plan Review Regulations and Section 7.15 of the Subdivision Regulations):

Criteria A. Strict conformity would pose an unnecessary hardship to the Applicant and waiver would not be contrary to the spirit and intent of the regulations;

OR

Criteria B. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

WAIVER REQUEST(S)

I (we) hereby request a Waiver from:

[You can respond in the space provided, or attach a separate statement. Please be prepared to address each request during your public hearing. You must show that you have justified granting the Waiver(s).]

6.5 E 2

1. Section ____ of the (circle one) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (circle one) Criteria A / Criteria B because _____
See additional statement included in narrative.

2. Section ____ of the (circle one) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (circle one) Criteria A / Criteria B because _____

3. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

4. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

5. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

6. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

7. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

8. Section ____ of the (*circle one*) Site Plan Review / Subdivision Regulations. A Waiver of this Section meets (*circle one*) Criteria A / Criteria B because _____

SIGNATURE

I (we) hereby submit this application to the Planning Board and attest that to the best of my (our) knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As the applicant or as the agent of the applicant, I attest that I am duly authorized to act in this capacity.

Signature of Applicant:  Date: 02.12.24

S:\PLN\FORMS - APPLICATION\Planning Board Applications\WAIVER\Waiver Application.docx

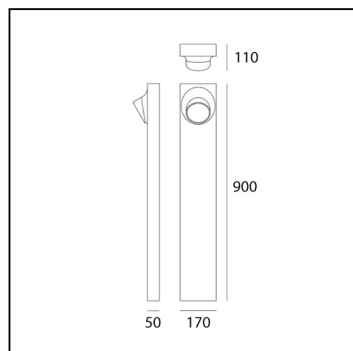
Ciclope Floor 90 Monolaterale

Anthracite gray

Alessandro Pedretti



IP65   



LUMINAIRE

- Power Supply: **Electronic**
- Watt: **6,5W**
- Voltage: **220-240V**
- Delivered lumen output: **383lm**
- CCT: **3000K**
- Efficiency: **64%**
- Efficacy: **63.79lm/W**
- CRI: **90**

DESCRIPTION

Lighting system with diffuse unilateral or bilateral emission, with high-performance LED light sources. Light emission is obtained by the combination of six monochromatic LED light sources, a reflector and an opaline diffuser. Floor, wall or recessed installation. Available in two finishes: light grey and rust painted.

FEATURES

- Product Code: **T081120**
- Colour: **Anthracite gray**
- Installation: **BollardFloor**
- Material: **Composite technopolymer, polycarbonate, steel, aluminum**
- Series: **Architectural Outdoor**
- Environment: **Outdoor**
- Area contract: **null, Outdoor, Residential**
- Emission: **Direct**
- design by: **Alessandro Pedretti**

DIMENSIONS

- Length: **170 mm**
- Width: **110 mm**
- Height: **900 mm**

SOURCES INCLUDED

- Category: **Led**
- Number: **1**
- Watt: **6,5W**
- Color temperature (K): **3000K**
- CRI: **80**

Application

Pole-top luminaire with adjustable, indirect light distribution. A symmetric distribution is produced when the top reflector is set in the horizontal position and becomes asymmetric when the reflector is adjusted from 0° to 30°.

Materials

Clear safety glass
Marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy
High temperature silicone gasket
Pure anodized aluminum reflector surface

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65

Weight: 33.0 lbs.

EPA (Effective projection area): 3.2 sq. ft.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	35.7 W
System wattage	43.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	1742 lm
LED service life (L70)	60000 hrs

LED color temperature

4000K (K4)
3500K (K35)
3000K (K3)
2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish

All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors

Black (BLK)	Bronze (BRZ)
Silver (SLV)	White (WHT)
RAL:	CUS:

Type:

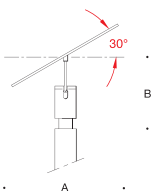
BEGA Product:

Project:

Modified:

Available options

CUS	Custom finish
MGU	Marine grade undercoat
RAL	RAL finish



Indirect pole-top luminaire · Adjustable

	LED	A	B
B77208	35.7 W	31 1/2	19 7/8

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
© copyright BEGA 2024 Updated 05/03/23

Application

Compact floodlight with mounting canopy and outrigger arm. Designed to illuminate architectural features and signage. Pair with a variety of optical accessories.

Materials

- Clear safety glass
- Marine grade, copper free ($\leq 0.3\%$ copper content) A360.0 aluminum alloy
- Mechanically captive stainless steel fasteners
- High temperature silicone gasket
- 304 stainless steel outrigger arm
- Pure anodized aluminum reflector

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65

Weight: 7.5 lbs.

EPA (Effective projection area): 0.6 sq. ft.

Electrical

- Operating voltage120-277VAC
- Minimum start temperature-30° C
- LED module wattage17.7 W
- System wattage21.0W
- Controllability0-10V, TRIAC, and ELV dimmable
- Color rendering indexRa > 80
- Luminaire lumens2135 lm
- LED service life (L70)60000 hrs

LED color temperature

- 4000K (K4)
- 3500K (K35)
- 3000K (K3)
- 2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish

All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors

- Black (BLK)

Silver (SLV)

RAL:
- Bronze (BRZ)

White (WHT)

CUS:

Type:

BEGA Product:

Project:

Modified:

Available options

- B70060

B70757

shield · 180°

CUS

FSC

MGU

RAL
- Elliptical spread lens

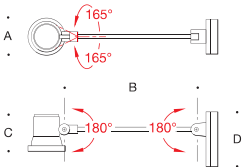
Glare

Custom finish

Fusing

Marine grade undercoat

RAL finish



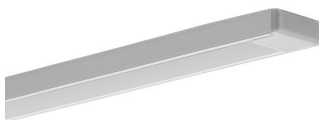
Compact floodlight · Wide beam

	LED	□	A	B	C	D
B77665	17.7 W	47°	6 1/4	27 1/2	6 1/2	7 1/2



BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

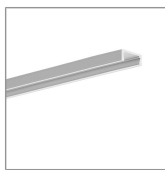
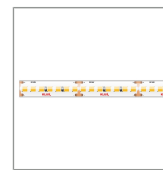
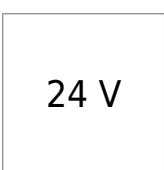
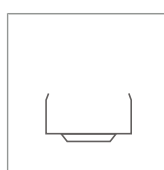
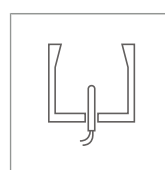
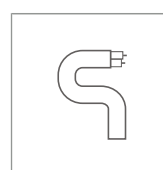
Due to the dynamic nature of lighting products and the associated technologies, luminaire data on this sheet is subject to change at the discretion of BEGA North America. For the most current technical data, please refer to bega-us.com
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MICRO-ALU Fixture

LED fixture number: B1888-A-FC-30-1910/1-24-TBD-SS-72-IP67

Power supply **ULTRA Series**

IP rating  IP67	Fixture  MICRO-ALU Extrusion	Finish  Silver anodized	Cover  HS Cover frosted	LED color  3000 K	LED output  MEDIUM -259lm/ft 1910/1
input voltage  24 V	Length  TBD to be determined	Mounting  SS	Wire lead  Wire out back of extrusion	length of wire lead  Wet Rated 72"	

CERTIFIED NOTIFICATION LIST

THE CITY OF LEBANON IS REQUIRED UNDER NH RSA 672:3 TO NOTIFY THE FOLLOWING PERSONS OF PUBLIC HEARINGS BEFORE THE PLANNING BOARD: ALL ABUTTERS; THE APPLICANT; PROPERTY OWNER; HOLDER OF CONSERVATION, PRESERVATION, OR AGRICULTURAL PRESERVATION RESTRICTION(S); AND EVERY ENGINEER, ARCHITECT, LAND SURVEYOR, OR SOIL SCIENTIST WHOSE PROFESSIONAL SEAL APPEARS ON ANY PLAT SUBMITTED TO THE BOARD.

PLEASE PROVIDE NAMES & MAILING ADDRESSES FOR ALL PERSONS LISTED ABOVE.

MAP & LOT NUMBER: <u>10-11-2600</u>	MAP & LOT NUMBER: <u>10-11-2600</u>
PROPERTY OWNER: Adimab 7 Lucent Drive Lebanon, NH 03766	APPLICANT: Adimab 7 Lucent Drive Lebanon, NH 03766
MAP & LOT NUMBER: <u>10-10</u>	MAP & LOT NUMBER: <u>10-11-2500</u>
ABUTTER/OTHER: The Hitchcok Clinic One Medical Center Drive Lebanon, NH 03766	ABUTTER/OTHER: 37 Lafayette Centerra LLC 7 Lucent Drive Lebanon, NH 03766
MAP & LOT NUMBER: <u>10-11-2100</u>	MAP & LOT NUMBER: <u>10-11-2700</u>
ABUTTER/OTHER: 11 Lafayette Centerra LLC 7 Lucent Drive Lebanon, NH 03766	ABUTTER/OTHER: Luminescents Systems INC 4 Lucent Drive Lebanon, NH 03766
MAP & LOT NUMBER: <u>10-11-2300</u>	MAP & LOT NUMBER: _____
ABUTTER/OTHER: Centerratech LLC 46 Centerra Pkwy Rm 310 Lebanon, NH 03766	ABUTTER/OTHER: Singletree Engineering LLC 790 White Rd Corinth, VT 05039-9415
MAP & LOT NUMBER: _____	MAP & LOT NUMBER: <u>10-11-3400</u>
ABUTTER/OTHER: Christopher T. Smith, AIA 248 Hogback Road Norwich VT 05055	ABUTTER/OTHER: HOCO C LLC 46 Centerra Pkwy Rm 310 Lebanon, NH 03766
MAP & LOT NUMBER: _____	MAP & LOT NUMBER: _____
ABUTTER/OTHER:	ABUTTER/OTHER:

SITE PLAN REVIEW		
TOTAL DUE AT TIME OF FILING		\$
**Engineering Review fees will also be required. See note on page 2.		

SITE PLAN REVIEW AMENDMENT (WITH STRUCTURAL CHANGES)		
		TOTALS
FILING FEE	\$250.00	\$250.00
SQUARE FOOTAGE	\$75.00 per 1,000 sq. ft. (gross floor area)	
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note below)	\$5.00 + Current USPS rate per certified notice (see below) X _____ notices	\$5.00 \$ _____ (abutter certified)
TOTAL DUE AT TIME OF FILING		\$
**Engineering Review fees may also be required. See note below.		

OTHER		
-SITE PLAN REVIEW AMENDMENT (WITH NO STRUCTURAL CHANGES)		
-EXTENSION REQUESTS		
-CONDITIONAL USE PERMITS <i>Adimab PB2024-10-SPA</i>		
		TOTALS
FILING FEE	\$250.00	\$250.00
ADVERTISING FEE	\$100.00	\$100.00
NOTIFICATION FEE (see note below)	\$5.00 + Current USPS rate per certified notice (see below) X <u>9</u> notices	\$5.00 \$ <u>45.36</u> (abutter certified)
TOTAL DUE AT TIME OF FILING		\$ <u>400.36</u> <i>PA</i>
**Engineering Review fees may also be required. See note below.		

MINOR SITE PLAN REVIEW		
		TOTALS
FILING FEE	\$150.00	\$150.00
NOTIFICATION FEE (see note below)	Current USPS rate per certified notice (see below) X _____ notices	\$ _____ (abutter certified)
TOTAL DUE		\$

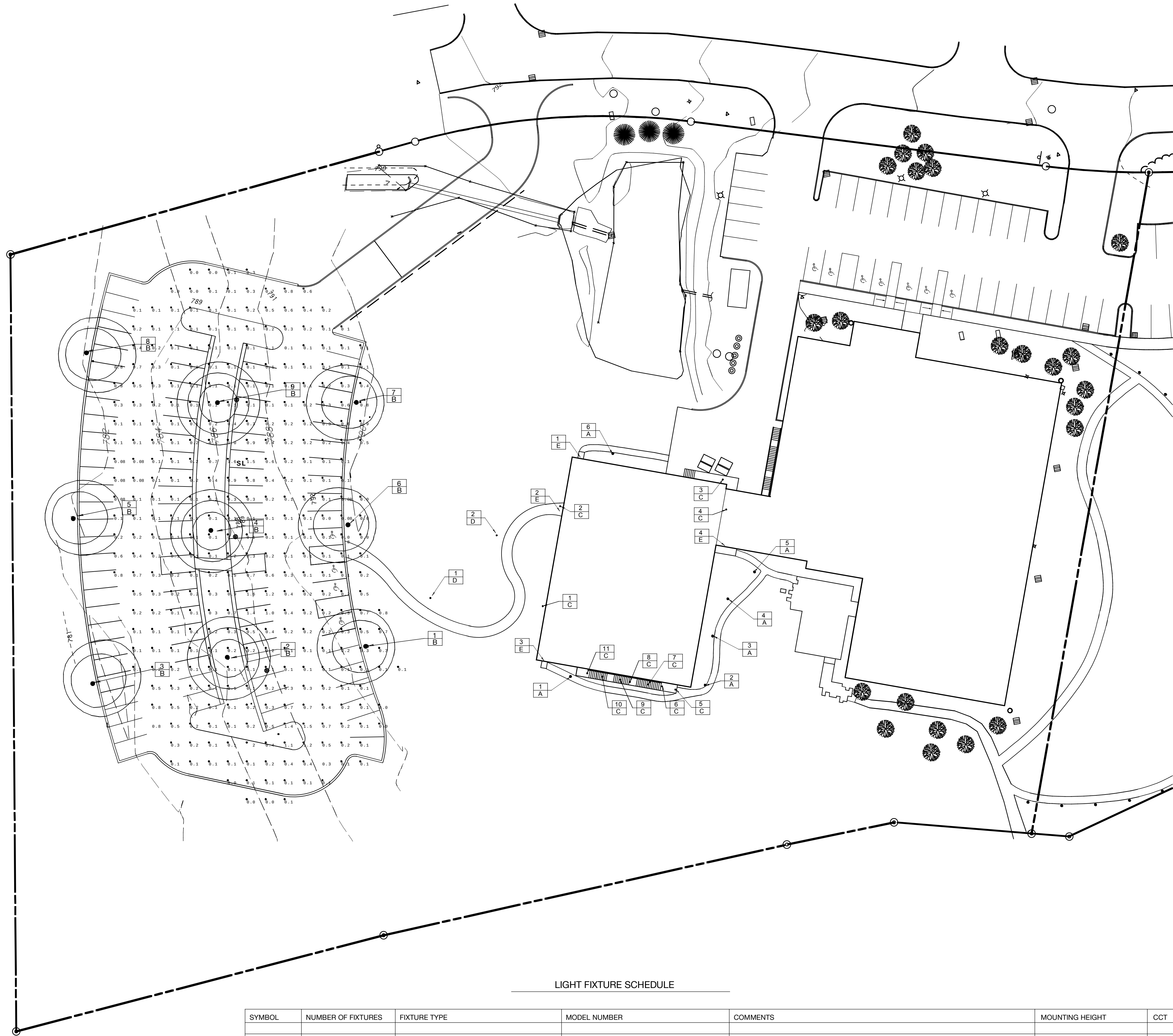
ENGINEERING REVIEW FEES:

After an application to the Planning Board is submitted and the filing fees identified above have been paid, the Planning & Development Department will determine the scope of required engineering review and will obtain an estimated cost from the reviewing engineer. A cost estimate of the review fees will usually be generated within two (2) – three (3) business days. Once conveyed to the applicant, the estimated review fees shall be paid by the applicant within five (5) business days, and an escrow account shall be established by the Planning & Development Department. No plans will be reviewed unless and until the review fee estimate is paid, if required.

Please note that escrow fees are only an estimate of what services will cost and actual costs of review may be less or more than the amount initially estimated. Any unused portion of the escrow will be returned to the applicant at the end of the approval process if such a surplus remains. Additionally, in the event the escrow amount does not cover the full cost of services the Applicant shall pay any remaining costs as a condition of approval. See also Section 4.7 of the Site Plan Review Regulations and Section 7.7 of the Subdivision Regulations.

NOTIFICATION FEE: CURRENT FEE as of January 2024 is \$5.04 per certified notice

THE CERTIFIED NOTIFICATION FEE IN ALL SECTIONS ABOVE INCLUDES THE FOLLOWING: ALL ABUTTERS, THE APPLICANT, PROPERTY OWNER, HOLDER OF CONSERVATION, PRESERVATION, OR AGRICULTURAL PRESERVATION RESTRICTION(S); AND EVERY ENGINEER, ARCHITECT, LAND SURVEYOR OR SOIL SCIENTIST WHOSE PROFESSIONAL SEAL APPEARS ON ANY PLAT SUBMITTED TO THE BOARD AND ANY OTHER PERSONS REQUIRED BY RSA 676:4, I(d).



- 3 SAME COUNT, RELOCATED
- 3 NEW FIXTURES
- 3 NEW FIXTURES
- 3 NEW FIXTURES

LIGHT FIXTURE SCHEDULE

SYMBOL	NUMBER OF FIXTURES	FIXTURE TYPE	MODEL NUMBER	COMMENTS	MOUNTING HEIGHT	CCT	WATTAGE
A	6	34" H. GROUND MOUNT EGRESS PATH LIGHT	ARTIMEDE ATDY10420 LED		GROUND / 34"	3000	6
B	9	POLE MOUNT PARKING DOWN LIGHT	BEGA LIGHTING 77 208 K3	16" POLE SETBACK A MINIMUM OF 48" FROM BOUNDARY	16'	3000	42.6
C	11	ROOF MOUNT EGRESS LIGHT	BEGA LIGHTING 77 665	CODES / FIRE DEPARTMENT REQUIREMENT 1.0 FC AT PATHS, 10.0 FC AT STAIRS	ROOF, 35'- 40' ABOVE GRADE	3000	17.7
D	2	TREE MOUNT EGRESS LIGHT	HUNZA LIGHTING TMLD10EBK383000	CODES / FIRE DEPARTMENT REQUIREMENT 1.0 FC AT PATHS	16'	3000	6
E	4	LED STRIP LIGHT AT EGRESS DOORS	KLUS B888-A-FC-30-1910/1-24-TBD-SS-72-IP67	LED STRIP DOOR LIGHTS 8W AT N + S, 22W AT WEST, 28W AT SOUTH CONNECTOR DOOR	DOOR, 7'-16' ABOVE GRADE	3000	8 TO 25

LIGHTING NOTES

LIGHTING INSTALLATIONS SHALL INCLUDE TIMERS, DIMMERS, SENSORS, AND / OR OTHER ENERGY-
SAVING TECHNOLOGIES TO REDUCE OVERALL ENERGY CONSUMPTION. NON-ESSENTIAL LIGHTING SHALL
BE TURNED OFF OR REDUCED AFTER NORMAL BUSINESS HOURS, LEAVING ONLY NECESSARY LIGHTING
FOR SECURITY PURPOSES. (NON-ESSENTIAL LIGHTING INCLUDES, BUT MAY NOT BE LIMITED TO, DISPLAY,
AESTHETIC, PARKING, AND / OR SIGN LIGHTING AS DETERMINED BY THE BOARD.)

LIGHT FIXTURES SHALL BE ENERGY EFFICIENT LED TYPE FIXTURES.

LIGHTING LEVELS: AVERAGE = 0.25, MAXIMUM = 1.6, MINIMUM = 0.08, AVERAGE / MINIMUM RATIO = 3.125

ADIMAB
7 Lucent Drive
Lebanon, NH 03766
603.643.7110

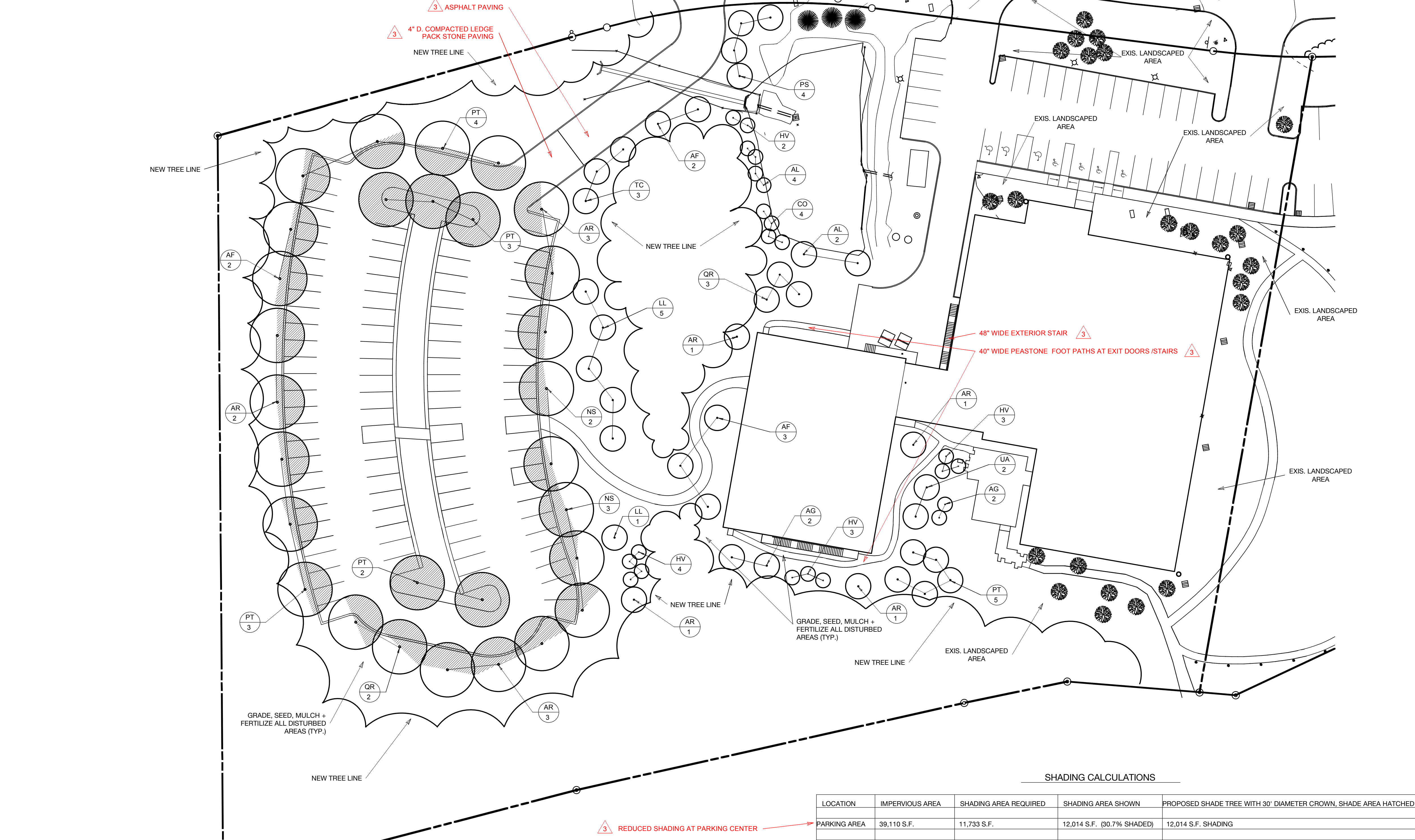
Revision #/Date:
#1 19 MAY 2020
#2 02 APR 2024

scale: 1" = 30'-0"
Sheet Title
SITE LIGHTING PLAN

Date: 06 MAR 2020
Sheet No.

SL-1

SITE LIGHTING PLAN



SHADING CALCULATIONS				
LOCATION	IMPERVIOUS AREA	SHADING AREA REQUIRED	SHADING AREA SHOWN	PROPOSED SHADE TREE WITH 30' DIAMETER CROWN, SHADE AREA HATCHED
PARKING AREA	39,110 S.F.	11,733 S.F.	12,014 S.F. (30.7% SHADED)	12,014 S.F. SHADING

LANDSCAPING SCHEDULE

KEY (TREES)	QUANTITY	COMMON NAME	BOTANICAL NAME	SIZE
PT	17	QUAKING ASPEN	POPULUS TREMULOIDES	2 1/2"-3" CAL. BALL & BURLAP
AF	7	FREEMAN MAPLE	ACER FREEMANII "AUTUMN BLAZE"	2 1/2"-3" CAL. BALL & BURLAP
UA	2	ELM	ULMUS AMERICANA "PRINCETON"	2 1/2"-3" CAL. BALL & BURLAP
AR	12	RED MAPLE	ACER RUBRUM "RED SUNSET"	2 1/2"-3" CAL. BALL & BURLAP
TC	3	CANADIAN HEMLOCK	TSUGA CANADENSIS	2 1/2"-3" CAL. BALL & BURLAP
AG	6	SERVICEBERRY	AMELANCHIER GRANDIFLORA	2 1/2"-3" CAL. BALL & BURLAP
QR	5	RED OAK	QUERCUS RUBRA	2 1/2"-3" CAL. BALL & BURLAP
NS	5	TUPELO	NYSSA SYLVATICA	2 1/2"-3" CAL. BALL & BURLAP
LL	6	TAMARACK	LARIX LARICINIA	2 1/2"-3" CAL. BALL & BURLAP
AL	6	SPECKLED ALDER	ALNUS RUGOSA	2 1/2"-3" CAL. BALL & BURLAP
PS	4	WHITE PINE	PINUS STROBUS	2 1/2"-3" CAL. BALL & BURLAP

INCREASED TREE COUNT FROM (30) TO (73), SPECIES CHANGE

LANDSCAPING NOTES

PERIMETER LANDSCAPING, A WAIVER FROM SECTION 6.2.B HAS BEEN REQUESTED. THE INTENT IS TO LEAVE EXISTING TREES AND VEGETATION AS-IS IN ALL AREAS EXCEPT THE NEW PARKING AREA AND BUILDING ADDITION.

ALL NEW PLANT MATERIAL SHALL BE NURSERY GROWN STOCK.

AT THE TIME OF PLANTING, ALL DECIDUOUS TREES SHALL BE A MINIMUM 2.5 TO 3 INCHES IN CALIPER, MEASURED 6 INCHES ABOVE THE FINISH GRADE LEVEL; ALL EVERGREEN TREES SHALL BE A MINIMUM OF 6 TO 7 FEET IN HEIGHT.

SHRUBS SHALL BE PLANTED AS A MIX, RANGING FROM 50% TO 70% FLOWERING, WITH THE REMAINDER BEING EVERGREEN. AT THE TIME OF PLANTING, ALL SHRUBS WHETHER DECIDUOUS OR EVERGREEN, SHALL BE 24 TO 30 INCHES IN HEIGHT AND / OR 18 TO 24 INCHES IN SPREAD.

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTAINING ALL LANDSCAPING, TO INCLUDE GRASS AND MULCH, IN GOOD, HEALTHY CONDITION SO AS TO PRESENT A NEAT AND ORDERLY APPEARANCE. THE PROPERTY OWNER SHALL REPLACE ANY UNHEALTHY OR DEAD PLANT MATERIALS IN CONFORMANCE WITH THE LANDSCAPE PLAN APPROVED BY THE BOARD AS PART OF THE SITE PLAN.

GRADED AREAS SHALL BE VEGETATED TO INSURE EROSION CONTROL BY SEEDING, MULCHING AND FERTILIZING. DISTURBED AREAS SHALL BE PLANTED WITH SUITABLE PLANT MATERIALS.

GRADING SHAL NOT EXCEED A RATIO OF 3 HORIZONTAL TO 1 VERTICAL WITHOUT SPECIAL EROSION CONTROL MEASURES. NETTING OR SIMILAR MATERIAL SHALL BE PROVIDED ON SLOPES WITH A RATIO GREATER THAN 3:1 WHILE GROUND COVER IS BEING ESTABLISHED.

AFTER THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY, THE STORAGE, DISPLAY, OR PARKING OF MOTOR VEHICLES, BOATS, MOBILE HOMES, TRAILERS, OR CONSTRUCTION EQUIPMENT WITHIN LANDSCAPED AREAS, BUFFERS, OR SCREENS, SHOWN AS SUCH ON THE APPROVED LANDSCAPE PLAN, IS EXPRESSLY PROHIBITED AND A VIOLATION OF THE NOTICE OF ACTION.



CITY OF LEBANON ~ PLANNING & DEVELOPMENT

PLANNING BOARD

May 13, 2024 Meeting

Staff Memorandum – PB2024-17-BLA

APPLICATION INFORMATION

Agenda Item: 3.C

Application ID: PB2024-17-BLA

Application Type:
Boundary Line Adjustment

Property Location & Tax Map:

- 25 Labombard Road (Tax Map 64, Lot 25)
- 33 Labombard Road (Tax Map 51, Lot 15)

Applicants/Property Owners:

The Notch Climbing Real Estate, LLC & Chaloux Properties, LLC

Property Sizes (existing):

- 25 Labombard Road (Tax Map 64, Lot 25): +/-2.01 acres *per boundary line adjustment plat*
- 33 Labombard Road (Tax Map 51, Lot 15): +/-3.39 acres *per boundary line adjustment plat*

Property Sizes (proposed):

- 25 Labombard Road (Tax Map 64, Lot 25): +/-2.85 acres *per boundary line adjustment plat*
- 33 Labombard Road (Tax Map 51, Lot 15): +/-2.55 acres *per boundary line adjustment plat*

Zoning District:

Light Industrial (IND-L)

Zoning Overlay District(s):

- Wetlands Conservation District

LEGAL NOTICE

The Notch Climbing Real Estate, LLC & Chaloux Properties, LLC, 33 & 25 Labombard Road (Tax Map 51, Lot 15, and Tax Map 64, Lot 25, zoned IND-L: Request for approval of a Boundary Line Adjustment. PB2024-17-BLA

PLANS AND APPLICATION MATERIALS

- ▶ Application forms (2 pages)
- ▶ Letter dated April 4, 2024, from Noah Lynd and Josh Garrison (project description; 1 page)
- ▶ Fee Schedule (1 page)
- ▶ Subdivision Regulations - Technical Checklist, dated 4/4/24 (3 pages)
- ▶ Public hearing notification list (1 page)
- ▶ Plat titled "Boundary Line Adjustment Plat, Lands of Chaloux Properties, LLC," prepared by Latitudes Land Surveying, dated January 20, 2022, Project #2210.

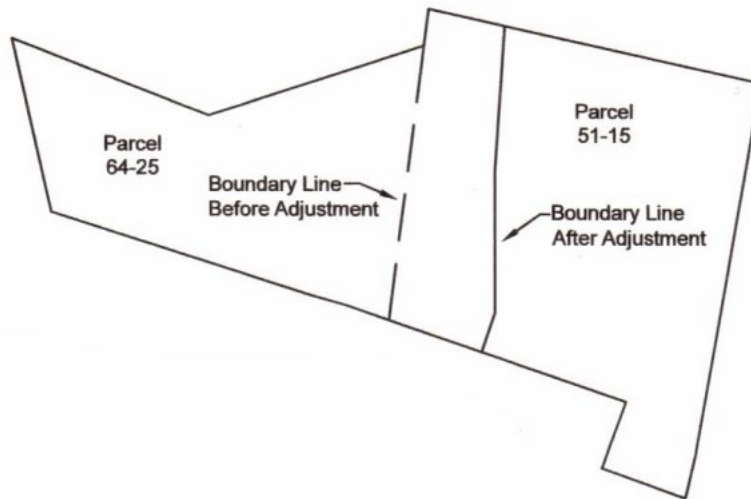
COMPLETENESS REVIEW

This application has been reviewed in accordance with the Lebanon Subdivision Regulations. The Planning and Development Department recommends that the Board find that the application is complete enough to accept jurisdiction and to commence review.

APPLICATION OVERVIEW

This is a request for a Boundary Line Adjustment between lands located at 25 Labombard Road (Tax Map 64, Lot 25) and 0 Labombard Road (now 33 Labombard Road) (Tax Map 51, Lot 15). As proposed, the changes resulting from the Boundary Line Adjustment are as follows:

- ▶ Map/Lot 64-25 will increase by a net of +/-0.84 acres, from +/-2.01 acres to +/-2.85 acres.
- ▶ Map/Lot 51-15 will decrease by a net of +/-0.84 acres, from +/-3.39 acres to +/-2.55 acres.

**STAFF COMMENTS****ASSESSING**

No comment provided.

BUILDING INSPECTION

No comment provided.

FIRE

The Lebanon Fire Department has reviewed this application and has no fire code related concerns.

POLICE

No comment provided.

PUBLIC WORKS/CITY ENGINEER

No comment.

PLANNING

- An identical request was approved by the Planning Board on February 23, 2022 (PB2022-04-BLA). However, the applicant recorded the plat without the Planning Board Chair's signature in violation of Section 7.11 of the Subdivision Regulations. As such, the plat was recorded "illegally," which was only discovered by staff in March of this year. Section 7.12.B provides that the Board's approval "shall be considered void unless [...] the plat has been recorded in the Registry of Deeds, within two (2) years from the date of the Notice of Action[.]" Here, because the plat approved on February 23, 2022 was not (legally) recorded within two (2) years, the Board's approval automatically expired by virtue of Section 7.12.B. Consequently, a new application is required (Note that the Planning Board is authorized to grant an extension provided the extension request is submitted prior to the expiration date – see Section 7.12.C).
- The original boundary line adjustment plat (PB2022-04-BLA) was approved in connection with the development of a climbing gym on 33 Labombard Road, which is currently under construction. Condition of Approval #1 for the climbing gym site plan approval (as set forth on the Board's

Notice of Action dated February 23, 2022 for PB2022-05-SPR) required the Boundary Line Adjustment plat approved by the Planning Board on February 23, 2022 to be recorded prior to submitting a building permit application for the climbing gym project. Consequently, the applicant is technically in violation of the site plan approval since the Boundary Line Adjustment plat was not legally recorded prior to the submission of a building permit application. Therefore, since construction of the gym is well underway, staff recommends that the applicant satisfy the conditions of approval and that the plat is recorded within a relatively short period of time in order to resolved the site plan violation as expeditiously as possible (see staff recommendations below).

- As an aside, prompted by questions from the applicant, staff has discovered some anomalies in the Subdivision Regulations relative the procedural and submission requirements for boundary line adjustments. For example, while a public hearing is not required for a boundary line adjustment application, the plat still must be approved by the Board at a public meeting upon receipt of a complete application (see Section 8.1.A). Requiring a public hearing confers certain rights on abutters and other interested parties, but aside from that there is no practical difference between requiring a public hearing on the one hand and following the BLA approval procedures as currently set forth in the Subdivision Regulations on the other hand. As a future work session item, staff recommends that the Board review the BLA procedural and submission requirements and evaluate the need for updating/amending.

ZONING

Both lots currently conform to the applicable minimum lot sizes and dimensional requirements as set forth in the Zoning Ordinance and will continue to after reconfiguration.

STAFF RECOMMENDATIONS

If the Board moves to approve this application, then based on the information reviewed by City staff, the Planning and Development Department recommends that the Board approve the application with the following conditions:

A. General Conditions

1. This approval shall be considered void unless all conditions precedent are met and the plat is recorded in the Registry of Deeds within two (2) years from the date of the Notice of Action (Section 7.12.B). The plat shall be recorded by the Planning & Development Department in accordance with Planning & Development Department recording procedures.
2. This approval shall automatically expire and be considered void upon failure to meet any of the conditions of approval set forth herein within the timeframes specified.

B. Conditions to be Satisfied Prior to the Signing and Recording of the Plat

1. Within 20 days of the issuance of the Notice of Action, the applicant shall provide a revised plat depicting the following changes to the satisfaction of the Planning & Development Department:
 - a. Update the name of the property owner of Tax Map 51, Lot 15 to "The Notch Climbing Real Estate, LLC," and update plat throughout as needed including but not limited to the deed reference for Tax Map 51, Lot 15 and Note 1.
 - b. Correct misspelling of "public" in Note 8.
 - c. Retitle the plat to include the names of the owners of both lots. (8.2.A.8)
 - d. Provide the date and description of the plat revisions. (8.2.A.1)

2. Within 20 days of the issuance of the Notice of Action, the applicant shall provide to the City draft copies of the deeds of the land transfer for review to ensure the transfer will be completed properly for Assessing and recording purposes.
3. Within 45 days of the issuance of the Notice of Action, the applicant shall provide a digital record drawing of the revised plat (Cad .dwg format using NH State Plane Coordinate system or an alternative approved by the City's GIS Coordinator).
4. Within 45 days of the issuance of the Notice of Action, the applicant shall submit two (2) mylars of the approved plat and applicable recording fees to the Planning & Development Department in accordance with Planning & Development Department recording procedures. (8.1.D & 7.11)
5. Within 45 days of the issuance of the Notice of Action, the applicant shall submit the executed deeds of the land transfer together with applicable recording fees to the Planning & Development Department to be recorded contemporaneously with the plat.

Attachments

cc: The Notch Climbing Real Estate, LLC
Chaloux Properties, LLC
File

APPLICATION FOR

SPECIAL EXCEPTION	☐	☐	SITE PLAN REVIEW
VARIANCE	☐	☐	SUBDIVISION
MOTION FOR REHEARING	☐	☒	LOT LINE ADJUSTMENT
APPEAL OF AN ADMIN. DECISION	☐	☐	CONDITIONAL USE PERMIT

☐ OTHER _____

PROPERTY OWNER (APPLICANT):

NAME: The Notch Climbing Real Estate, LLC TEL.#: 603-252-0367

MAILING ADDRESS: PO Box 302 Meriden, NH 03770

E-MAIL ADDRESS: noah.lynd40@gmail.com

CO-APPLICANT, AGENT, OR LESSEE:

NAME: TEL.#:

MAILING ADDRESS:

E-MAIL ADDRESS:

PROJECT LOCATION: 64-25 + 51-15

TAX MAP #: 64-25 and 51-15 LOT#: PLOT #: ZONE: IND-L

STREET ADDRESS OF PROJECT: LaBombard Rd. 33 + 25 LaBombard Rd.

IS THIS PROPERTY LOCATED IN THE: **WETLANDS** ☒ YES ☐ NO **HISTORIC DISTRICT** ☐ YES ☐ NO
FLOOD PLAIN ☐ YES ☐ NO

SCOPE OF PROJECT: Boundary Line Adjustment

Reapproval of Boundary Line Adj.
2 lots to 2 lots

TYPE OF OCCUPANCY:

EXISTING ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
PROPOSED ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
IF USE IS **COMMERCIAL** OR **INDUSTRIAL**, PLEASE NOTE **SPECIFIC**
USE: Climbing Gym

SIGNATURE BLOCK: [Signature]

FOR PLANNING BOARD APPLICATIONS ONLY: I, the undersigned, hereby submit this application on the date noted below with the knowledge and understanding that the Planning Board shall determine if the submitted application is complete according to its regulations at its next regularly scheduled meeting on May 13, 2024, unless I personally request, in writing, that the Board delay its determination of completeness to a later date.

PROPERTY OWNER: [Signature] DATE: 4/8/2024

NOTE: IF, AS OWNER, YOU WISH TO DESIGNATE AN AGENT TO ACT ON YOUR BEHALF, PLEASE READ THE FOLLOWING AND SIGN BELOW: I hereby designate the person listed above as my agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by any official decision made on the basis of such representation.

PROPERTY OWNER: DATE:

DATE RECEIVED	FILE # (MAP/LOT)	APPLICATION #	
4/8/2024	64-25 + 51-15	PB2024-17-BLA	

CITY OF LEBANON APPLICATION FOR

SPECIAL EXCEPTION	☐	☐	SITE PLAN REVIEW
VARIANCE	☐	☐	SUBDIVISION
MOTION FOR REHEARING	☐	☒	LOT LINE ADJUSTMENT
APPEAL OF AN ADMIN. DECISION	☐	☐	CONDITIONAL USE PERMIT

☐ OTHER _____

PROPERTY OWNER (APPLICANT):

NAME: Chaioxx Properties LLC TEL.#: 603 252 5974

MAILING ADDRESS: PO Box 4430 Manchester, NH 03108

E-MAIL ADDRESS: jay.campion@gmail.com

CO-APPLICANT, AGENT, OR LESSEE:

NAME: The Notch Climbing Real Estate, LLC TEL.#: 603-252-0367

MAILING ADDRESS: PO Box 302, Meriden, NH 03770

E-MAIL ADDRESS: noah.lynd40@gmail.com

PROJECT LOCATION:

TAX MAP #: 64-25 and 51-15 LOT#: _____ PLOT #: _____ ZONE: IND-L

STREET ADDRESS OF PROJECT: _____

IS THIS PROPERTY LOCATED IN THE: **WETLANDS** ☒ YES ☐ NO **HISTORIC DISTRICT** ☐ YES ☐ NO
FLOOD PLAIN ☐ YES ☐ NO

SCOPE OF PROJECT: Boundary Line Adjustment

TYPE OF OCCUPANCY:

EXISTING ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
PROPOSED ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL

IF USE IS COMMERCIAL OR INDUSTRIAL, PLEASE NOTE SPECIFIC

USE: Climbing Gym

SIGNATURE BLOCK: X

FOR PLANNING BOARD APPLICATIONS ONLY: I, the undersigned, hereby submit this application on the date noted below with the knowledge and understanding that the Planning Board shall determine if the submitted application is complete according to its regulations at its next regularly scheduled meeting on May 13, 2024, unless I personally request, in writing, that the Board delay its determination of completeness to a later date.

PROPERTY OWNER: X

DATE: X 4/8/24

NOTE: IF, AS OWNER, YOU WISH TO DESIGNATE AN AGENT TO ACT ON YOUR BEHALF, PLEASE READ THE FOLLOWING AND SIGN BELOW: I hereby designate the person listed above as my agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by any official decision made on the basis of such representation.

PROPERTY OWNER: _____

DATE: _____

DATE RECEIVED	FILE # (MAP/LOT)	APPLICATION #	FEE - \$ AMOUNT	DATE PAID	VOUCHER #

April 4, 2024

Lebanon Planning Board
City of Lebanon
51 North Park Street
Lebanon, NH
03766

Re: The Notch Climbing Gym
LaBombard Rd.
Subject parcels 64-25 and 51-15
IND-L Zone
Boundary Line Adjustment Request

Dear Lebanon Planning Board,

As a part of the above referenced project, we applied for and received approval for a lot line adjustment in February 2022. We regret that the approved plan was not properly recorded with the City of Lebanon and that the deadline to apply for an extension has passed. As such, we are resubmitting the same plan that has previously been approved by the Planning Board with the intention to make sure the final plan is properly recorded with the City.

Project Description:

The Notch Climbing Gym will be a 10,000 sq ft building with a 2,500 sq ft mezzanine. Improvements to the property will include this building as well as a parking lot and access road. The site plan was approved by the Planning Board in February of 2022.

Sincerely,
Noah Lynd and Josh Garrison

Fee Schedule:

Filing fee: \$25

Advertising fee: \$100

Notification fee: $17 \times \$5.04 = \85.68

Total fees: \$210.68

CITY OF LEBANON, NH SUBDIVISION REGULATIONS – TECHNICAL CHECKLIST MINOR LOT LINE ADJUSTMENT / BOUNDARY LINE AGREEMENT	
PROJECT NAME: The Notch Climbing Gym	
APPLICANT: The Notch Climbing Real Estate, LLC	DATE: 04/04/2024
GENERAL SUBMISSION REQUIREMENTS:	

All applications to the Planning Board for Subdivision Review must be submitted by 12:00 Noon on the day of the filing cutoff. [§7.7.C] Submissions must be accompanied by the following information or review of the application may be delayed:

- ☒ A properly completed and signed Application Form. [§7.7.A(1)]
- ☒ The appropriate filing fees. [§7.7.A(2)]
- ☒ A written project description. [§7.7.A(3)]
- ☒ A list of the names and mailing addresses of all persons to be notified, by certified mail, of the public hearing. [§7.7.A(4)]
- ☒ A completed and signed Technical Checklist. [§7.7.B]
[Applicants must complete the entire checklist to ensure that all necessary information and materials have been provided with the application or that written requests for waivers have been properly provided in accordance with Section 7.15 of the Subdivision Regulations, as appropriate.]
- ☐ Eight (8) sets of project plans to be distributed for Staff Review. [§8.2.A]
[A Staff Review meeting is held at City Hall one (1) week following the cutoff date. Staff Review meetings begin at 2:00PM, unless otherwise noted. All revised and/or additional information or materials must be submitted within one (1) week following the Staff Review meeting.]
- ☒ A digital copy of Subdivision plan in .PDF format. [§8.2.B]

See note
on page 3

NOTE: Applications shall contain sufficient information to enable the City Staff and the Planning Board to evaluate the proposed development for compliance with the Zoning Ordinance, the Planning Board's Regulations, and other applicable City Codes, and for the Planning Board to make an informed decision.

All required application materials shall be submitted as a single inclusive package, including any appropriate waiver requests as permitted by the Regulations. Submission of a complete application package ensures that the review process by City Staff is as efficient and effective as possible.

The purpose of the filing deadline is to provide adequate time for City review of the proposal. Submission of any altered, additional, or substitute application materials required by the Regulations, subsequent to the filing deadline, other than as directed by City Staff, shall cause the application to be deemed untimely filed, and such application shall not be heard until a subsequent month.

CITY OF LEBANON, NH
SUBDIVISION REGULATIONS - TECHNICAL CHECKLIST
MINOR LOT LINE ADJUSTMENT / BOUNDARY LINE AGREEMENT

PLAN SUBMITTAL TECHNICAL CHECKLIST:

NOTE: Minor Lot Line Adjustment / Boundary Line Agreement plans shall include the information described below pursuant to Section 8 of the Lebanon Subdivision Regulations. Plans shall be submitted on sheets no larger than 24" x 36". Plan sets with multiple sheets shall include sheets of uniform size and be bound on the left edge. When more than three (3) sheets are required, an additional cover sheet shall be attached including a table of contents. The scale of the plans shall be appropriate to the size of the overall development. All lettering shall be of a size and type that is legible.

In order to facilitate the use of the City's Geographic Information System (GIS) for planning purposes, all surveys and engineered plans submitted for Subdivision Review shall utilize the NH State Plane Coordinate system and shall reference the North American Vertical Datum of 1988 (NAVD 88), unless prior approval to use an alternate coordinate system and/or vertical datum is granted by the Planning Office.

A written request for waiver shall be required, pursuant to Section 7.15 of the Subdivision Regulations, for any submission requirement for which the information or data is not provided by the applicant. [§8.2.C]

Plan Requirements	Info. Provided	Waiver Sought
8.2.A(1) - - Name of the City and County in which the subdivision is proposed; - A Locus map; - North arrow; - Scale of the plat; - Date of the plat and of any revisions to the plat; (NOTE: The date on the plat at the time of initial submission for application review shall be included on all subsequent submissions to the City. Any subsequent change(s) to the plat shall include a revision date and description of the revision(s).)	☒ ☒ ☒ ☒ ☒	☐ ☐ ☐ ☐ ☐
8.2.A(2) - Names and mailing addresses of Applicant(s); Owner(s) of Record of subject properties; Owners of abutting properties, including tax map and lot references; and Holders of any easements, rights-of-way, or other restrictions.	☒	☐
8.2.A(3) - Names and business addresses of the surveyor, including license number and seal, and of every engineer, architect, soil scientist, or wetlands scientist whose professional seal appears on any plan or document submitted to the Board.	☒	☐
8.2.A(4) - Zoning District in which the subject lots are located, including district boundaries if in more than one district.	☒	☐
8.2.A(5) - Location of all existing structures on the subject lots.	☒	☐
8.2.A(6) - Site location map showing the original boundaries of the subject lots and adjacent lots.	☒	☐
8.2.A(7) - The new surveyed property line(s) as a result of the application, including bearings and distances, as determined by an actual field survey by a licensed land surveyor, including the date of the completion of the survey. All dimensions shall be shown in feet and decimals, and the area of the altered lots shall be shown in square feet and acres.	☒	☐

CITY OF LEBANON, NH
SUBDIVISION REGULATIONS - TECHNICAL CHECKLIST
MINOR LOT LINE ADJUSTMENT / BOUNDARY LINE AGREEMENT

Plan Requirements (cont.)	Info. Provided	Waiver Sought
8.2.A(8) - The plat shall be titled to include the names of the owners of all lots altered by the application.	☒	☐
8.2.A(9) - A statement shall be placed on the plat as follows: "This plan shows Minor Lot Line Adjustments / Boundary Line Agreements and does not require the approval of the Lebanon Planning Board as a subdivision."	☒	☐

NOTE: THE APPLICANT IS RESPONSIBLE FOR PROVIDING THE REQUIRED INFORMATION PURSUANT TO SECTION 8 OF THE SUBDIVISION REGULATIONS. PLEASE BE AWARE THAT THIS CHECKLIST IS FOR INFORMATION AND GUIDANCE ONLY AND DOES NOT REPRESENT THE LAW DICTATING SUBMITTAL REQUIREMENTS NOR IS IT COMPLETE AND INCLUSIVE THEREOF.

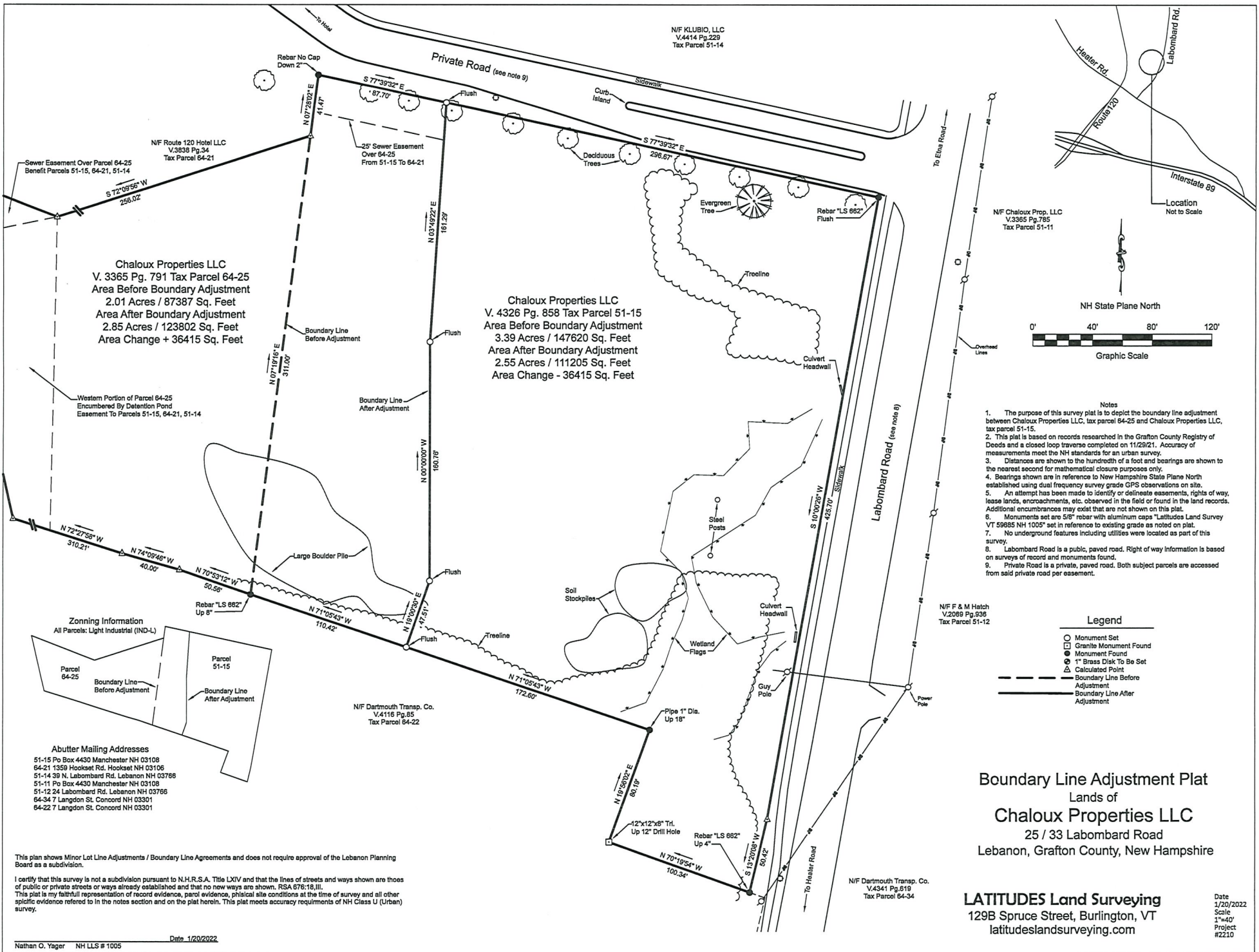
Completed By: Noah Lynd

Note: Applicant has been informed that one copy is required

Planning office Use Only:		
Date Received ___/___/___	Checklist Complete YES or NO	Checked by: _____

(Last Revised 05/22/13)

ID	Site Address	Owner Name	Co-Owner Name	Owner Address	Owner City	Owner State	Owner Zip
51-11	33 LABOMBARD RD	CHALOUX PROP LLC		PO BOX 4430	MANCHESTER	NH	03108
64-22	13 LABOMBARD RD	DARTMOUTH TRANSP CO INC		7 LANGDON ST	CONCORD	NH	03301
51-12	24 LABOMBARD RD	HATCH, FREDERIC & MARGARET		24 LABOMBARD RD	LEBANON	NH	03766
64-9	18 OLD ETNA RD	MARY HITCHCOCK MEM HOSPITAL		ONE MEDICAL CENTER DR	LEBANON	NH	03756
64-19	135 NH ROUTE 120	PRITI HOSPITALITY, LLC		440 BEDFORD ST	LEXINGTON	MA	02420
64-21	35 LABOMBARD RD	ROUTE 120 HOTEL LLC		1359 HOOKSETT RD	HOOKSETT	NH	03106
51-1	41 LABOMBARD RD	KOERIER, LLC		PO BOX 2172	LEBANON	NH	03766
64-34	0 LABOMBARD RD	DARTMOUTH TRANSP CO INC		7 LANGDON ST	CONCORD	NH	03301
64-25	25 LABOMBARD RD	CHALOUX PROP LLC		PO BOX 4430	MANCHESTER	NH	03108
51-15	0 LABOMBARD RD	THE CLIMBING REAL ESTATE, LLC		PO BOX 302	MERIDEN	NH	03770
51-14	39 LABOMBARD RD	KULBIO, LLC		39 LABOMBARD RD	LEBANON	NH	03766
		ENGINEERING VENTURES		85 MECHANIC ST	LEBANON	NH	03766
		LATITUDES LAND SURVEYING		129 B SPRUCE ST	BURLINGTON	VT	05401
		MARA LANDSCAPE DESIGN		16 MYRTLE AVE	NEWBURYPORT	MA	01950
		BANWELL ARCHITECTS		6 SOUTH PARK ST	LEBANON	NH	03766
		AUDRA KLUMB		34 CENTENIAL DR	WEBSTER	NH	03303
		NOAH LYND & JOSH GARRISON		PO BOX 302	MERIDEN	NH	03770



CITY OF LEBANON
APPLICATION FOR

Etna Rd

SPECIAL EXCEPTION	☐	☒ SITE PLAN REVIEW
VARIANCE	☐	☒ SUBDIVISION
MOTION FOR REHEARING	☐	☐ LOT LINE ADJUSTMENT
APPEAL OF AN ADMIN. DECISION	☐	☒ CONDITIONAL USE PERMIT

☒ OTHER Conceptual

PROPERTY OWNER (APPLICANT):

NAME: James Campion/Choice Storage TEL #: 603 643 6607MAILING ADDRESS: 44 So. Main St. #14, Hanover, NH 03755E-MAIL ADDRESS: jay.campion@gmail.com

CO-APPLICANT, AGENT, OR LESSEE:

NAME: _____ TEL #: _____

MAILING ADDRESS: _____

E-MAIL ADDRESS: _____

PROJECT LOCATION:

TAX MAP #: 26 LOT #: 17 PLOT #: _____ ZONE: IND-L/RL-3STREET ADDRESS OF PROJECT: 0 Etna RoadIS THIS PROPERTY LOCATED IN THE: **WETLANDS** ☐ YES ☐ NO **HISTORIC DISTRICT** ☐ YES ☐ NO
FLOOD PLAIN ☐ YES ☐ NO

SCOPE OF PROJECT:

See attached Conceptual review
for Planned Business Park

TYPE OF OCCUPANCY:

EXISTING ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
PROPOSED ☐ VACANT ☐ ONE FAMILY ☐ TWO FAMILY ☐ MULTI-FAMILY ☐ COMMERCIAL ☐ INDUSTRIAL
IF USE IS **COMMERCIAL OR INDUSTRIAL**, PLEASE NOTE SPECIFIC
USE: COMMERCIAL USE - 150,000 SQ. FT.

SIGNATURE BLOCK:

FOR PLANNING BOARD APPLICATIONS ONLY: I, the undersigned, hereby submit this application on the date noted below with the knowledge and understanding that the Planning Board shall determine if the submitted application is complete according to its regulations at its next regularly scheduled meeting on _____, 20____, unless I personally request, in writing, that the Board delay its determination of completeness to a later date.

PROPERTY

OWNER: _____

DATE: 4/14/24**NOTE: IF AS OWNED YOU WISH TO RESIGNATE AN AGENT TO ACT ON YOUR BEHALF, PLEASE READ THE FOLLOWING AND SIGN BELOW:** I hereby designate the person listed above as my agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by an official decision made on the basis of such representation.

PROPERTY

OWNER: _____

DATE: _____

DATE RECEIVED	FILE # (MAP/LOT)	APPLICATION #
<u>4/25/2024</u>	<u>26-17</u>	<u>PB 2024-20-CON</u>

To the Members of the Planning Board, City staff and Management.

My Name is Jay Campion. I am bringing forward an application to form a Planned Business Park uniting multiple properties along route 120 and Etna Road, between Hanover and Lebanon.

I am no stranger to this neighborhood. My family settled in the area in 1887, and I live less than a mile as the crow flies from this corner of Lebanon, and this spot where I began aggregating properties twenty-six years ago.

Since that time, I have added a Conference Center, a hotel, a high tec employer and a climbing gym to this location, adding millions to the City's tax base.

I am putting forward an application for Conditional Use Permit to allow the formation of a Planned Business Park, that will produce long term positive development for Lebanon. Signal Park will bring much needed recreation fields and facilities to the City, it will increase housing options for residents and provide commercial goods and services for the throng that come here daily for work or play.

With the help and guidance of City staff, we have already created a zoning permitted space for the Cities recreational opportunities to exist, and a potential footprint for exciting new housing options and services, should the Planning board agree that this site is appropriate for this type of development.

The next step in the process is to recognize and promote this spot as appropriate, perhaps ideal for this purpose by creating a zoning approved district where it can happen.

I have followed up with staff to refine the details of my proposal and put forward what they suggested is required to move ahead with the establishment of a Planned Business Park with these properties, proximate to the Etna Road and route 120.

If approved, the result, expressed over the years ahead, should create a dynamic malleable mix of uses that can address the City's need for commercial, industrial and service development as well as the documented need for more housing options for Lebanon.

One major achievement for the City will to be to create a new home for Lebanon and Upper Valley recreational activities. The City wants to operate Recreation Department activities on fields and property owned and controlled by the City.

For that to occur, a funding mechanism needs to be in place to cover the cost of creating recreation fields and facilities.

The proposed funding mechanism is a TIFD (Tax increment Finance District) at Signal Park with new revenue added to the tax base with the creation of new housing options for residents, and other development.

The most direct route to take toward that goal would be to get a Planned Business Park in place that will allow putting residential units in what is currently the Ind-L zone.

Phase I of Signal Park needs to be permitted through some waivers, along with the Conceptual approval of Phase 2. It is Phase 2 that will involve all new engineering from top to bottom.

The proposed Phase 1 represents the creation of 4 subdivided properties that are required by code and deemed necessary to form a Planned Business Park. Phase 1 is based on the engineering for AoT #1389. That is, empty lots accessed on a planned and fully engineered roadway. These lots will be Contractors' Yards, used to temporarily house the contractors and materials to create phase 2.

The proposed Phase 1 operation will have no need for sidewalks with granite curbing or any City utilities.

The proposed Phase 1 Business Park designation, by code aggregates potential residential building capacity while constructing a funding mechanism to build the recreation facilities. At the same time, it increases general fund revenue and makes it possible to create flexible intensification of other uses on this critical corridor, which in turn creates TIFD revenue quickly.

Phase 2 will be ready to shoot ahead with plans and engineering to lay out the specific residential real estate proposed. This planning will also detail the projected revenue stream from property taxes, and the proposed infrastructure build-out including recreation fields. The City's planning, engineering and design expenses to create the infrastructure required ideally would be considered a TIFD covered expense.

It is for that reason that the Planning Board should approve the Phase 1 subdivision and waive those requirements that exceed the actual needs of the Phase 1 proposed use. That is, as a Contractors' Yard, and defer those requirements beyond an access road, to the production of detailed planning and engineering documentation of Phase 2.

Doing this would also involve the City in the full process of planning for both access and services to its property and the recreation facilities.

This, I believe, is the shortest distance between the proposed two points. Now, and playing soccer on City fields.

I have attached a detailed waivers request list, a Phase 2 rendering overlay and a Business Park Use Map.

Thank you for your consideration. Best, Jay Campion

CITY OF LEBANON, NH
SUPPORT STATEMENT FOR CONCEPTUAL REVIEW
SUBDIVISIONS

In accordance with Section 7.3 of the City of Lebanon Subdivision Regulations, the applicant shall submit the following information to the Planning Office at least two weeks before the date of the scheduled Conceptual Review:

- ☒ A project description.
- ☒ A written statement addressing how the concept conforms with the Master Plan.
- ☒ A sketch plan, based on a USGS or similar map of sufficient accuracy and quality, showing:
 - ◇ Existing property lines of the parcel(s) under review;
 - ◇ General topography, highlighting slopes in excess of 25%;
 - ◇ Prominent natural features of the site, such as tree lines, watercourses, floodplains, wetlands, and ledge outcrops;
 - ◇ Conceptual location and size of proposed lots, building envelopes, roadways, and open space areas;
 - ◇ Any other major issues or conceptual improvements to be discussed with the Board.

The Conceptual Review shall be directed at review of the basic concept of the proposal and suggestions which might be of assistance in resolving problems with meeting requirements during Final Plat Review. The Board and the applicant may discuss proposals in conceptual form only and in general terms, such as the desirability of types of development and proposals under the Master Plan. The conceptual plan shall be reviewed by the Board by consulting the Master Plan, its accompanying maps, diagrams, charts and descriptions, and other appropriate documents to determine if the area is generally suitable for development and to analyze how well the proposed subdivision meets the goals and objectives of the City.

The Board shall consult the future land use map and any plans for existing or future roads, utilities, and facilities, and open space to determine how well the proposed subdivision conforms with the Plan's pattern of growth. The Board shall focus on the characteristics of the site and its relationship to the surrounding area to determine how well the proposed subdivision fits into both the natural and man-made environments. The Board shall look for any indication of areas of historical, cultural, or environmental importance which should be considered. The Board may also advise whether a proposed subdivision should be delayed until public services have been extended or infrastructure upgraded as set forth in the Master Plan.

While a Conceptual Review is optional, it is strongly recommended, particularly for Major Subdivisions, as it can help identify and resolve issues at an early stage and save the applicant the time and cost of changes at a later date.

The Applicant may end the Conceptual Review at any time. Public notice of the Conceptual Review is not required, but such discussions shall only take place at a formal meeting of the Board. Such Conceptual Review shall not bind either the applicant or the Board in any manner and statements made by Board members shall not be the basis for disqualifying said members or invalidating any action taken.

(Last Revised 05/22/13)

AGREEMENT and AGENT DESIGNATION

This Agreement is made by and among the following parties:

- A. CWM All Waste LLC¹;
- B. Chaloux Properties LLC;
- C. Route 120 Hotel LLC;
- D. Choice Storage, LLC;
- E. Klubio, LLC;
- F. TLL Realty LLC; and
- G. Notch Climbing Real Estate LLC

Each of the foregoing is referred to individually as a “Party” and collectively as the “Parties”.

Preliminary Statement. The Parties have reviewed the benefits of establishing a Planned Business Park (the “Park”) within the meaning of Section 508 of the City of Lebanon Zoning Ordinance #2 for all of the properties owned by the Parties and identified on Exhibit A attached hereto. The Parties further wish to designate by this Agreement their agent for purpose of applying for approval of the Park by the Lebanon Planning Board.

Agreement. For good and valuable consideration, the mutual receipt of which is hereby acknowledged, the parties agree as follows:

1. Subject Properties. The Parties are the respective owners of the real properties identified on Exhibit A (collectively, the “Properties”).
2. Intent to Seek Park Designation. The Parties wish to have the Properties designated as a Planned Business Park within the meaning of Section 508 of the City of Lebanon Zoning Ordinance #2. The designation contained in Section 3 below is made solely for the purposes of obtaining designation as a Planned Business Park, and not for any construction or other purpose.
3. Designation of Agent for Planned Business Park Conditional Use Permit Application:

By signature below, each of the undersigned property owners hereby designate James W. (Jay) Campion, IV as its agent for the purpose of procuring the necessary local permits for the proposed work as described herein. Representations made by my agent may be accepted as though made by me personally, and I understand that I am bound by any official decision made on the basis of such representation.

¹ NH Secretary of State records shown as dissolved.

4. Representation; Costs. Each Party is entitled to participate in any hearings regarding establishment of the Park and is responsible for its own costs in doing so, including any legal fees.

5. General. This Agreement is binding on each of the Parties and their successors and assigns. This Agreement is and shall be deemed to be made under and pursuant to the laws of the State of New Hampshire and shall, in all respects, be governed, construed and enforced in accordance with the laws of that state, without resort to principles of conflicts of laws. This Agreement may not be amended, changed, modified, altered or terminated except by written instrument executed and delivered by the parties. This Agreement may be executed in any number of counterparts, each counterpart shall constitute an original agreement, and all counterparts taken together shall constitute a single agreement. Confirmation of execution of this Agreement by facsimile or electronic signature shall be binding upon any party so confirming.

[Signature pages follow]

Property Owner

Signature

Date

CWM All Waste LLC

By: _____,
Duly authorized agent

_____, 2024

Chaloux Properties LLC

By: _____,
Duly authorized agent

_____, 2024

Route 120 Hotel LLC

By: _____,
Duly authorized agent

_____, 2024

Choice Storage, LLC

By: _____,
Duly authorized agent

_____, 2024

Klubio, LLC

By: _____,
Duly authorized agent

_____, 2024

TLL Realty LLC

By: _____,
Duly authorized agent

_____, 2024

Notch Climbing Real
Estate LLC

By: _____,
Duly authorized agent

_____, 2024

Signal Park Waiver Requests Phase 1

WAIVER REGULATIONS In order to grant a Waiver from a requirement of the City of Lebanon Site Plan Review or Subdivision Regulations, the Planning Board must find that the Waiver is justified under one of the following criteria (See Article VII of the Site Plan Review Regulations and Section 7.15 of the Subdivision Regulations):

Criteria A. Strict conformity would pose an unnecessary hardship to the Applicant and waiver would not be contrary to the spirit and intent of the regulations.

OR

Criteria B. Specific circumstances relative to the site plan, or conditions of the land in such site plan, indicate that the waiver will properly carry out the spirit and intent of the regulations.

Each of the waivers referenced requirement by requirement below, share Criteria A. and B. justifications.

It would be an unnecessary hardship to produce a full set of plans for Phase 2 of Signal Park when none of the development proposed therein can be permitted in the InD-L zone unless it is being proposed as part of a Planned Business Park. The Phase 1 subdivision and PBP designation must precede Phase 2 design submission.

Since proposed Phase 1 subdivision and PBP designation has the prerequisite engineering to function with the uses proposed, completing many of the additional designing and engineering requirements logically should be pushed to Phase 2 after the PBP is formed.

This also directly relates to Criteria B.

Criteria B. Specific circumstances relative to the site plan, (existing full engineering for AOT #1389 and) or conditions of the land in such site plan,(with all development shown in Phase 2) indicate that the short term waiver for Phase 1 will properly carry out the spirit and intent of the regulations.

10.4 Submission Requirements

A. A complete application for all Major Subdivisions, whether for Design Review or Final Plat Review, shall include the items listed in Section 7.7 of these Regulations as well as the following:

1. Paper copies of the proposed subdivision plat (the number to be determined by the Planning Office on an as-needed basis.) Plans shall be submitted on sheets no larger than 24" x 36". Plan sets with multiple pages shall include sheets of uniform size and be bound on the left edge. When more than three (3) sheets are required, an additional cover sheet of the same size shall be attached including a table of contents. The scale of the plans shall be appropriate to the size of the overall development. All lettering shall be of a size and type that is legible. All Major Subdivision plans shall include and depict the following baseline information as well as the more detailed design information listed in Sections 10.4.B or 10.4.C of these Regulations, as appropriate: [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

a. The proposed subdivision name or identifying title, the name of the City and County in which the subdivision is located, a Locus map, north point, scale, date of the plat, and the date and description of any revisions. If a cover sheet is provided, the date of the plat and the date(s) of any subsequent revisions shall be shown on the cover sheet.

NOTE: The date on the plat at the time of the initial submission to the City for application review shall be included on all subsequent . [Included](#)

City of Lebanon - Subdivision Regulations Page 29 of 55

submissions to the City. Any subsequent change to the plat shall include a revision date and description of the revision. [Included](#)

b. The names and addresses of the Applicant(s); the Owner(s) of record of the subject properties; the Owners of abutting properties, including tax map and lot number references; and the Holders of any easements, rights-of-way, or other restrictions, based on the current records of the City Assessor available at City Hall, not more than 5 days before the filing of the application. [Included](#)

c. The name and business address of the surveyor, including license number and seal, and of every engineer, architect, soil scientist, or wetlands scientist whose professional seal appears on any plan or document submitted to the Board. [Included](#)

d. The zoning district(s) in which the subdivision is located, including district boundaries if in more than one district. [Included in AoT#1389 for Phase 1. Included in the Conceptual for Phase 2](#)

e. The boundary lines of the overall tract, and for each of the proposed lots, including bearings and distances, as determined by an actual field survey certified by a licensed land surveyor and bearing the date of the completion of the survey. Surveys shall utilize

the NH State Plane Coordinate system, unless prior approval to use an alternate coordinate system is granted by the Planning Office. All dimensions shall be shown in feet and decimals thereof. Referenced on the plat shall be monuments as required under Section 13.5(A) of these Regulations. [Included](#)

f. Topographic contours, at intervals of five (5) feet or less, including spot elevations on existing roads and a grading plan, if natural contours are to be changed by more than two (2) feet. All contours and spot elevations shall be referenced to USGS or FEMA Flood Insurance Rate Map (FIRM) datums, as appropriate. Existing topographic information shall be prepared by a professional engineer registered in New Hampshire or by a land surveyor licensed in New Hampshire. [Included in AoT#1389 for Phase 1 with LIDAR updates. Full redesign for Phase 2](#)

g. The location of existing structures, roads, easements, and trails located on the property and within 200 feet of the property. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

h. The location of existing natural features, including, but not limited to, permanent or intermittent watercourses, marshes, lakes, ponds, flood plains, wetlands, rock outcrops, wooded areas, and other significant features on the property and within 200 feet of the property. The plan shall indicate the approximate limits of clearing necessary for the development and those natural features that are to be removed, retained, or altered. NOTE: Wetlands on the property shall be delineated by a Certified Wetlands Scientist, whose seal and signature shall appear on the plan.

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i. The location of existing water and wastewater mains, culverts, and drains on the property and within 200 feet of the property with sufficient information to allow City Staff and the Board to view the proposed subdivision in the context of existing City utilities, with pipe sizes, and direction of flow. [not applicable.](#)

j. If the application covers only a part of the Applicant's entire holding, a map of the entire tract shall be drawn at a scale of not smaller than four hundred (400) feet to the inch showing all existing streets and an outline of the platted area with its proposed streets. 2. Digital copies of the overall Subdivision plat (in both .PDF and CAD .dwg format) shall be provided depicting the information required under Paragraph 1 above. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

3. Any request(s) for waiver(s) or modification(s) pursuant to Section 7.15 of these Regulations.

B. Design Review - Specific Submission Requirements

1. Major Subdivision plans submitted for Design Review shall include and depict the following information in addition to the baseline information listed in Paragraph 10.4.A(1) above:

- a. The proposed lot lines and rights-of-way with bearings and distances and areas of each lot in square feet and acres. [Included](#)
 - b. The approximate width, location, and grades of all streets or road rights-of-way proposed by the Applicant. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)
 - c. The preliminary profile of streets and cross-sections for construction of streets and sidewalks. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)
 - d. The approximate location and size of all proposed water lines, valves, hydrants, wastewater lines, manholes, and connections to existing public or private utility lines. Alternate means of water supply or wastewater disposal and treatment, including data on soil tests and preliminary designs and locations, shall be provided if existing municipal systems are not available. [Waiver requested for Phase 1. Full redesign for Phase 2](#)
 - e. The preliminary storm drainage plan indicating the approximate location and size of proposed catch basins, manholes, drainage lines, ditches, retention, detention, or infiltration systems and their profiles, connections to existing lines or ditches, and all other means of storm water management. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)
 - f. The location and preliminary design of any proposed bridges or culverts. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)
- City of Lebanon - Subdivision Regulations Page 31 of 55 g.
- The preliminary plan for existing and proposed telephone, cable, and electric utilities, including municipal fire alarm systems. [Waiver requested for Phase 1. Full redesign for Phase 2](#)
- h. The preliminary location of proposed recreational or open space areas, including land proposed to be dedicated to public use. The Applicant shall also indicate the location of all existing publicly accessible recreation or open space areas within 1/4 mile (1,320 feet) of the property. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

i. The location of any proposed traffic control devices necessary in conjunction with the subdivision, as well as the location of all existing transit routes and transit stops located or passing within 1/4 mile (1,320 feet) of the property. [Waiver requested for Phase 1.](#)
[Full redesign for Phase 2](#)

j. Phasing lines, where applicable.

2. The following supporting documents and information shall be provided for Design Review:

a. A preliminary statement of the anticipated work required on existing streets and other off-site improvements to meet the minimum standards set forth herein. [Waiver requested for Phase 1.](#) [Full redesign for Phase 2](#)

b. The information and impact statements required by all applicable portions of Section 12 of these Regulations. The Board may require the Applicant to pay reasonable fees to cover the City's administrative expenses and costs of investigative studies and/or peer reviews with regard to the impact statements as provided in Section 7.7.F of these Regulations.

c. Soil Tests: Where private individual wastewater systems are proposed, the Applicant shall perform soil tests complying with requirements of Section 13.4 of these Regulations. For all proposed lots less than five (5) acres in size, the Applicant shall have a soil investigation made and a report prepared to establish the existence of at least 4,000 square feet of contiguous area meeting New Hampshire Department of Environmental Services (NHDES) requirements. NHDES approval of all subdivision lots less than five (5) acres in size shall be obtained and a copy of such approval shall be provided to the Board prior to the recording of the approved Final Plat. The soil maps and information shall be in accordance with the most current USDA Natural Resource Conservation Service County Soil Maps. Maps prepared by field investigation shall be stamped by a Certified Soil Scientist. All costs of preparing soil data shall be borne by the Applicant. d. If a subdivision is to be served by public wastewater services, the Applicant shall submit a Sewer Use Permit Application and obtain a Notice of Permitted Allocation pursuant to City Code Chapter 136 to verify the availability of sewer capacity and to reserve such capacity for the proposed development. [Included in AoT#1389 no lots under 5 acres for Phase 1.](#) [Full redesign for Phase 2](#) The Applicant shall also

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provide a statement of methods of sanitary wastewater estimations and computations therefor. [Waiver requested for Phase 1.](#) [Full redesign for Phase 2](#)

e. If a subdivision is to be served by public water supply, the Applicant shall apply for and obtain a Water Use Permit pursuant to City Code Chapter 182 to verify the availability of water capacity and to reserve such capacity for the proposed development. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

f. Any development estimated to generate in excess of 100 peak hour trips or 1,000 average daily trips (based upon the most current edition of the Institute of Transportation Engineers' Trip Generation Manual) shall prepare and submit a Traffic Impact Study in accordance with standard traffic analysis conventions as set forth by the NH Department of Transportation. The Board may, in its discretion, require the submission of a Traffic Impact Study for a development estimated to generate less than 100 peak hour trips or 1,000 average daily trips if the Board has reason to believe such development could adversely affect levels of service or have other adverse impacts. [Waiver requested for Phase 1 not applicable. Full redesign for Phase 2](#)

g. For any subdivision of 20 or more lots, plats, sites, units, or other divisions of land, the Applicant shall request a letter from Advance Transit, or other local public transportation providers, stating whether, in the opinion of the transit provider, public transportation service can be adequately provided to the development. [Waiver requested for Phase 1 not applicable. Full redesign for Phase 2](#)

h. A drainage analysis map and computations for the watershed area appropriate to the scale of the development and the scope of the project as determined by the Board. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

i. Where a phased development is proposed, a preliminary schedule for construction and completion of streets, utilities, and other required infrastructure improvements. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

j. If requested by Lebanon Fire or Engineering staff, CAD Autoturn data or a similar basis of design for the turn radius shall be provided in order to demonstrate adequate turn radius for emergency vehicle and equipment access. [Full redesign for Phase 2](#)

C. Final Plat Review - Specific Submission Requirements

1. Major Subdivision plans submitted for Final Plat Review shall include and depict the following information in addition to the baseline information listed in Paragraph 10.4.A(1) above: a. The final proposed lot lines and rights-of-way with bearings and distances and areas of each lot in square feet and acres. b. The final width, location, and grades of all streets or road rights-of way proposed by the Applicant. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

c. The final profile of streets and cross-sections for construction of streets and sidewalks. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

d. Names of all proposed streets.

e. The final design, location, and size of all proposed water lines, valves, hydrants, wastewater lines, manholes, and connections to existing public or private utility lines. Alternate means of water supply or wastewater disposal and treatment, including data on soil tests and final designs and location, shall be provided if existing municipal systems are not available. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

f. The typical lot layout(s) with building envelopes and location for on-site wastewater disposal facilities, if applicable. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

g. The final storm drainage plan, indicating the location and size of proposed catch basins, manholes, drainage lines, ditches, retention, detention, or infiltration systems and their profiles, connections to existing drainage lines or ditches, and all other means of storm water management. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

h. The final design and location of any proposed bridges and/or culverts. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

i. The final plan for existing and proposed telephone, cable, and electric utilities, including municipal fire alarm systems. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

j. The final location of proposed recreational or open space areas, including land proposed to be dedicated to public use. The Applicant shall also indicate the location of all existing publicly accessible recreation or open space areas within 1/4 mile (1,320 feet) of the property. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

k. The final location and design of any proposed traffic control devices necessary in conjunction with the subdivision, as well as the location of all existing transit routes and transit stops located or passing within 1/4 mile (1,320 feet) of the property. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

l. Phasing lines, where applicable.

m. Where applicable, there shall be shown on each lot on the plat whether or not there will be easements for water or wastewater mains, storm drainage of the proposed

streets, or other improvements. [Included in AoT#1389 for Phase 1. Full redesign for Phase 2](#)

2. The following supporting documents and information shall be provided for the Final Review Phase:

a. A final statement of the work required on existing streets and other off-site improvements to meet the minimum standards set [Waiver requested for Phase 1. Full redesign for Phase 2](#)

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forth herein, including cost estimates and the method of meeting such costs.

b. Cost estimates for the completion of all on- and off-site improvements which shall be subject to a Performance Security Agreement pursuant to Section 7.10 of these Regulations. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

c. Temporary Control Plan(s) to be implemented during the proposed construction period, including, but not limited to, traffic control, erosion control, dust control, and hours of operation. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

d. A copy of such proposed covenants or deed restrictions, including Owners Association documents and Bylaws as described in Section 12.8 of these Regulations, as may be intended to apply to the property in whole or in part. Where applicable, such Owners Association documents or other legal instruments shall include provisions for the ownership and maintenance of open space as described in Section 12.2 of these Regulations. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

e. Where a phased development is proposed, a final schedule for construction and completion of streets, utilities, and other required infrastructure improvements, as further set forth in Section 7.13.C of these Regulations. [Waiver requested for Phase 1. Full redesign for Phase 2](#)

f. Any proposed street or roadway access to a State highway shall be approved by the NH Department of Transportation and such written approval shall be provided to the

Board prior to the recording of the approved final plat. [Waiver requested for Phase 1.](#)
[Full redesign for Phase 2](#)

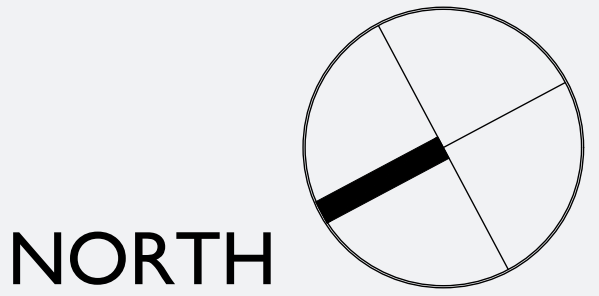
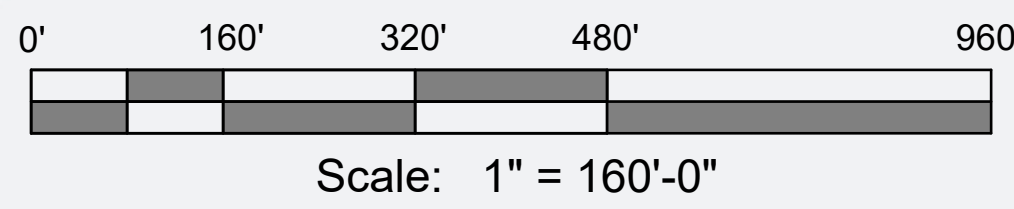
g. Other Approvals: Approvals, as prescribed by law, from any other City agency which may have jurisdiction, including but not limited to, wetland permits (see Section 7.4).

h. Where applicable to a specific subdivision, the Board may require a statement from telephone, cable, and electric utilities stating that services will be furnished and that arrangements have been made for installation of such utilities according to the plat as submitted by the Applicant.

i. If requested by Lebanon Fire or Engineering staff, CAD Autoturn data or a similar basis of design for the turn radius shall be provided in order to demonstrate adequate turn radius for emergency vehicle and equipment access.- [Waiver requested for Phase 1.](#)
[Full redesign for Phase 2](#)

SIGNAL PARK
CONCEPTUAL
SUBDIVISION AND
USE ALLOCATION PLAN

DRAFT SUBDIVISION
BUSINESS PARK DISTRICT
PHASE I



APRIL 2024

KEY:

- LIMITS OF PROPOSED BUSINESS PARK DISTRICT
- LIMITS OF PROPOSED SUBDIVISION PARCEL

PLANNED 26-17 SUBDIVISION PARCELS

PARCEL ID	SITE ADDRESS	OWNER NAME / USE	ACRES
26 - 17	0 ETNA RD	CHOICE STORAGE, LLC (ENTIRE PARCEL)	± 182.00
26 - 17	0 ETNA RD	AREA OF PLANNED BUSINESS PARK DISTRICT	± 94.80
LOT #3	0 ETNA RD (LOT #3)	USE: CONTRACTORS YARD (WITHIN PBP)	± 4.53
LOT #4	0 ETNA RD (LOT #4)	USE: CONTRACTORS YARD (WITHIN PBP)	± 5.85
-----	(BETWEEN LOT 3 & 4)	PROPOSED ROW AREA (WITHIN PBP)	± 1.08
LOT #5	0 ETNA RD (LOT #5)	CHOICE STORAGE, LLC (WITHIN PBP)	± 83.34
LOT #5	0 ETNA RD (LOT #5)	CHOICE STORAGE, LLC (ENTIRE LOT)	± 165.00
LOT #6	0 ETNA RD (LOT #6)	USE: ATHLETIC FIELD (WITHIN RL3)	± 5.54
TOTAL ACREAGE OF 26-17 PARCELS:			± 182.00

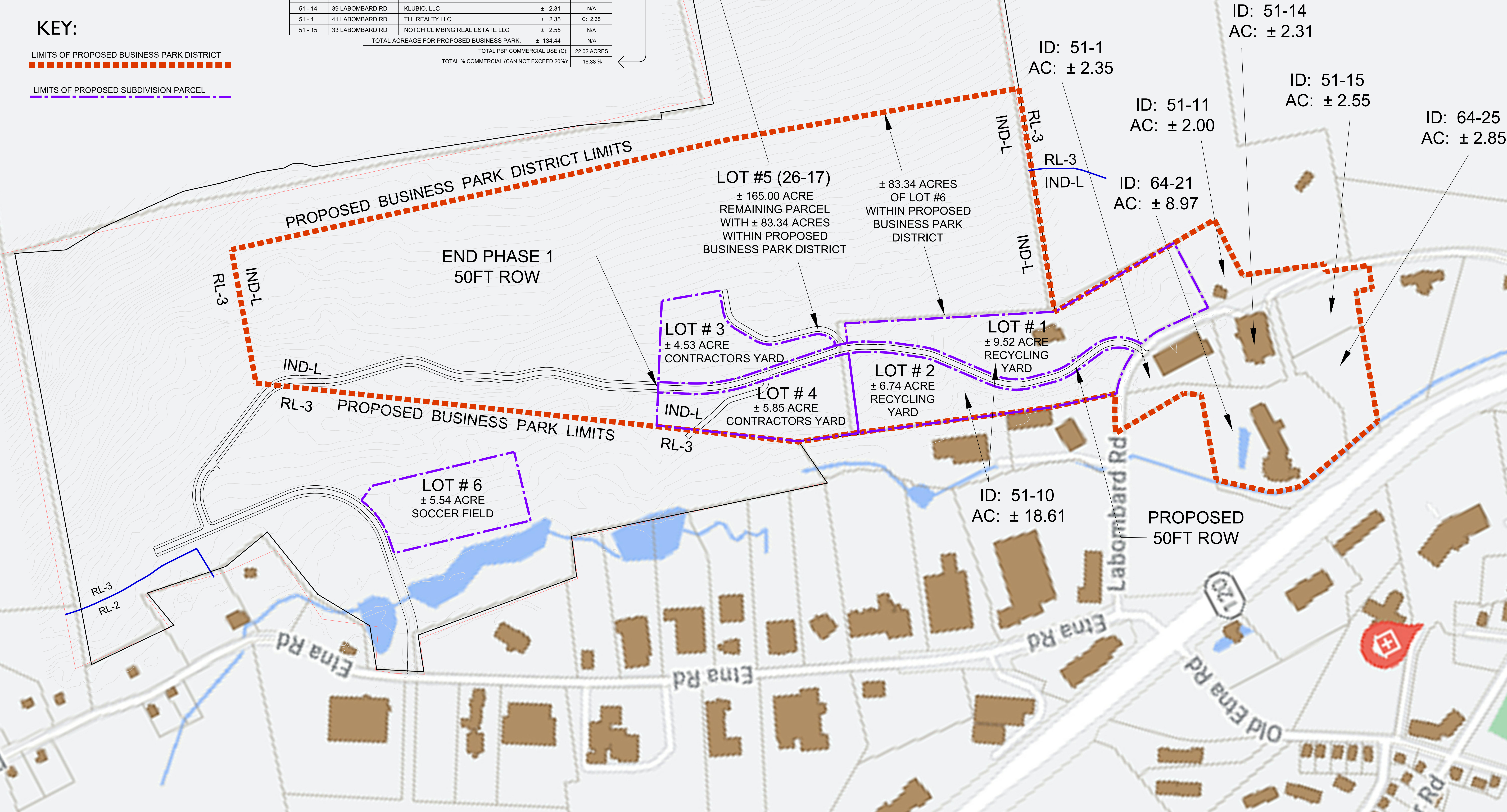
PLANNED BUSINESS PARK PARCELS

PARCEL ID	SITE ADDRESS	OWNER NAME	ACRES	PBP USE
51 - 10	40 N LABOMBARD RD	CWM ALL WASTE LLC	± 18.61	N/A
51 - 10 A	40A N LABOMBARD RD	LOT #1 PROPOSED RECYCLING YARD:	± 9.61	
51 - 10 B	40B N LABOMBARD RD	LOT #2 PROPOSED RECYCLING YARD:	± 6.74	
-----	(BETWEEN LOT 1 & 2)	PROPOSED ROW AREA	± 1.80	
51 - 11	32 LABOMBARD RD	CHALOUX PROPERTIES LLC	± 2.00	C: 2.00
64 - 21	35 LABOMBARD RD	ROUTE 120 HOTEL LLC	± 8.97	C: 8.97
64 - 25	25 LABOMBARD RD	CHALOUX PROPERTIES LLC	± 2.85	C: 2.85
26 - 17	0 ETNA RD	CHOICE STORAGE, LLC (WITHIN PBP DISTRICT)		
26 - 17A	0A ETNA RD	LOT #3 PROPOSED CONTRACTORS YARD:	± 4.53	C: 5.85
26 - 17B	0B ETNA RD	LOT #4 PROPOSED CONTRACTORS YARD:	± 5.85	
26 - 17C	0C ETNA RD	LOT #5 PORTION WITHIN PBP DISTRICT:	± 83.34	
51 - 14	39 LABOMBARD RD	KLUBIO, LLC	± 2.31	N/A
51 - 1	41 LABOMBARD RD	TLL REALTY LLC	± 2.35	C: 2.35
51 - 15	33 LABOMBARD RD	NOTCH CLIMBING REAL ESTATE LLC	± 2.55	N/A
TOTAL ACREAGE FOR PROPOSED BUSINESS PARK:			± 134.44	N/A
TOTAL PBP COMMERCIAL USE (C):			22.02 ACRES	
TOTAL % COMMERCIAL (CAN NOT EXCEED 20%):			16.38 %	

PLANNED BUSINESS PARK REQUIREMENTS

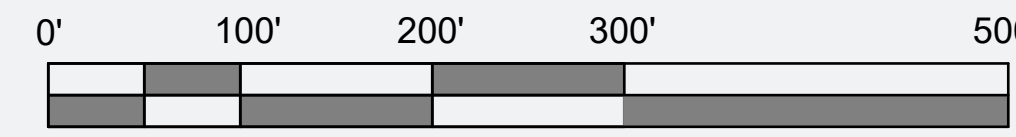
- 508.2 GENERAL REQUIREMENT. A PLANNED BUSINESS PARK IS A USE PERMITTED IN THE LIGHT INDUSTRIAL DISTRICT AND THE INDUSTRIAL RAIL ACCESS DISTRICT.
- 508.3 LOT AREA. A PLANNED BUSINESS PARK SHALL INCLUDE A MINIMUM OF TWENTY (20) CONTIGUOUS ACRES WITH AT LEAST FOUR (4) LOTS. 508.4 SECTORS.
- ALLOWED USES. A. THE PLANNED BUSINESS PARK SHALL BE SHOWN ON AN APPROVED SUBDIVISION PLAN AND USE ALLOCATION PLAN. THE SUBDIVISION PLAN AND USE ALLOCATION PLAN APPROVED BY THE PLANNING BOARD SHALL DESIGNATE THE ALLOCATION OF THE INDUSTRIAL/OFFICE, COMMERCIAL AND RESIDENTIAL USES WITHIN THE PARK.
- NO MORE THAN 20% OF THE NET LAND AREA NOT PLANNED FOR OPEN SPACE, ROADS, OR UTILITIES SHALL BE USED FOR THE COMMERCIAL SECTOR.
- C. UNLESS LIMITED BY THE PLANNING BOARD AT THE TIME OF SUBDIVISION APPROVAL, THE FOLLOWING USES SHALL BE PERMITTED.
1. THE FOLLOWING USES SHALL BE PERMITTED BY RIGHT FOR ANY PLANNED BUSINESS PARK INDUSTRIAL/OFFICE SECTOR: LIGHT INDUSTRY; WAREHOUSE; TRUCKING TERMINAL; PUBLISHING/PRINTING; PLUMBING, ELECTRICAL OR CARPENTRY SHOP; RESEARCH LABORATORY; LOCAL GOVERNMENT USE; ESSENTIAL SERVICE; OUTDOOR STORAGE PER SECTION 303.4 (LESS THAN 20%); GROUP DAY CARE FACILITY PER SECTION 604; GENERAL BUSINESS OFFICES; RESEARCH FACILITIES; MEDICAL OFFICE BUILDINGS; HEALTH CLUBS; EDUCATIONAL FACILITY; COLLEGE/UNIVERSITY; EDUCATIONAL FACILITY; VOCATIONAL SCHOOL; AND ACCESSORY USES TO A PERMITTED USE. RETAIL SHOWROOMS PER SECTIONS 303.5 AND 303.5 SHALL BE ALLOWED BY CONDITIONAL USE PERMIT.
2. THE FOLLOWING USES SHALL BE PERMITTED BY RIGHT FOR ANY PLANNED BUSINESS PARK COMMERCIAL SECTOR: RETAIL STORES UP TO A CUMULATIVE MAXIMUM OF 30,000 SQ. FT. OF GROSS FLOOR AREA; PERSONAL SERVICE; BANK, BRANCH BANK; RESTAURANT; SANDWICH SHOP/DELI; REFRESHMENT STAND; OFFICE; MOTEL; HOTEL; MOVIE THEATER; MEMBERSHIP CLUB; AMUSEMENTS (INDOOR); PRINTING (I.E. RETAIL COPY STORE); RADIO OR TV STUDIO; GROUP DAY CARE FACILITY PER SECTION 604; LOCAL GOVERNMENT USE; AND HEALTH CLUBS.

PHASE I

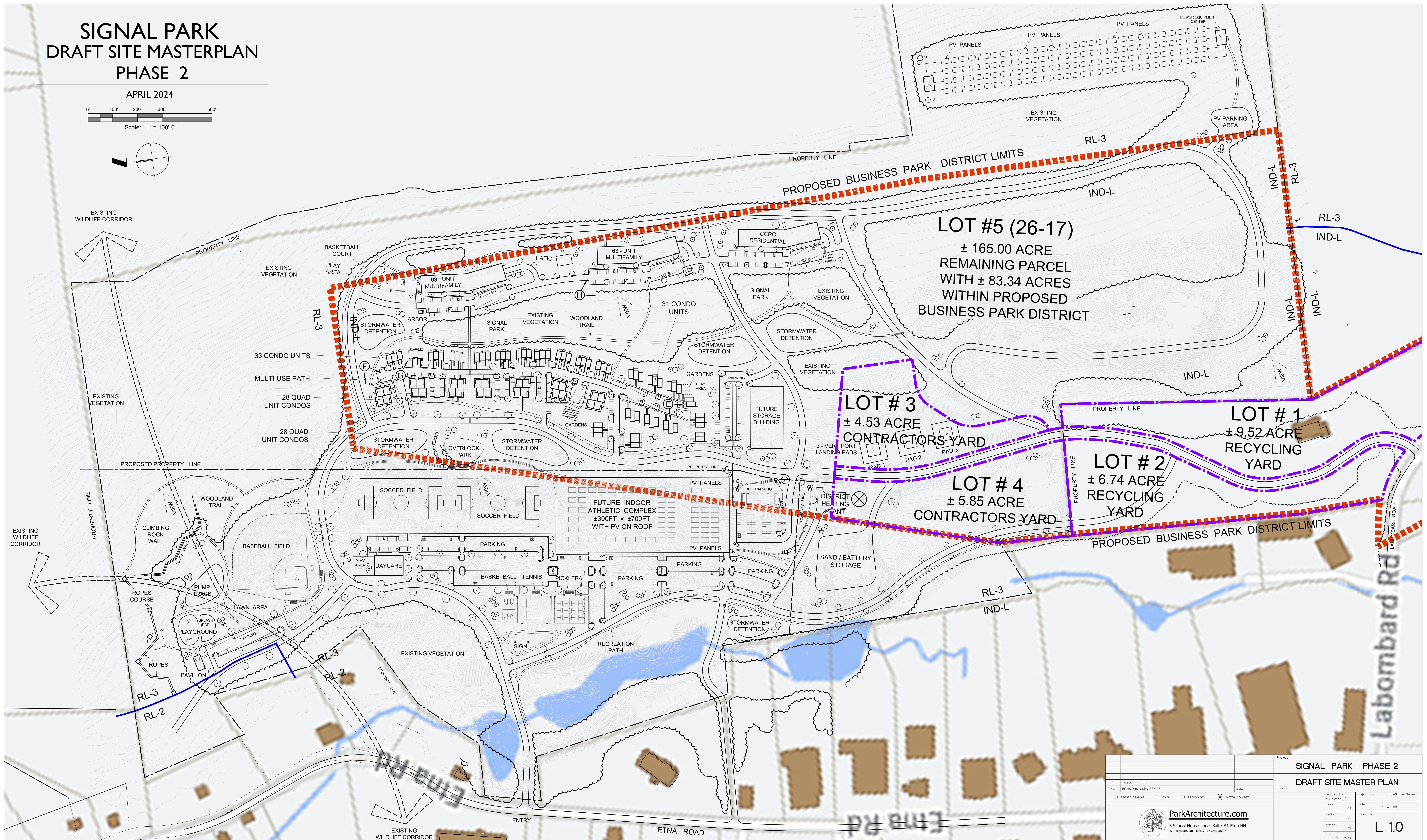
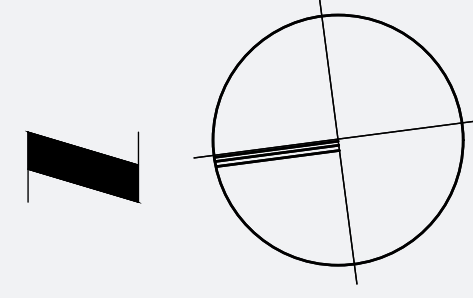


SIGNAL PARK DRAFT SITE MASTERPLAN PHASE 2

APRIL 2024



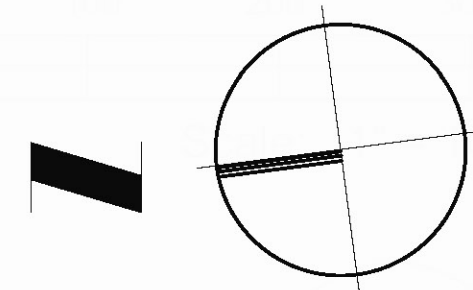
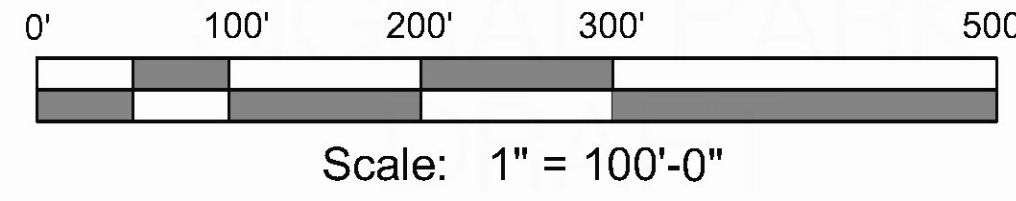
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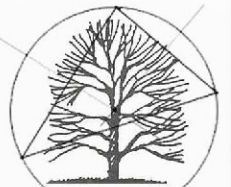


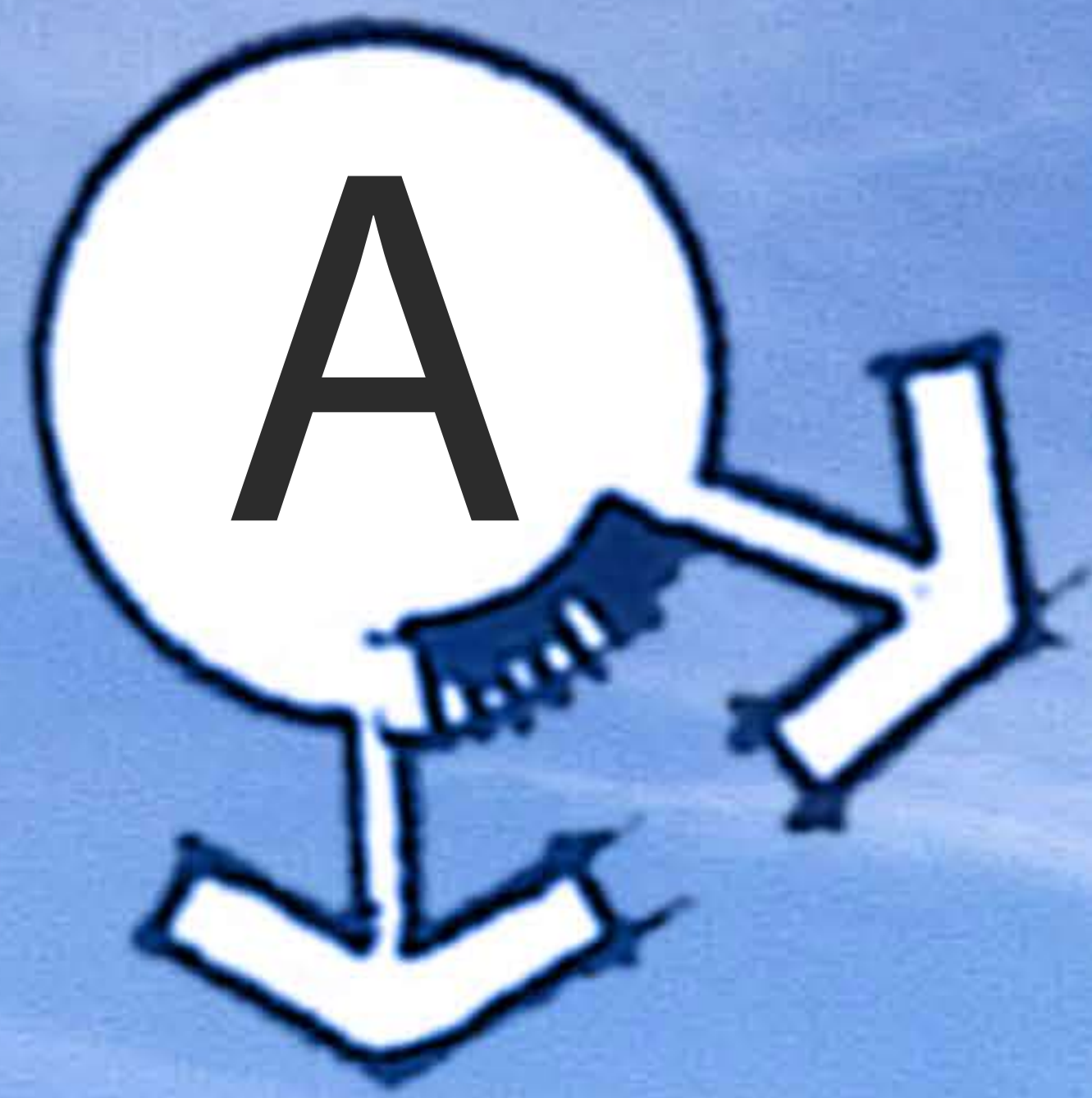
Project		SIGNAL PARK - PHASE 2	
Title		DRAFT SITE MASTER PLAN	
No. REVISIONS / SUBMISSIONS ☐ RECORD DRAWING ☐ FINAL ☐ PRELIMINARY ☒ SKETCH/CONCEPT		Date	
 ParkArchitecture.com 3 School House Lane, Suite #1 Ethna NH Tel: 603-463-3000 Mobile: 617-650-0487		Prepared by: Paul Simon / PS Drawn PS Checked JC Reviewed Date APRIL, 2024	
		Project No. DWG File Name Scale 1" = 100FT Drawing No. L 1.0	

SIGNAL PARK
DRAFT SITE MASTERPLAN
PHASE 3

APRIL 2024

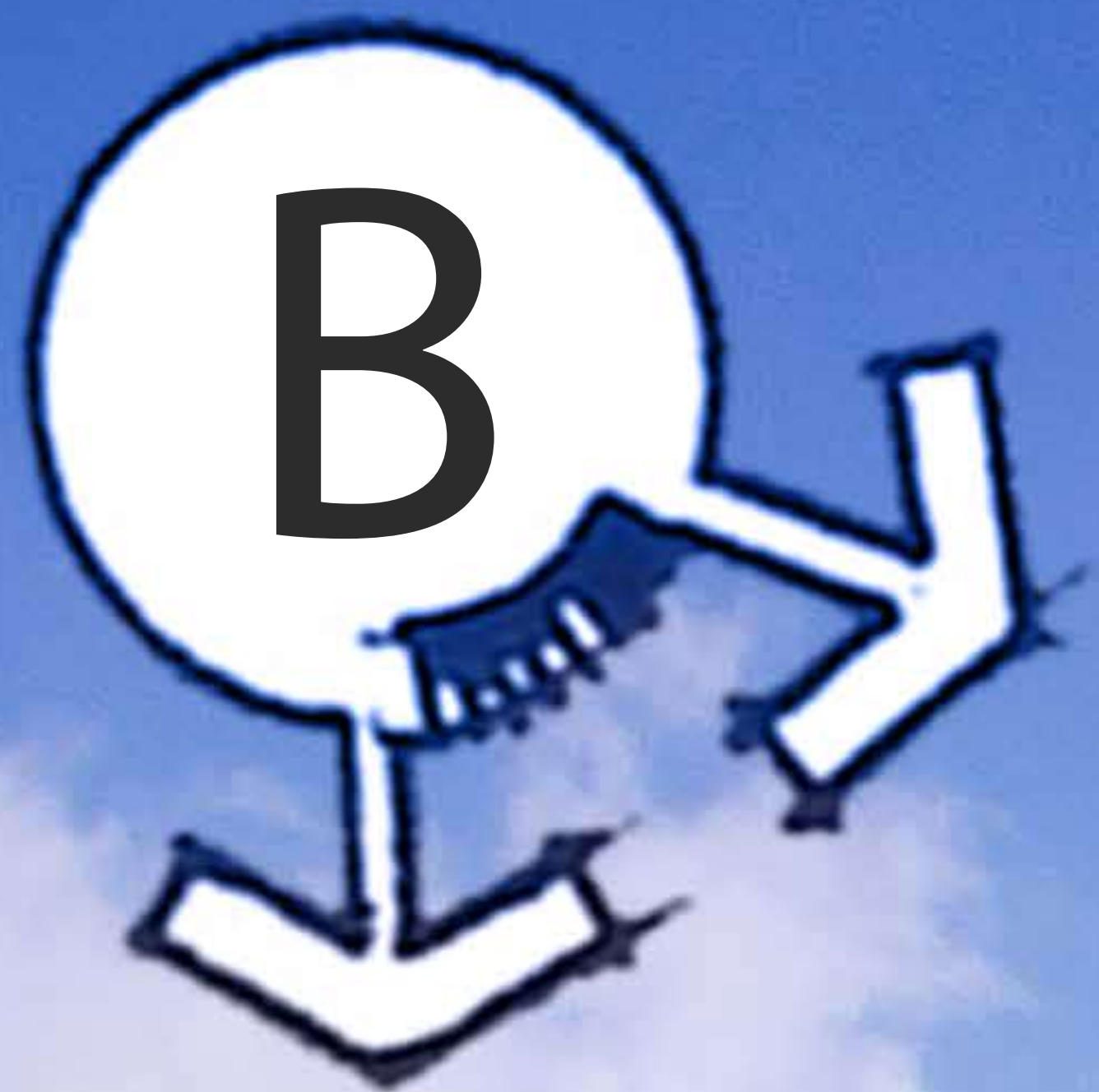


				Project		SIGNAL PARK - PHASE 3	
						DRAFT SITE MASTER PLAN	
0	0	0	0	0	0		
No.		REVISIONS/SUBMISSIONS		Date		Title	
☐ RECORD DRAWING		☐ FINAL		☐ PRELIMINARY		☒ SITE/CONCEPT	
		ParkArchitecture.com					
		3 School House Lane, Suite #1 Etna NH					
		Tel: 603-643-3400 Mobile: 603-605-0467					
		Prepared by: Paul Simon / PS					
		Scale: 1" = 100FT					
Drawn		PS		Project No.		DWG File Name	
Checked		JC		Scale		Drawing No.	
Reviewed		PS		Date		L 1.0	
				APRIL, 2024			



SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK QUAD UNIT CONDOS





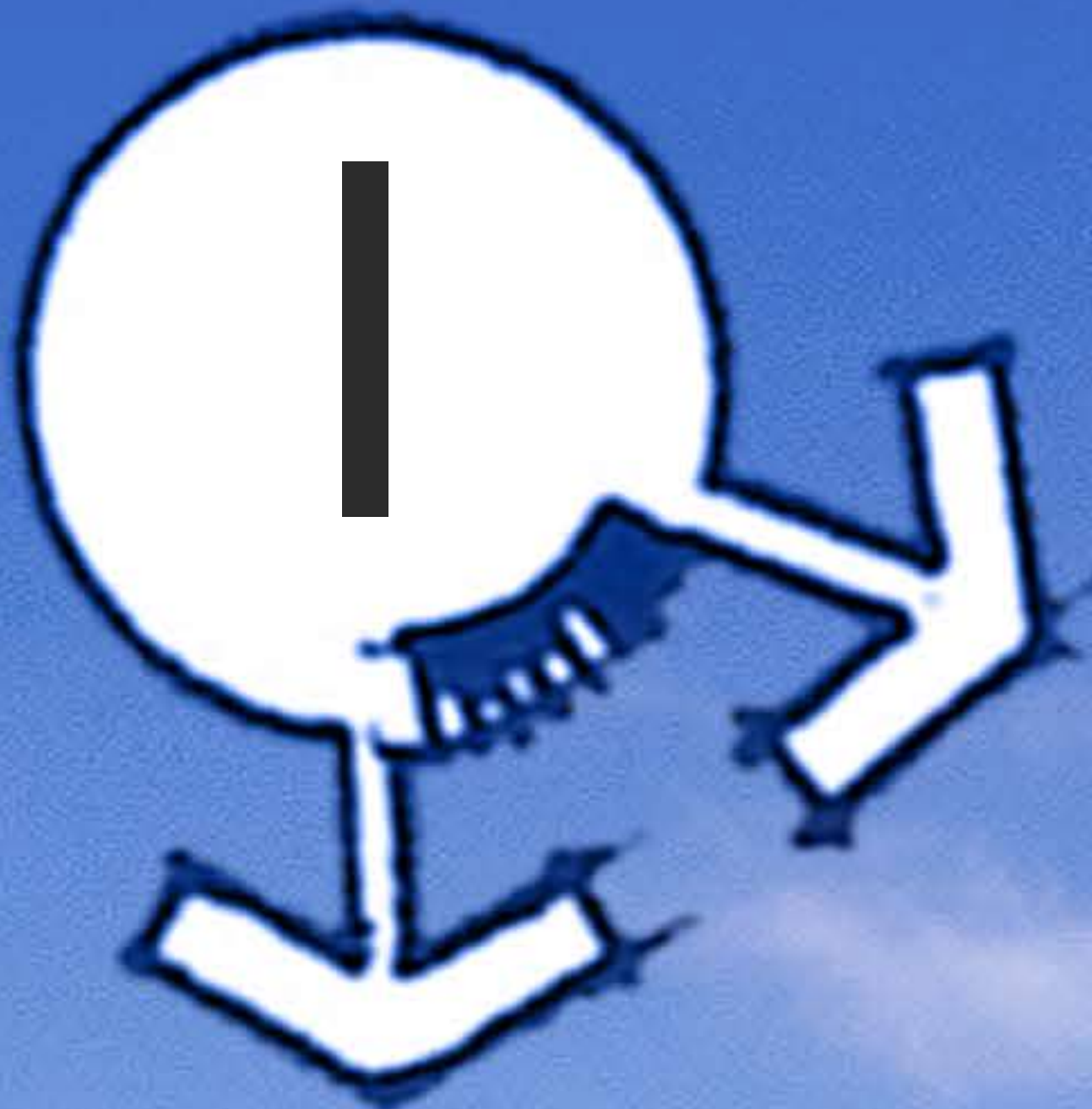
SIGNAL PARK CONDO UNITS





SIGNAL PARK MULTI-FAMILY BUILDING





SIGNAL PARK CONDO UNITS





SIGNAL PARK POOL AND PLAYGROUND



DRAFT

**LEBANON PLANNING BOARD
COUNCIL CHAMBERS, CITY HALL
OR REMOTE VIA MICROSOFT TEAMS
LEBANONNH.GOV/LIVE
MONDAY, APRIL 15, 2024, 7:00 PM**

MEMBERS PRESENT: Andrew Faunce (Chair), Richard Ford Burley (Vice Chair), Jeremy Rutter, Patrick Kennelly, Brandon Hill, Kathie Romano, Karen Zook (City Council Rep)

MEMBERS ABSENT: None

STAFF PRESENT: Tim Corwin (Deputy Planning Director), Nate Reichert (Director of Planning & Development/Zoning Admin), Brian Vincent (City Engineer)

1. CALL TO ORDER

Chair Faunce called the meeting to order at 7:01pm.

Mr. Corwin reviewed the City's meeting in-person and REMOTE attendance policies and procedures.

Mr. Rutter joined the meeting at 7:03pm.

2. NOTICE OF REGIONAL IMPACT

Chair Faunce said this would be postponed to the next meeting.

3. PUBLIC HEARING ITEMS

A. Liberty Utilities - Request for scheduled vegetation management for the safety and reliability of the electric distribution system on Poverty Lane, a designated scenic road. PB2024-11-SCR

Ms. Heather Green, certified arborist, of Liberty Utilities and Mr. Richard Clark, utility forester, of ECI Environmental Consultants, were present on behalf of the applicant.

Ms. Green said, every 4-5 years, Liberty Utilities cuts vegetation near and around its power lines as part of its vegetation management process. She said customers whose trees may be cut are notified by a mailer and a door hanger. She said homeowner consent is required to do the work.

1 She said the Public Utilities Commission (PUC) requires the following space be maintained
2 around primary conductors:

- 3 • 15 feet above
- 4 • 8 feet to the side
- 5 • 10 feet below

6
7 She said the current project is to flat cut or brush cut (mowing flat to the ground) the vegetation
8 in the space identified along the scenic road of Poverty Lane. She said she and Mr. Clark drove
9 along the route and noted three failed trees and some saplings that should be removed as well.
10 She said the tree removal was not in the original proposal, so that work can be held until the next
11 cycle for vegetation management.

12
13 Ms. Green explained the Liberty Utilities' process for situations when consent is not given by
14 homeowners to cut vegetation on their property.

15
16 Chair Faunce opened the public hearing and invited public comment.

17 Chair Faunce closed the public hearing.

18
19 *A MOTION was made by Jeremy Rutter that the Lebanon Planning Board, pursuant to NH*
20 *RSA 231:158, approves the request of Liberty Utilities (PB2024-11-SCR) to perform scheduled*
21 *vegetation management for the safety and reliability of the electric distribution system on*
22 *Poverty Lane, a designated scenic road, as described in application materials dated February*
23 *26, 2024, prepared by Heather Green, ISA Certified Arborist for Liberty Utilities.*

24
25 *The motion was seconded by Kathie Romano.*

26
27 **The MOTION was approved (7-0).*

28
29
30 **B. Edwards Properties, LLC, 135 Heater Road (Tax Map 78, Lot 41), zoned IND-**
31 **L: Request for a Conditional Use Permit pursuant to Article III, Section 303.2 and**
32 **302.4 of the Zoning Ordinance for a proposed office use. PB2024-02-CUP –**
33 **Continued from March 18, 2024**
34

35 Mr. Dan Nash (Advanced Geomatics & Design), Ms. Amy Stebbins and Mr. Ben Stebbins
36 (Aslan Maintenance), and Attorney Barry Schuster were present on behalf of the applicant.

37
38 Mr. Nash said the application materials that were included in the agenda packet for this meeting
39 address the outstanding questions and deficiencies that were identified at the last meeting.

40
41 He confirmed that the project is to convert a two-family dwelling into a two-bedroom apartment
42 and an office with accessory warehouse space in the garage. He said the septic system is
43 designed to accommodate a two-bedroom apartment. Ms. Romano said the application materials
44 show a septic tank behind the deck and a tank on the east side of the property. She said it was
45 unclear which photos were of the existing design and which ones were of the proposed design.
46 Mr. Nash said the existing septic tanks (wherever located on the property) will be removed.

1
2 Mr. Corwin confirmed that the wetlands issue is not part of this conditional use permit and is
3 more relevant during the site plan review. Mr. Ford Burley suggested that a condition be added
4 to the Conditional Use permit that it should be updated to match the outcome of the site plan
5 review.

6
7 Mr. Nash said an ADA lift will be located at the back of the building in the enclosed porch area.
8 He said the design for the lift has not been completed yet and will be reviewed during the
9 Building Permit process.

10
11 Chair Faunce opened the public hearing and invited public comment.

12 Chair Faunce closed the public hearing.

13
14 Mr. Nash confirmed that the existing water service should be adequate, but they will not know
15 what the water needs will be until the building permit work is done.

16
17 ***A MOTION was made by Richard Ford Burley that, on January 8, 2024, March 18, 2024, and***
18 ***April 15, 2024, at duly-noticed meetings of the Lebanon Planning Board, there appeared***
19 ***representatives of property owner Edwards Properties, LLC, regarding 135 Heater Road (Tax***
20 ***Map 78, Lot 41), zoned IND-L, regarding a requested Conditional Use Permit pursuant to***
21 ***§303.2 of the Zoning Ordinance for a proposed office use. PB2024-02-CUP***

22
23 ***I. FINDINGS OF FACT***

24 ***Based on testimony given, application materials presented, and supporting documents***
25 ***submitted, the Planning Board makes the following findings of fact:***

- 26
27 1. ***The property is located within the IND-L District on the south side of Heater Road,***
28 ***and abuts the Hypertherm facility to the rear. The property is currently improved with***
29 ***a two (2)-story, two-family dwelling constructed in 1950 (per the City's Assessing***
30 ***records). The two-family dwelling is not an allowed use in the IND-L District and,***
31 ***therefore, is considered "legal non-conforming".***
32
33 2. ***The applicant proposes to convert the existing two-family dwelling to a mixed-use***
34 ***building containing (i) a dwelling unit and (ii) an office use with accessory warehouse***
35 ***space in the basement and attached garage. Site improvements include a proposed***
36 ***parking lot to the rear.***
37
38 3. ***"Office," which is allowed in the IND-L District by Conditional Use Permit from the***
39 ***Planning Board. Per Section 302.4.B of the Zoning Ordinance, the Planning Board***
40 ***may grant a Conditional Use Permit if it finds that the proposal meets the Enhanced***
41 ***Performance Standards set forth in Section 302.4.D.***
42
43 4. ***The applicant has submitted testimony addressing the Section 302.4.D criteria in an***
44 ***application received by the Planning and Development Department on December 4,***
45 ***2023, as well as in supplemental written materials provided by the applicant.***
46

II. CONCLUSIONS OF LAW

As a result of the above findings of fact and based on testimony given, application materials presented, and supporting documents submitted, the Planning Board concludes the following with respect to the Enhanced Performance Standards set forth in §302.4.D of the Zoning Ordinance:

- 1. The site is suitable for the proposal. (§302.4.D.1)*
- 2. The external impacts of the proposed use on abutting properties and the neighborhood is commensurate with the impacts of adjacent existing uses or other uses permitted in the zoning district. (§302.4.D.2)*
- 3. The proposed layout and design of the site is not incompatible with the established character of the neighborhood and shall mitigate any external impacts on abutters, the neighborhood, and nearby public ways and infrastructure. (§302.4.D.3)*
- 4. The criteria set forth in Section 302.4.D.4 relates to new building construction and, since no new building construction is proposed, is inapplicable to the subject application.*
- 5. The proposed use and layout of the site, including all related development activities, does to the greatest extent practicable preserve identified natural, cultural, historic, and scenic resources on the site and shall not degrade such identified resources on abutting properties. (§302.4.D.5)*

III. DECISION

Now therefore be it resolved, the Planning Board, on this 15th day of April, 2024, hereby grants the request of Edwards Properties, LLC, for a Conditional Use Permit per Section 303.2 of the Zoning Ordinance to convert a portion of the existing building at 135 Heater Road (Tax Map 78, Lot 41) to an office use as set forth above and per testimony, plans, and materials submitted, and per the following conditions:

- 1. No outdoor storage is permitted other than 2 trailers which are required to be parked in the proposed rear parking lot.*
- 2. Impact fees calculated pursuant to Section 213 of the Zoning Ordinance shall be assessed prior to the issuance of a building permit and shall be paid prior to the issuance of a Certificate of Occupancy.*
- 3. The Conditional Use Permit is contingent on approval of the site plan application of Edwards Properties, LLC, for 135 Heater Road (Tax Map 78, Lot 41), PB2024-14-SPR, currently pending before the Board. If the site plan is approved, all conditions of approval for application PB2024-14-SPR are incorporated herein and shall be considered conditions of approval for the requested Conditional Use Permit.*

- 1
2 **4. If the site plan for application PB2024-14-SPR is approved, the site plan provided as a**
3 **part of this conditional use permit application will be updated through the approved**
4 **site plan.**
5

6 **The motion was seconded by Brandon Hill.**
7

8 ***The MOTION was approved (7-0).**
9

- 10
11 **C. Edwards Properties, LLC, 135 Heater Road (Tax Map 78, Lot 41), zoned IND-L: In**
12 **conjunction with a pending Conditional Use Permit application (PB2024-02-CUP),**
13 **applicant requests Site Plan Review for a conversion of the existing two-family**
14 **dwelling to a mixed-use building for a proposed office use and a dwelling unit,**
15 **together with associated site improvements including additional parking spaces and**
16 **a handicap ramp. PB2024-14-SPR**
17

18 Mr. Corwin stated that Staff recommends that the application is complete enough for the
19 Planning Board to accept jurisdiction and commence review.
20

21 Chair Faunce stated that the application materials dated March 28 supersedes the earlier
22 materials dated March 7.
23

24 **A MOTION by Kathie Romano that the application of Edwards Properties, LLC, 135 Heater**
25 **Road (Tax Map 78, Lot 41), zoned IND-L: In conjunction with a pending Conditional Use**
26 **Permit application (PB2024-02-CUP), applicant requests Site Plan Review for a conversion of**
27 **the existing two-family dwelling to a mixed-use building for a proposed office use and a**
28 **dwelling unit, together with associated site improvements including additional parking spaces**
29 **and a handicap ramp is complete enough for the Planning Board to accept jurisdiction and**
30 **commence review. The motion was seconded by Richard Ford Burley.**
31

32 Mr. Nash stated that the application materials include a letter written by Mr. Peter Spear that
33 states there are no jurisdictional wetlands on the property.
34

35 The group went through each part of the site plan and discussed them in detail:
36

37 C1 (Parking area):

- 38 • 24-foot aisle is located between the end of the parking spaces and the curbing
- 39 • The aisle begins where the driveway ends
- 40 • Total width of parking lot is 42 feet
- 41 • A 9-foot area of pervious pavers will provide drainage - curbing holds in the water so it can
- 42 be absorbed by the pavers
- 43 • 8-foot privacy fence is represented by a dashed line on the site plan
- 44 • Equipment vehicles will be parked in parking spaces 8 and 9 when not used on job sites
- 45 • ADA lift will be located on the Heater Road side of the building
- 46

1 Mr. Rutter said it would be helpful to have two maps to compare the existing site plan and the
2 proposed site plan.

3
4 The group discussed whether a number of trees would be removed from the site and if they
5 would be replaced. Mr. Ford Burley stated that the site plan is not just a picture of what the
6 applicant plans to do, it also provides a plan for what the site will continue to look like after the
7 project is finished. Ms. Romano said the removal and replacement of trees could be made a
8 condition of approval. Mr. Corwin confirmed that he and Mr. Vincent will visit the site when the
9 project is completed and ensure the number of trees on the site matches what's in the site plan.

10
11 The group discussed the parking area drainage plan involving the pavers and suggested the
12 maintenance of this feature could be made a condition of approval.

13
14 C3 (Stormwater plan):

15 Mr. Vincent said he reviewed the stormwater management plan and he is comfortable with the
16 design.

17
18 L1 (Landscaping)

- 19 • No defined set-back for fence
- 20 • 8-foot set-back from property line for trees
- 21 • The site has public water

22
23 Mr. Rutter asked if the parking lot could be moved further to the east to allow more space
24 between the west edge of the parking lot and the property line for trees to be planted. Mr. Nash
25 said there is limited space between the garage and the property line.

26
27 L2 (Lighting)

28 Light at back of property has falloff that exceeds the recommended 1 to 4 ratio

29 Light at back of property is angled down more than 45 degrees

30
31 The group discussed whether the proposed lighting is adequate and whether the lighting could be
32 motion activated. Mr. Nash discussed the uniformity of the lighting, noting that it is difficult to
33 achieve uniformity in a small space. Ms. Stebbins said the parking lot is used mostly by
34 employees during daylight hours, so lighting is not critical to employee safety. Mr. Ford Burley
35 suggested that small bollard lights could be added along the front edges of the parking spaces.
36 Mr. Nash said another motion-activated light fixture could be added above the cars to provide
37 illumination.

38
39 Chair Faunce opened the public hearing and invited public comment.

40
41 The group went through the waiver requests and discussed them in detail.

42
43 Mr. Corwin confirmed that the plan's wall-mounted building light fixture triggered the
44 requirement to show the building elevations. He also said a 15-foot perimeter landscape buffer is
45 required on the side, back and front of the property. The group agreed that the additional lighting

for the parking area (suggested earlier in the discussion) could eliminate the need for the parking area lighting waiver.

A MOTION was made by Richard Ford Burley that, for the application of Edwards Properties, LLC, PB2024-14-SPR, the Lebanon Planning Board approves waivers from the following sections of the Site Plan Review Regulations:

- ***5.1.E.13*** – requiring building elevations depicting proposed lighting fixtures
- ***6.2.B.1*** – requiring a 15 ft. wide perimeter landscaping buffer
- ***6.2.B.10*** – requiring trees at 40 ft. intervals along property frontage
- ***6.7.C.1*** – parking area lighting requirements (average horizontal illuminance and uniformity ratio)
- ***6.2.B.6*** – requiring an additional 5 ft. of perimeter landscaping along the side of the property adjoining the neighboring residential use, together with an opaque screen

The motion was seconded by Kathie Romano.

****The MOTION was approved (7-0).***

Chair Faunce closed the public hearing.

A MOTION was made by Richard Ford Burley that the Lebanon Planning Board approves the Site Plan Review application of Edwards Properties, LLC, regarding 135 Heater Road (Tax Map 78, Lot 41), zoned IND-L, PB2024-14-SPR, for a conversion of the existing two-family dwelling to a mixed-use building for a proposed office use and a dwelling unit, together with associated site improvements including additional parking spaces, as shown on a plan set titled set titled, “99 Heater Road,” prepared by Advanced Geomatics and Design, dated January 30, 2024, last revised March 28, 2024 (11 sheets), including any and all submissions and testimony provided for and during the public hearing.

In support of its decision, the Board finds that the applicant has submitted plans, testimony, technical data, information, reports, and studies that together satisfactorily demonstrate compliance with the applicable requirements of the Site Plan Review Regulations, except as may reasonably be addressed through the imposition of certain conditions of approval, set forth below, and except as may have been waived pursuant to Section 7.1.

This approval is subject to the following conditions:

General Conditions

1. ***It shall be the applicant’s responsibility to be familiar with and aware of these conditions of approval, and it shall be the applicant’s responsibility to satisfy these conditions of approval and to satisfy them within the relevant timeframes outlined below.***

2. *The development is subject to the Site Plan Review Regulations adopted May 13, 1991, last revised January 23, 2023, and the Zoning Ordinance adopted January 16, 2013, last amended February 7, 2024, which are the regulations in effect at the time the application was submitted.*
3. *A building permit must be applied for and issued within two (2) years of the date of this approval (4.10.A), subject to an extension if applied for by the applicant and if approved by the Planning Board per Section 4.10.B.*
4. *“Active and substantial development,” as defined in Section 8.4.A.1 of the Site Plan Review Regulations, shall be achieved within two (2) years of the date of this approval (8.4.A.2), subject to an extension if applied for by the applicant and if approved by the Planning Board per Section 8.4.A.3. If active and substantial development is not achieved within two (2) years of the date of the Planning Board’s approval, the development shall be subject to any changes in the City’s land use regulations.*
5. *“Substantial completion,” as defined in Section 8.4.B.1 of the Site Plan Review Regulations, shall be achieved within five (5) years of the date of this approval. If substantial completion is not achieved within five (5) years of the date of the Planning Board’s approval, the development shall be subject to any changes in the City’s land use regulations.*
6. *All required landscape plantings shall meet the minimum size requirements for such plantings set forth in Section 6.2.B of the Site Plan Review Regulations at the time of installation.*
7. *The applicant shall implement and maintain NHDES Site Specific Best Management Practices before, during, and after construction.*
8. *Edge-of-disturbance fencing shall be installed and maintained before and during any site work, to be verified by the City Engineer or City’s third-party inspector on site.*
9. *The property owner is responsible for the maintenance and operation of the stormwater management system in accordance with the O&M plan, and such responsibility shall run with the land. (Section 6.6.H.2.b of the Site Plan Review Regulations).*

Conditions to be Satisfied Prior to Application for a Building Permit and Prior to the Start of Any Construction Activities

1 **10. Within 30 days of the Planning Board's approval, the applicant shall make the**
2 **following revisions to the plan set to the satisfaction of the Planning and Development**
3 **Department:**

4 a) *Add a note that the property does not contain wetlands and reference the March*
5 *7, 2024 letter from Peter Spear.*

6 b) *On the Cover Sheet:*

7 i. *Update title of plan set and property address information on cover sheet*
8 *to 135 Heater Road.*

9 ii. *In the "Zoning Comparison" table on the cover sheet:*

10 1. *clarify that 9 parking spaces are proposed including two spaces*
11 *for the outdoor storage of two trailers for the office use.*

12 2. *add a footnote that the office use is permitted pursuant to a*
13 *Conditional Use Permit approved on April 15, 2024 (PB2024-02-*
14 *CUP)*

15 3. *provide description of plan revisions made pursuant to the*
16 *Planning Board's approval (5.1.E.4.d).*

17 c) *On Sheet 5 (C-1):*

18 i. *add a note identifying how trash pickup will be handled.*

19 ii. *provide a legend identifying various symbology.*

20 iii. *identify proposed uses of the existing building (staff note: instead of "ex.*
21 *Garage" and "ex house" which would be more appropriate for an*
22 *existing conditions plan, not a site plan that is intended to depict future*
23 *conditions).*

24 d) *On Sheet 8 (L-1), remove Landscape Note #10 which is duplicative of Note #9.*

25 e) *On Sheet 9 (L-2), clearly identify the color correlated temperature (CCT) and*
26 *wattage of the proposed building-mounted light fixture.*

27 f) *Make such alteration to Sheets 5 (C-1) and 8 (L-1) as necessary to depict only*
28 *the proposed conditions after the completion of the proposed work and provide*
29 *equally detailed plans of the same size and scale depicting only the existing*
30 *conditions prior to the proposed work.*

31 g) *On Sheet 9 (L-2), add a second light fixture on the eastern edge of the parking*
32 *lot to improve lighting conditions and show the revised lighting levels.*
33

34 **11. Once approved by staff pursuant to Condition of Approval #10, the applicant shall**
35 **provide the Planning and Development Department with a digital copy of the final**
36 **revised plan set saved in a PDF-A format for archival purposes.**
37

38 **12. The applicant shall schedule and hold a pre-building permit application meeting with**
39 **the Planning and Development Department, City Building Inspectors, City**
40 **Engineer/Department of Public Works, and Fire Department, in order to help**
41 **streamline the building permit review process and to review applicable code**
42 **requirements.**
43

1 **13. The applicant shall obtain approval from the City Council or the City Manager's office**
2 **for any additional water and/or sewer flows in accordance with the applicable Chapter**
3 **136 and 182 of the City Code.**
4

5 **14. All engineering review fees shall be paid in full as required by Section 4.7.E.1 of the**
6 **Site Plan Review Regulations. (Staff note: applicant can request an invoice from the**
7 **Department of Public Works).**
8

9 **Conditions to be Satisfied Prior to the Issuance of a Building Permit**

10 **15. The development shall be subject to City of Lebanon Impact Fees, pursuant to Section**
11 **213 of the Zoning Ordinance. The Impact Fee shall be calculated at the time of**
12 **Building Permit issuance based on the Impact Fee Schedule adopted on October 12,**
13 **2021. In accordance with RSA 674:39, the approved site plan shall be exempt from any**
14 **future changes in impact fees and methodology for five years from the date of**
15 **approval; however, any building permits which are issued after the end of that five-**
16 **year period shall be fully subject to whatever impact fees and methodology are in effect**
17 **at the time of building permit issuance.**
18

19 **16. All water and sewer fees shall be paid as set forth in City Code Chapter 68.**
20

21 **17. Prior to the start of any construction activities on the property, the applicant shall**
22 **obtain or update (if appropriate) any required State approvals.**
23

24 **Conditions to be Satisfied Prior to the Issuance of a Certificate of Occupancy**

25 **18. The impact fee calculated pursuant to Condition of Approval #15 shall be paid.**
26

27 **19. All improvements depicted on the plan shall be completed and shall be constructed as**
28 **depicted on the approved plan, including any modifications to the plan as may be**
29 **approved by the Planning Board in accordance with the Site Plan Review Regulations.**
30

31 **The motion was seconded by Jeremy Rutter.**
32

33 ***The MOTION was approved (7-0).**
34
35

36 **D. Seale Properties, LLC, 50 Maple Street (Tax Map 73, Lot 65), zoned R-3: Request**
37 **for approval of a proposed two (2)-lot Minor Subdivision. PB2024-13-MIN**
38

39 **Mr. Ian MacKenzie, Vermont civil engineer, and Mr. Perry Seale, managing member of Seale**
40 **Properties, were present on behalf of the applicant.**

1
2 Mr. Corwin stated that Staff recommends that the application is complete enough for the
3 Planning Board to accept jurisdiction and commence review.

4
5 ***A MOTION by Patrick Kennelly that the application of Seale Properties, LLC for a proposed***
6 ***two (2)-lot Minor Subdivision of 50 Maple Street (Tax Map 73, Lot 6) PB2024-13-MIN is***
7 ***complete enough for the Planning Board to accept jurisdiction and commence review.***

8
9 ***The motion was seconded by Brandon Hill.***

10
11 ****The MOTION was approved (7-0).***

12
13 Mr. MacKenzie gave an overview of the project. He said a shared driveway will provide right of
14 way for a single-family residence and the existing multi-family structure. He said he may sell the
15 properties to his children. The group discussed the trend in the City toward pattern zoning as an
16 alternative housing solution.

17
18 Ms. Romano asked about the size of the parking lot and whether it meets the 10,000 square feet
19 requirement for subdivisions in the R3 district. She also asked if there is a limit to the number of
20 properties that can be accessed from a common driveway.

21
22 Mr. Corwin explained that the property includes a two-family structure that is allowed by special
23 exception. He said the new dwelling could not be built as a two-family dwelling because, in the
24 R3 district, a two-family dwelling is only permitted by conversion. He said the owner could
25 build the one-family structure, obtain a Certificate of Occupancy, and then apply to the Zoning
26 Board of Adjustments for a special exception to convert the single-family dwelling to a two-
27 family dwelling.

28
29 Mr. MacKenzie said he added space around the driveway to achieve the required five-foot set-
30 back from the property line. The group discussed the frontage and width of the lot.

31
32 Ms. Romano asked if the owner of the single-family property would need approval if he
33 eventually wants to install a private driveway. Mr. Corwin said the subdivision plat would have
34 to be amended to make a change like that.

35
36 Mr. Vincent asked how the back lot will access water and sewer. Mr. MacKenzie said he worked
37 with Rick Brown of the DPW to determine how the water and sewer lines will run from Maple
38 Street to the new lot.

39
40 Chair Faunce opened the public hearing and invited public comment.

41
42 Ms. Bonnie Barber (Dana Street) asked how many trees will be retained on the property border.
43 She said there is one very tall, beautiful oak tree that she was curious about in particular. Mr.
44 MacKenzie said he is looking to retain the oak tree in question.

45
46 Chair Faunce closed the public hearing.

1
2 ***A MOTION was made by Patrick Kennelly that the Lebanon Planning Board approves the***
3 ***application of Seale Properties, LLC, for a proposed two (2)-lot Minor Subdivision of 50***
4 ***Maple Street (Tax Map 73, Lot 65), PB2024-13-MIN, as shown on a plat titled “Minor***
5 ***Subdivision Plat for Seale Properties, LLC,” prepared by Rockwood Land Services, LLC,***
6 ***dated March 15, 2024, last revised April 5, 2024, Project No: 1661, including any and all***
7 ***supplemental submissions and testimony provided during the public hearing.***

8 ***In support of its decision, the Board finds that the applicant has submitted plans, testimony,***
9 ***and technical data prepared by a licensed land surveyor that together satisfactorily***
10 ***demonstrate compliance with the applicable requirements of the Subdivision Regulations***
11 ***except as may reasonably be addressed through the imposition of certain conditions of***
12 ***approval, set forth below.***

13 ***This approval is subject to the following conditions:***

14 **Conditions to be Satisfied Prior to the Signing and Recording of the Plat**

- 15 ***1. The applicant shall provide a revised plat depicting the following changes to the***
16 ***satisfaction of the Planning and Development Department:***
17 ***a. Add addresses to Lot 1 (50 Maple Street) and to Lot 2 (48 Maple Street).***
18 ***b. Shift the surveyor’s stamp and signature to uncover obscured text underneath.***
19 ***c. Provide the date and description of the plat revisions. (9.5.A.1)***
20
21 ***2. The applicant shall provide a digital record drawing of the revised plat (Cad .dwg***
22 ***format using NH State Plane Coordinate system or an alternative approved by the***
23 ***City’s GIS Coordinator).***
24

25 **General Conditions**

- 26 ***3. This approval shall be considered void unless all conditions precedent have been met,***
27 ***and the plat has been recorded in the Registry of Deeds, within two (2) years from the***
28 ***date of the Notice of Action (Section 7.12.B). The plat shall be recorded in accordance***
29 ***with Planning & Development Department procedures. The Warranty Deeds submitted***
30 ***with the application materials shall be executed and submitted together with the plat***
31 ***for contemporaneous recording by the Planning & Development Department.***
32
33 ***4. Future development on the new lots shall be subject to City of Lebanon Impact Fees,***
34 ***pursuant to Section 213 of the Zoning Ordinance. The Impact Fee shall be calculated***
35 ***at the time of Building Permit issuance based on the Impact Fee Schedule adopted on***
36 ***October 12, 2021, and such fees shall be due and payable at the time of issuance of a***
37 ***Certificate of Occupancy. In accordance with RSA 674:39, development shall be***
38 ***exempt from any future changes in impact fees and methodology for five years from***
39 ***the date of approval; however, any building permits which are issued after the end of***

that five-year period shall be fully subject to whatever impact fees and methodology are in effect at the time of building permit issuance.

- 5. All future construction shall substantially conform with and shall be subject to the requirements and specifications of the recorded plat (Section 7.9.A.2).**

The motion was seconded by Jeremy Rutter.

**The MOTION was approved (7-0).*

A MOTION was made by Patrick Kennelly that the Lebanon Planning Board authorizes the Chair to sign the Minor Subdivision plat of Seale Properties, LLC, PB2024-13-MIN, titled “Minor Subdivision Plat for Seale Properties, LLC,” prepared by Rockwood Land Services, LLC, dated March 15, 2024, last revised April 5, 2024, Project No: 1661, and as further revised per the Planning Board’s conditions of approval.

The motion was seconded by Richard Ford Burley.

**The MOTION was approved (7-0).*

4. OTHER BUSINESS

5. APPROVAL OF MINUTES

March 18, 2024

Amendments:

- Page 3, Line 23: Insert “a” before “Conditional Use permit”
- Page 3, Line 28: Remove “Parking tot”
- Page 4, Line 19: Change “construction is completed.” to “new fire station has been completed.”
- Page 4, Line 29: Edit to read: “He said that once the buildings have been taken down, the spaces they occupied will”
- Page 4, Lines 5-20: Remove map image
- Page 5, Line 14: Change “Aidmab” to “Adimab”

A MOTION was made by Kathie Romano to approve the Planning Board Minutes of March 18, 2024, as amended. The motion was seconded by Patrick Kennelly.

**The MOTION was approved (6-0; Mr. Ford Burley abstained from the vote).*

March 26, 2024

Amendments:

- Heading of Minutes: Change “March 26” to “March 25”
- Page 2, Line 8: Insert “a” after “has”
- Page 2, Line 11: Insert “said” after “Mr. Mayberry”
- Page 2, Line 16: Change “license care” to “licensed care”
- Page 2, Line 30: Insert “those of” before “neighboring towns”
- Page 2, Line 37: Change “the criteria is” to “the criteria are”

Page 3, Line 33: Change “are” to “cost”

Page 3, Lines 34-35: Change “of” to “about”

A MOTION was made by Kathie Romano to approve the Planning Board Minutes of March 26, 2024, as amended. The motion was seconded by Patrick Kennelly.

**The MOTION was approved (6-0; Mr. Ford Burley abstained from the vote).*

6. ADJOURNMENT

A MOTION was made by Jeremy Rutter to adjourn the meeting at 9:08pm. The motion was seconded by Richard Ford Burley.

**The MOTION was approved (7-0).*

The meeting was adjourned at 9:08pm.

Respectfully submitted,

Paula Roux

Recording Secretary

DRAFT

**LEBANON PLANNING BOARD
COUNCIL CHAMBERS, CITY HALL
OR REMOTE VIA MICROSOFT TEAMS
LEBANONNH.GOV/LIVE
MONDAY, APRIL 22, 2024, 6:30 PM**

MEMBERS PRESENT: Andrew Faunce (Chair), Richard Ford Burley (Vice Chair), Jeremy Rutter, Patrick Kennelly, Brandon Hill, Kathie Romano, Karen Zook (City Council Rep)

MEMBERS ABSENT: None

STAFF PRESENT: Tim Corwin (Deputy Planning Director), Nate Reichert (Director of Planning & Development/Zoning Admin), Catheryn Hembree (Associate Planner)

1. CALL TO ORDER

Chair Faunce called the meeting to order at 6:31pm.

Mr. Corwin reviewed the City's meeting in-person and REMOTE attendance policies and procedures.

2. NOTICE OF REGIONAL IMPACT

The following applications were received by the Planning and Development Department on or before April 8, 2024:

- **The Notch Climbing Real Estate, LLC & Chaloux Properties, LLC, 33 & 25 Labombard Road (Tax Map 51, Lot 15, and Tax Map 64, Lot 25), zoned IND-L: Request for approval of a Boundary Line Adjustment. PB2024-17-BLA**
- **CP Centerra LLC, 12 Centerra Parkway (Tax Map 10, Lot 11, Plot 100), zoned IND-L: Pursuant to Section 9.1 of the Site Plan Review Regulations, applicant requests a modification to a previously approved site plan (PB2022-45-SPR) for a restaurant with a drive through together with associated site improvements. Applicant proposes changes to the site circulation, parking, landscaping, and utilities. PB2024-18-SPA**

Mr. Corwin said staff recommends the applications do not have the potential for regional impact.

A MOTION was made by Richard Ford Burley that the applications of The Notch Climbing Real Estate, LLC & Chaloux Properties, LLC, 33 & 25 Labombard Road (Tax Map 51, Lot 15, and Tax Map 64, Lot 25), zoned IND-L, and CP Centerra LLC, 12 Centerra Parkway (Tax

1 **Map 10, Lot 11, Plot 100), zoned IND-L do not have the potential for regional impact. The**
2 **motion was seconded by Patrick Kennelly.**

3
4 ***The MOTION was approved (7-0).**

5
6 **3. STUDY ITEMS**

7
8 **A. Review and Comment for the Proposed Zoning Amendment for Section 214**
9 **(Governmental Uses) of the Zoning Ordinance**

10
11 Mr. Corwin said Section 214 (Governmental Uses) of the zoning ordinance currently states that
12 governmental use projects are (by default) subject to the zoning ordinance unless exempted by
13 the City Council. He said some recent public works projects that have a general benefit to the
14 City have had impacts on adjacent properties that triggered review by the Zoning Board of
15 Adjustments under the City's wetlands regulations. He said the additional review/approval
16 process creates delays and additional costs, particularly when the City Public Works employees
17 are not aware that the review is needed and must get the wetlands permit after work has started.
18 He said the Planning Department also had to get a wetlands permit for an Airport expansion
19 project that was well underway, which he said added more than \$16,000 to that project.

20
21 He said the proposed zoning amendment would exempt Public Works projects that are for the
22 public good from compliance with the City's zoning ordinance. He said these projects would still
23 require state wetland approval and all other state and local regulations if the zoning ordinance is
24 changed.

25
26 The group discussed the differences between the City's and the state's wetlands regulations. Mr.
27 Corwin said the City requires a 150-buffer to be maintained for all wetlands areas and the state
28 does not. He noted that wetlands impacts identified on projects are reviewed by the Conservation
29 Commission. He said the City Council can vote to grant an exemption of the zoning ordinance
30 for these projects. Chair Faunce said that Lebanon and Nashua are the only New Hampshire
31 cities that require local ZBA review. Mr. Corwin noted that public improvement projects provide
32 ample chances for public hearing through public hearings.

33
34 The group discussed how detrimental this additional level of review might be to Public Works
35 projects. Mr. Ford Burley asked, if the Board decides in favor of amending the zoning ordinance,
36 if that decision could be revisited in 24 months, so the impact of the decision could be assessed.
37 Mr. Corwin said that could be included in the Board's recommendation to the City Council.

38
39 **A MOTION was made by Richard Ford Burley that the Planning Board authorizes the**
40 **Planning Board's City Council Representative to convey that, in the Planning Board's**
41 **discussion of the proposed Zoning Amendment [to Section 214 (Governmental Uses)], the**
42 **Members expressed concerns over the potential impact of removing a step in the regulatory**
43 **review process, and suggested that, if the City Council were to pass the proposed amendment,**
44 **it should revisit the language of Section 214 in no more than two years' time, taking into**
45 **account any new data that arises. The motion was seconded by Jeremy Rutter.**



Roll Call Vote:**Voting in Favor – Mr. Faunce, Mr. Ford Burley, Mr. Hill, Mr. Kennelly, Mr. Rutter****Voting Against – Ms. Romano****Abstaining from the Vote: Ms. Zook*****The MOTION was approved (5-1, with Ms. Zook abstaining).****B. Master Plan Discussion**

Ms. Hembree gave an overview of the current Master Plan update process, and the group reviewed the outline and update timeframes of the Master Plan Chapters. She said the plan is to update a small number of chapters each year and to do a complete rewrite of the Master Plan in 2030. She said the following chapters are under review this year:

- Natural Resources (by the Conservation Commission)
- Energy (by the Lebanon Energy Advisory Committee)
- Economic Development (by the Lebanon Economic Development Committee)

She said each committee can decide how it solicits public input; for example, she said LEAC plans to have a kiosk at the Lebanon Farmers Market to encourage the public to provide input.

The group discussed the importance of the Housing and Land Use Chapters at length, and whether those chapters/sections should be reviewed sooner and before other chapters. Ms. Hembree noted that, since the Housing Chapter will need a complete overhaul, the Planning Department has already begun contacting consultants to help in that effort. Mr. Ford Burley said the Land Use Chapter review needs to start much earlier than 2029. Chair Faunce said Land Use review should be ongoing and the Master Plan should be an interactive, living document. He noted that the public's ability to access and comment on the Master Plan has been a challenge. Mr. Reichert said the City needs to encourage increased and consistent public engagement in the Master Plan process. Mr. Rutter asked if the Board could receive status/updates on the huge housing projects that have been approved by the City Council in recent years.

The group discussed the upcoming Route 120 Corridor Study. Ms. Hembree said there is a Route 120 Corridor Study meeting on April 24 at 5:00pm at DHMC in Auditorium E (3rd Floor), which will include a public charrette.

C. Discussion and Set Public Hearing: Impact Fees

Mr. Corwin provided the following to the Board members:

- Red line comparison of 2024 supportable Impact Fee rates compared with existing Impact Fee rates (adopted in October 2021)
- Impact Fee schedules for 2018, 2016, and 2010
- Community comparison of Impact Fee rates (assembled by consultant Bruce Mayberry) including Thedford, Dover, Newmarket, Rochester, and Salem

1 Chair Faunce reminded Board members that their decision affects either the people developing
2 property, who will pay the full and fair impact fee, or taxpayers, who will pay instead down the
3 road. He said, in the current climate of rising tax rates for residents, he proposes that the former
4 is a more favorable result than the latter. Mr. Kennelly said raising development fees will
5 probably cause developers to increase rates for renters and owners.

6
7 Mr. Hill said he thought these fees may not be high enough to meet the increased costs due to
8 inflation. Mr. Ford Burley said he believed consultant Bruce Mayberry did his best to calculate a
9 good, justifiable set of Impact Fees and the Board's options are either accept them or try to
10 calculate a lower amount, which is not favorable. Mr. Corwin confirmed that the fees, which are
11 assessed on new developments in the City, go to the departments identified and not to the general
12 fund for the City. Ms. Zook explained the fees are assessed based on the anticipated use of City
13 services.

14
15 ***A MOTION was made by Richard Ford Burley that the Planning Board sets the Public***
16 ***Hearing to discuss the Impact Fees for May 28, 2024, at 6:30pm. The motion was seconded by***
17 ***Kathie Romano.***

18
19 ****The MOTION was approved (7-0).***

20
21 The group realized that there would not be enough members to achieve a quorum for that date
22 and time.

23
24 ***A MOTION was made by Richard Ford Burley that the Planning Board sets the Public***
25 ***Hearing to discuss the Impact Fees for May 20, 2024, at 7:00pm. The motion was seconded by***
26 ***Patrick Kennelly.***

27
28 ****The MOTION was approved (7-0).***

29 30 **4. COMMITTEE REPORTS**

31
32 ***A MOTION was made by Kathie Romano that Chair Faunce of the Planning Board appoints***
33 ***Mr. Patrick Kennelly as the Planning Board Representative for the Lebanon Energy Advisory***
34 ***Committee. The motion was seconded by Richard Ford Burley.***

35
36 ****The MOTION was approved (6-0, with Mr. Kennelly abstaining).***

37
38 Ms. Romano noted that the Mascoma Advisory Committee no longer has members and no longer
39 meets. She said it is an important committee and should be reinstated.

40 Mr. Ford Burley suggested that members of subcommittees could come to a Planning Board
41 meeting and talk about their committees. Mr. Corwin said other committees that do not have
42 Planning Board representatives are the Pedestrian & Bike Committee and the Regional Planning
43 Committee.

1 **5. OTHER BUSINESS**

2 Mr. Corwin said the Planning Department received a site plan application for 7 Lucent Drive
3 several weeks ago that is ready to come before the Board on May 13. He said the applicants
4 have submitted a waiver request for a paved parking lot and suggested a site visit prior to the
5 meeting so the Board members can understand the reasons for the waiver request. The group
6 agreed to conduct a site visit on May 6, 2024, at 5:30pm at 7 Lucent Drive.
7

8 **6. APPROVAL OF MINUTES**

9 None
10

11 **7. ADJOURNMENT**

12
13 *A MOTION was made by Richard Ford Burley to adjourn the meeting at 9:05pm. The motion*
14 *was seconded by Jeremy Rutter.*
15

16 **The MOTION was approved (7-0).*
17

18 The meeting was adjourned at 9:05pm.
19

20 Respectfully submitted,

21 Paula Roux

22 Recording Secretary